Chapter Five: Implications of Non-State Actors

Though the Principal actors of the world politics are nation-states, but they are not the only actors. The international system consists of nation-states, international organizations, and private actors. The increase in the number of international organizations is parallel to the increasing levels of economic, political, social and cultural transactions between individuals, societies and states. Similarly the growth of so many kinds of non-state actors has also mushroomed in recent past. All this seems to pose new challenges and even weakens the "state-centric" concept of international politics and replaces it with a "transnational" system in which relationships are more complex. These new organizations and agencies have changed the international environment (Miller1994:49).

Following the traditional classification, non-state actors are divided into two categories: international intergovernmental organizations (IGOs) and transnational or international non-governmental organizations (NGOs). The first group consists of the non-state actors that are created by nation-states. They are officially documented by government agencies. The second group of non-state international actors is established not by nation-states, but by certain group of individuals, businessmen and other societal forces. This group has no legal bonds with nation-states; therefore, they are truly transnational. (Brown1995:63).

IGOs are voluntary associations of sovereign states established to pursue many objectives for which states want to cooperate through sort of formal structure and to which states are unable to realize by themselves. There are hundreds of IGOs in today's world which are significant in their respective fields. They are created by treaties and negotiations which mainly reflect preferences of stronger states. Especially stronger states create IGOs because they need them to protect their interests. By and large, decisions made by IGOs are the product of negotiations among the governmental representatives assigned to them. Therefore, we can say that it is the need of states
which tend them to cooperate with other states in the context of IGOs. (Miller 1994: 67)

IGOs may be classified by scope (global and regional) and by function (political, economic, social and environmental). IGOs are addition to nation-states and play significant roles by providing means of cooperation and multiple channels of communication among states in areas in which cooperation and communication provides advantages for all or most states (Bennett 1991:71).

It is commonly known that the main functions of IGOs are rule making, agenda setting, and information gathering. In addition, they decrease uncertainty between states and search for cooperative solutions to international problems. IGOs may change norms of international relations and preferences of nation-states. For instance, the United Nations Environment Program played a significant role in the creation of regimes such as the Protection of the Mediterranean Sea and the Protection of Ozone layer (Brown 1995: 195).

Furthermore, IGOs monitor principles, norms and rules of international institutions and international regimes in nation-states. We can take the International Atomic Energy Agency (IAEA) as an example, which monitors the "non-proliferation of atomic weapons" principle in states whenever any claim is made. They decrease the cost of information gathering which is more important for poor and small countries. For example, the UN plays a key role for states, small states in particular, in receiving information about international politics and systemic issues. Without the UN, many states are unable to obtain information about the international society and politics. Activities of IGOs, such as the UN and the IMF, are decisive for most small countries. They may impose their principles on them more easily than on big powers. The effectiveness of IGOs differs from one issue area to another, one international regime type to another, one state to another, one spatial setting to another, or one time period to another. Powerful states are less constrained by the principle of IGOs than those who are relatively weak (Ataman 2000: 152-167).
The IMF and the UN Security Council are two prominent organizations in which some powerful states direct activities of the organization and impose their principles selectively. For instance, the UN Security Council cannot accept any decision against the interests of the five permanent members and those of their allies, i.e., the UN Security Council decisions on the Palestinian question against Israel have often been vetoed by the US. The influence of IGOs varies with the capacity of governments of member states to implement their own provisions. Most governments face serious resource constraints limiting their ability to apply the provisions of regimes to areas and activities under their jurisdiction. This is true for most countries, especially for less developed countries. Even the superpowers do not have full control over IGOs. In spite of the fact that international organizations are utilized by powerful nation­states, they make a difference in international interactions and have notable influence even on the most powerful state, the United States (Karns and Mingst1990:64).

The effectiveness in economic issue areas is also considerably high. For example, the IMF and the World Bank are very effective in money flowing, debt management and financing debt issues between the develop and developing countries (Brown1995: 207). Still effective, the least success rate of IGOs is in political and security issues.

