

# Evaluating the Internal Control of Disaster Management According to Sendai Framework for Disaster Risk Reduction (SF-DRR) In Iraq

Prof. Dr. Khawla Hussein Hamdan

<sup>1,2</sup>University of Baghdad, Post Graduate Institute for Accounting and Financial Studies

Email:Dr.kawla@pgiafs.uobaghdad.edu.iq

## Abstract

The purpose of the research is to identify the elements of internal control (COSO) (control environment, risk assessment, control activities, information and communications and monitoring activities) and the Sendai DRR framework and to determine the degree of commitment to the internal control of disaster management in the Iraqi environment priorities of the Sendai Framework for Reducing Disaster Risk (SF-DRR). The research concluded with a set of conclusions, the most important of which are the following

The strengths of internal control included Iraq's accession to a number of agreements on disaster risk management and the existence of a database of disaster-related deaths and identification of those pursuing disaster risk reduction plans. The weaknesses included a lack of a database of numbers of casualties and missing persons, number of homes destroyed and people who lost. There is no law to reduce the risk of disasters and