International Nongovernmental Organizations

Non-governmental organizations are institutions that are established by non­state actors or at least one side of these organizations is not states. There are many kinds of NGOs such as transnational, government organized, government-regulated and initiated, business and industry, donor-organized, donor-dominated, people's organizations, operational, advocacy, transnational social movements, quasi, and anti­governmental NGOs. Their number increased (more than 23,000 in the early 1990s) and their effectiveness for transnational politics became more relevant in recent decades. They have become very important participants in the international policy process. (Brown1995: 268).
NGOs create and/or mobilize global networks by creating transnational organizations, gathering information on local conditions through contacts around the world, alerting global network of supporters to conditions requiring attention, creating emergency response around world, and mobilizing pressure from outside states. They participate in IGO conferences by mobilizing transnational social movements organizations around issues in IGOs, building transnational social coalitions, raising new issues, supporting IGO development, addressing IGO meetings, submitting documents to governmental organizations' meetings, improving skills in conference diplomacy, and increasing expertise on issues (Mingst1999: 255-257). They facilitate inter-state cooperation by preparing background papers and reports, educating delegates and representatives of states to narrow technical gap, serving as third party source of information, expanding policy options, facilitating agreements, and bringing delegates together in third party fora.

NGOs conduct many kinds of activities within states such as linking to local partners, linking to transnational social movements with complementary skills, working in national arenas to harmonize state policies, providing humanitarian aid, and protecting accompaniment of persons in danger. They also enhance public participation within states by reminding government delegates that they are being watched, enhancing public understanding, increasing transparency of international negotiations and institutions, and provoking public protest.

Multinational corporations (MNCs), and terrorist groups and drug traffickers are also example of NGOs and lately these two come to play an influential role in international politics.

*Multinational Corporations (MNCs)*

The most prominent contemporary NGOs are multinational corporations (MNCs) They are huge firms that own and control plants and offices in at least more than one country and sell their goods and services around the world. They are large corporations having branches and subsidiaries operating on a worldwide basis in many countries simultaneously. MNCs are "major driver of global economic integration" and
"establish unprecedented linkages among economies worldwide" (Peterson1995: 261). MNCs can be classified according to the kinds of business activities they pursue such as extractive resources, agriculture, industrial products, transportation, banking, and tourism. The most notable MNCs are industrial and financial corporations (the most important being banks). Naturally the primary objective of MNCs is profit maximization (Miyoshi 1993: 746). They are very effective in directing foreign policy of states, including that of the most powerful ones, and they set agenda for international politics. They have become a major factor in national economic decision making process (Kegley and Wittkopf 1995: 259).

MNCs may be considered as instruments of economic development for less developed countries. However, when we look at the functions they perform in host countries, we see that they have a very strong bond with the home government which becomes a source of concern for host countries. MNCs challenge the state sovereignty of host countries. Host countries may lose control over their economies. They may create political and social division and prevent the development of domestic industries in host countries. They may produce specialized products of which the buyer is usually the parent company. They may manipulate prices of imports and exports in host countries (Brown1995: 212-213). However, there are many conflicts between MNCs and their home countries over taxation, trade policies, and economic sanctions. MNCs may not want to follow national policies pursued by their home governments. That is, trade (MNCs) may not always follow 'flag' (state policies).

**Terrorist Groups**

Terrorist groups use terrorism as the main instrument and largely lack large-scale support from the public. Individuals and groups engage in terrorism for different political, economic, social, religious, cultural, and even personal reasons (Kegley and Wittkopf 1995:98). Their goals are to publicize their grievances and aspirations to international community by hijacking, assassination, kidnapping and attacking on embassies. International terrorism is "the most conspicuous and threatening form" of low-intensity violence (Ibid:7). As long as the state system and the world system leaves
some groups or states out of the system, terrorism will continue to be an instrument of those who are weak. However, strong states also use "state terrorism" against the powerless groups or states. Terrorism has moved from the national to transnational level and from plane hijacking to a wider range of terrorist techniques since the 1960s. Today, terrorism is globalized like other non-state actors, as was witnessed during the attacks directed toward the heart of the American state and the US-led international system on September 11. September 11 incident showed the world the horror of terrorism, the vulnerability of all nations-states including the strongest one, and its paramount effect on international politics and the world order.

The US government considers biological warfare and terrorism among the greatest threats to national security as well as international security. President George W. Bush J. stated on February 11, 2004, “Armed with a single vial of a biological agent, small groups of fanatics, or failing states, could gain the power to threaten great nations, threaten the world peace. America, and the entire civilized world, will face this threat for decades to come. We must confront the danger with open eyes, and unbending purpose.” (The Acronym Institute Website 2004)

There are different opinions about the threat of bioterrorism. Scholars such as Joshua Lederberg think that biological terrorism is a huge threat as terrorist organizations are continuously increasing their network, funding and expertise in using unconventional weapons. Therefore, it is very important to enhance international cooperation to prepare a strong defence against bioweapons. (Joshua Lederberg 1999.) Then, there are other scholars such as Milton Leitenberg who think that the threat of bioterrorism is much more hyped and believe that spending too much of funds on research and development of technologies against bioweapons is nothing but wastage of money as they think that terrorist organizations will prefer conventional weapons to ensure maximum destruction and not bioweapons. (Milton Leitenberg 2005)

Actually, because of the very few cases of bioterrorism in recent past and inability to differentiate between naturally occurred pandemics and a bioweapon attack, the threat of bioterrorism has not been considered as real and potent. However, there
are instances by which we can analyze that the trend of use of unconventional weapons by terrorist organizations have increased like 9/11 attacks on US and recent Mumbai attacks. Therefore, we can’t ignore the possibility of use of bioweapons by terrorists. Infect, terrorist attempts to use BW have increased in the past twenty years. The Rajneesh cult used Salmonella bacteria as a weapon in 1984 in Oregon, Aum Shinrikyo used multiple bioweapon agents like Botulinum toxin in Japan from 1990 to 1994, anthrax attacks on US in the fall of 2001, and the ricin plot in the United Kingdom in 2002 are the examples to show that the threat of bioterrorism is real and not a fancy. Al Qaeda also has the intention to use BW as discovered during US military operations in Afghanistan in late 2001 to early 2002. (The Fox News Website 2006)

There is no doubt that non–state actors are of increasing importance to both security and development as both positive and negative forces. On the positive side, the role played by domestic and international organizations in preparing defense against bioweapon attack by research and development of new technologies and raising funds for various biodefence programs is of growing importance. On the negative side, more and more opportunities are available to terrorist organizations at local as well as international level to create threat for international security and humanity. The terrorist organizations are well equipped with latest technologies, sufficient funds and people to use bioweapons to create panic. Therefore, both, the risk of a bio-terror attack, and the need of a strong civil defense against such attacks is important and rising.

On the other hand, despite of various international efforts to check proliferation of biological weapons, the number of countries with bioweapon production capabilities is increasing. The Biological Toxin and Weapons Convention (BTWC) was signed in 1972. Since then the number of countries possessing or actively pursuing BW has more than doubled including some member states of the Convention. The increase in the number of countries with BW capabilities increases the chances a terrorist group will obtain agents, technology, or technological assistance. (Nuclear Threat Initiative Website I 2006)
Though the H1N1 Flu outbreak and Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 was considered as a naturally occurred pandemic, there is another opinion according to which in both the cases artificially developed complex strains of agents were deliberately used to cause havoc. The H1N1 influenza is a complex combination of genetic material from two strains of swine flu, two strains of human flu, and a single strain of avian flu. Similarly, SARS virus was also a hybrid of two viruses, which can only be produced in laboratory conditions. During the clinical tests of the virus strains, scientists came out with this result that both the virus strains are complex and artificially developed. Therefore we can not deny the possibility of their deliberate use. (Press Trust of India, Express India Website 2003)

On June 11, 2009, the World Health Organization (WHO) declared novel influenza A (H1N1) as a global pandemic. This action was a reflection of the spread of the new H1N1 virus, not the severity of illness caused by the virus. At the time, more than 122 countries had reported cases of novel influenza A (H1N1) infection and there were ongoing community level outbreaks of novel H1N1 in multiple parts of the world. (World health Organization Website I 2009)

According to the WHO Report, 94,512 confirmed cases of H1N1 Flu have been registered in 122 countries. However, many Scientists are of the view that, in reality, millions of people have had H1N1 Flu, but in a mild form, so the numbers of laboratory-confirmed cases were actually meaningless. (World health Organization Website II 2009)

Therefore, on July 16, 2009, the WHO announced that it will no longer issue the global tables showing the numbers of confirmed cases for all countries. Instead, national health authorities from all countries should inform WHO on a weekly basis of their qualitative assessment of the geographical spread, trend of cases, intensity of disease, impact on the health care system, and deaths. (World health Organization Website III 2009)
The outbreak was first detected in Mexico City on March 18, 2009. Immediately after the outbreak was officially announced, Mexico requested material support from the US, sending samples to the US and Canada for testing. Within days of the outbreak, Mexico City faced the pandemic at huge level and some countries canceled flights to Mexico while others stopped trade. Soon, the virus crossed into the US. (Nelson W. Cunningham 2009)

The first novel H1N1 patient in the United States was confirmed by laboratory testing at CDC on April 15, 2009. On April 22, CDC activated its Emergency Operations Center to better coordinate the public health response. On April 26, 2009, the United States Government declared a public health emergency and has been actively and aggressively implementing the nation's pandemic response plan. (Centers for Disease Control and Prevention Website I 2009)

The new strain has spread widely beyond North America with confirmed cases in eighty-nine countries. Initially, most cases outside North America were following recent travel to Mexico or the US. However by May transmission of the virus reported from Canada, Japan, Panama, UK, Spain, Germany, Australia, Italy, and Belgium, and by June, most countries within the European Union faced the pandemic at more or less level. (The Associated Press I 2009)

Many countries had earlier advised citizens to avoid travelling to infected areas and were monitoring visitors returning from flu-affected areas for flu symptoms. However, WHO guidance recommended that restricting travel would be of limited or no benefit in stopping the spread of disease. The CDC downgraded a previous "Travel Health Warning" for Mexico to a "Travel Health Precaution" on May 15 referring to the reduction in infections in Mexico and the reduced overall risk of the virus. (The World Heath Organization Website IV 2009). On June 22, the U.S. State Department issued a travel alert about China's anti-flu measures that have led to some travelers being quarantined for a week, sometimes under unsanitary conditions and without the ability to communicate with others. China quarantined US passengers to prevent transmission of the virus to ensure civil defence.
However, US alleged China providing unsuitable quarantine conditions, including the unavailability of suitable drinking water and food, unsanitary conditions, and the inability to communicate with others. Besides this, there was no provision of compensation provided for lost travel expenses. (Seattle Times Website 2009) Other governments have taken or threatened similar quarantine actions. In Hong Kong, an entire hotel was quarantined with 240 guests after one person staying there was found to have swine flu. (Ariana Eunjung Cha 2009) The government of Australia ordered a cruise ship with 2000 passengers to stay at sea because of a swine flu threat. (Australian Broadcasting Corporation Website 2009) Egyptians who went on the annual Muslim pilgrimage to Mecca risked being quarantined upon their return. (Sarah Deeb 2009)

In India, after four airline passengers from London tested positive, the government ordered for all the passengers of the flight should be administered the antiviral drug of Influenza virus. Health authorities also asked that all the passengers not move out of their homes until further orders and quarantined at least one of the infected passengers. (Thaindian News Website) However, Cases of H1N1 flu have been registered in Hyderabad, Mumbai, New Delhi and Pune.

Other governments have given health officials the increased power to order people into quarantine to control the spread of swine flu. The government of New Zealand, for instance, gave medical officers the power to order people to be quarantined at home if they have been in close contact with someone who has swine flu. (Martin Johnston 2009)

CDC is continuing to watch the situation carefully, to support the public health response and to gather information about this virus and its characteristics. CDC has issued interim guidance for clinicians on identifying and caring for patients with novel H1N1, in addition to providing interim guidance on the use of antiviral drugs. Influenza antiviral drugs are prescription medicines (pills, liquid or an inhaled powder) with activity against influenza viruses, including novel influenza H1N1 viruses. The priority use for influenza antiviral drugs during this outbreak is to treat people hospitalized with influenza illness, and to treat people at increased risk of severe illness, including
pregnant women, young children, and people with chronic health conditions like asthma, diabetes and other metabolic diseases, heart or lung disease, kidney disease, weakened immune systems, and persons with neurologic or neuromuscular disease. CDC has provided guidance for the public on what to do if they become sick with flu-like symptoms, including infection with novel H1N1. CDC also has issued instructions on taking care of a sick person at home and the use of facemasks and respirators to reduce novel influenza A (H1n1) transmission. (Centers for Disease Control and Prevention website II 2009)

Vaccines are a very important part of a response to novel H1N1 influenza and the U.S. Government is aggressively taking early steps in the process to manufacture a novel H1N1 vaccine, working closely with manufacturers. CDC isolated the new H1N1 virus, made a candidate vaccine virus strain that can be used to create vaccine, and is working with other agencies and industry to begin scaling up for testing and production of a vaccine. Making vaccine is a long multi-step process requiring several months to complete. CDC has developed guidance for state and local public health departments to assist them in planning for a novel H1N1 influenza vaccination campaign. Additional guidance is forthcoming. (Centers for Disease Control and Prevention website III)WHO does not expect the swine flu vaccine to be widely available until the end of 2009, because of less production and stock availability. (The Associated Press II)

There is also concern that countries which produce vaccines, 70 percent of which are in Europe, may delay sending swine flu vaccines to other countries as they would be in pressure to protect their own citizens first. Experts believe that vaccination on time can provide a potential defence against the pandemic but because of the shortage of vaccines it would be difficult to assure security of people (The associated Press III 2009)

Although WHO reports that a fully licensed vaccine might not be ready until the end of 2009, some experts are of the opinion that seeing the nature of the pandemic, vaccines can be used without completing the procedure of licensing as they are required
on huge level and there are rare side effects which are not so important taking the number of lives to be saved in view. (Ibid)

Nonetheless, some European countries are ready to accelerate the approval process for the vaccine, and countries like UK, Greece, France and Sweden have said that they will start using the vaccine once it is given approval and are letting companies skip testing large groups of people before the vaccine is approved. The US is taking a more cautious approach, however. The US goal of pandemic plans is to make 600 million doses in six months, enough for two doses for each American, according to experts, with an estimated cost of $8 billion. (Maggie Fox 2009)

Basically, vaccination is perhaps the most potent, inexpensive, practical and cost effective way to prevent various infectious diseases. It becomes very important for international agencies to run vaccination programs in countries especially in developing countries not only for improving health conditions but also in the light of threat of bioterrorism to make a strong public health.

WHO, in collaboration with UNICEF and other international agencies, launched the Expanded Programme on Immunization (EPI) with the aim of immunizing sixty million children annually against six major infectious diseases: diphtheria, pertussis and tetanus (DPT), measles, polio and tuberculosis. According to WHO, globally near eighty percent of children have been vaccinated against these diseases under the EPI. WHO has also set up the goal to create a strong public health system at international level by involving local agencies also. It requires a steady source of the relevant vaccines and other means with raising of adequate funds by UN agencies to meet the vaccine requirements. (United Nations Report on Supply of EPI Vaccines: 1997)

Currently the vaccines needed to counter against different bio agents are largely obtained from companies located in developed countries. Because of low profitability, most vaccine manufacturing firms in the developed countries have little interest in producing the vaccines needed for the EPI. Some other vaccines are also needed in developing countries against some regional-specific diseases. There are few
developing countries themselves manufacture vaccines against a limited range of bio agents in government owned or supported companies and institutions.

There are some countries in Asia and Latin America which manufacture vaccines particularly some of those used in EPI. In Asia, China and India are involved in various vaccines development and production. India is involved in expanding production facilities for DPT, measles, polio and rabies vaccines with appropriate international collaborative agreements. Indonesia has also been successful to a limited extent. It produces DPT vaccine and expanding its production capabilities of this triple vaccine to meet with the increasing demands. Myanmar, Pakistan, Philippines and Thailand produce few of the EPI vaccines while Bangladesh, Malaysia, Singapore and Sri Lanka have no or very limited vaccine manufacturing facilities. (United Nations Report on Supply of EPI Vaccines: 1997)

In Latin America, Brazil, Cuba, Mexico and Venezuela are among the major producers of a few of the EPI vaccines. At their requests, UNIDO has commissioned consultants to assist some countries in Asia and Latin America to review their vaccine requirements and production facilities.

According to those consultants, none of the vaccine producing countries is self sufficient in the production of vaccines. Over fifty developing countries receive the EPI vaccines from external sources. They also suggested that there is a need for proper basic facilities for encouraging research and development of vaccines in these countries with providing technological and financial assistance. (United Nations Industrial Development Organization Report: 1990)

Now, keeping the challenge of threat of use of bio weapons against civilians in mind, it becomes important for international agencies to help and encourage local level units which can develop and manufacture vaccines according to specific bio agents. It becomes important to develop a strong public and community health in developing countries.
Technological support by international organizations

Important technological support to raise standards should be provided to the research and development unit if they are located in developing countries. A consultancy which could be a company, a foundation or an extension of vaccine development and research institution could be established which could facilitate technology transfer to the production centres. It is also important to include the following aspects while providing technological support to developing countries by international organizations.

The development and transfer of technology for vaccine manufacture to meet the long term needs of developing countries is a complex, wide ranging and a challenging task. It needs continues efforts which involves an active participation of international organizations with the respective governments of these countries. UN agencies such as the WHO and UNICEF are working to secure the resources to meet the needs of developing countries. Additional and complementary initiatives are essential to build on this foundation in order to ensure the availability of human resources and production facilities for a sustained, long term supply of existing, improved and new vaccines.

Creation and development of the facilities of regional or national centres in the developing countries that currently have the science and technology infrastructure to manufacture high quality vaccines for all developing countries could also be a way to encourage vaccine production and ensuring public and community health in developing countries. However, the financial conditions and the current technology infrastructure of the few manufacture centres in the developing countries which are engaged in vaccine production are such that there is a need for considerable strengthening of current efforts.

There are organizations which are providing funds for development of biodefence measures. The Google Foundation has granted $2.5 million to Nuclear Threat Initiative (NTI)'s Global Health and Security Initiative (GHSI) to greatly
enhance its work to rapidly detect, identify and respond to infectious disease outbreaks in Southeast Asia. NTI is an operational organization, actively engaged in developing and implementing projects that bring new strategies, new partnerships and effective action to reduce the dangers from nuclear, biological and chemical weapons. (Nuclear Threat Initiative Website II 2009) This funding will strengthen GHSI’s global public health agenda, which includes efforts already underway in Southeast Asia and the Middle East. The Global Health and Security Initiative, which develops and implements the biological programs of the NTI, is working around the world to prevent, detect and respond to biological threats.

The initial focus of the work in Southeast Asia is on the countries that are already members of the Mekong Basin Disease Surveillance network (MBDS) i.e., Cambodia, China, Laos, Myanmar, Thailand and Vietnam. NTI’s Global Health and Security Initiative, in partnership with the Rockefeller Foundation, has been working with these countries to sponsor national and regional exercises that test their capabilities to respond to a possible human influenza pandemic, among other activities. With this grant from Google, GHSI will continue to help the regional partners improve laboratory diagnostics capabilities and increase the training of personnel. In addition, GHSI will support the strengthening of a management system to enable these countries to work together as a regional network to reduce the burden of infectious disease for their populations. The grant will also enable GHSI to work with a wider range of partners in the region, including the new Google-sponsored nonprofit organization, Innovative. Support to Emergencies, Diseases and Disasters (INSTEDD). As part of these efforts, GHSI will apply lessons from its work elsewhere in the world, in particular the Middle East, where GHSI is supporting the innovative research and development for biodefence by Middle East Consortium for Infectious Disease Surveillance (MECIDS).

With financial support from the Bill and Melinda Gates Foundation and operating with partners, including the World Bank, the RAND Corporation and IBM, GHSI has been providing financial resources and expertise in support of this network, with hopes of expanding MECIDS to include other Middle East countries.
In an effort to increase the reach of its activities, GHSI also works closely with the International Council for the Life Sciences (ICLS), which promotes biosafety and biosecurity standards and training in the Middle East and North Africa. ICLS was launched in December 2005 with the support of NTI. Building Global Regional Networks GHSI hopes to help build a regional network to combat infectious disease in South Asia as well. It has begun working with experts in India and Pakistan and plans to reach out to experts in additional South Asian countries. Contacts have also been made with public health networks in Africa and Latin America with a view toward establishing stronger links between the regional networks to share experience and best practices. (Cathy Gwin 2008: 1)

In July 2007, The European Commission issued a policy paper addressing the need for greater international cooperation to prevent bioterrorist attacks and secure international security. Today, in the light of latest technologies which have made production, delivery and stockpilation of bioweapon agents easier, and inability of norms to check terrorist organizations to use bioweapons, the threat of bioterrorism increases. Therefore, a comprehensive approach to prepare a strong defence against bioweapon attack is needed. This report contains possible areas of cooperation including better export control regime at international level, enhancing public and community health by cooperating in research and development of new technologies as well as funding to promote biodefence research. (Commission of the European Community Website 2007:2-4)

Seeing the increasing threat of use of bio-weapons by terrorist organizations and states as well, it becomes important for various international organizations to focus on enhancing international cooperation and mutual trust to prepare a strong defence against bio-weapons. Their role becomes more important in establishing and developing better technological and civil defence against bioterrorism especially in developing countries. Various organizations are working and joining together to prepare potential detection and surveillance system against bioweapon attack at international level.
North Atlantic Treaty Organization (NATO) has become the latest and first military agency to join Global Public Health Intelligence Network (GPHIN), an international initiative that monitors media and other open-source material for signs of emerging pandemics and other public health disasters. The network, based in Ottawa and known by its initials GPHIN, is an early-warning system using media to detect public health events. GPHIN analysts monitor broadcast media and the Internet 24 hours a day, collating and translating material in seven languages: Arabic, Chinese, English, French, Persian, Russian and Spanish. GPHIN does monitoring of the issues including outbreaks of infectious diseases in human and animals, incidents of food and water contamination, bioterrorism and accidental releases of chemical, biological and radioactive materials; and natural disasters. Because of monitoring non-official sources of information like news broadcast, Web sites and blogs, GPHIN has been successful to provide early information than government agencies generally provided.

To quote as an example, the first reports about possible H5N1 bird flu infections in Iran appeared in Persian language media in September 2005, and GPHIN issued early warnings but that Iranian officials confirmed the outbreak in February 2006 as the source provided by GPHIN were not official. Over time, the network had been able to improve both the sensitivity and the specificity of its information-gathering techniques, as there had been a large number of recent advances in the kind of filtering and searching technology that such systems employed.

GPHIN is run by the Public Health Agency of Canada, the nation's main center for expertise and research in public health. It was originally developed as an English language-only service in 1998 by Canadian health officials. In November 2004 with financial support from the Washington based anti-proliferation non-profit the Nuclear Threat Initiative (NTI) was brought online with an expanded language capacity and other additional capabilities. The network is managed by Health Canada’s Centre for Emergency Preparedness and Response, created in July 2000 to serve as a central coordinating point for public health security. (Shaun Waterman 2008)
It is already very difficult to identify bio weapon attack. Therefore, reporting of any sudden outbreak of disease should always be taken seriously since such outbreaks could be a bio weapon attack. The essential notification and reporting of outbreaks of diseases in humans, animals and plants helps in responding in a better way against the threat of use of bio weapon. Proper reporting systems could also help in improving existing public and community health system.

The development of improved response strategy and technology in monitoring the control of weapons is an essential need today. There could be some latest technology based anti-bioterrorism measures which could provide effective countermeasures in combating against the misuse of bio agents. Such measures could include technology through which all pathogens can be potentially identified through appropriate trial and error testing, and verification; development of better detection systems; development, evaluation and use of effective antibacterial agents that eliminate pathogens. Latest technologies can also help public health officials, physicians and biotechnologists and genetic engineers in collaborating for developing civilian preparedness for terrorist attack. Rapid detection of biological agents, fast analysis of the attack in targeted area, protective clothing, and use of vaccines and pharmaceuticals in treatment and decontamination of mass casualties could be significant in responding against a bio weapon attack. (Sarah A. Lister 2007:25-27)

The role of civil defence systems is very significant in preparing a potential and comprehensive defence against bio weapon use by non state actors. However, it is not so easy to develop and establish them especially in developing countries where there is a lack of even the basic medical facilities. International organizations and NGOs can play an important role in developing and establishing proper public and community health, vaccination programs and increasing general awareness about use of bio weapons in developing countries. Enhancing public health surveillance can help in enhancing domestic preparedness not only against bioterrorism but also against emerging diseases and other infections and role of International organizations is significant to achieve a potential and comprehensive civil defence against bioweapon use.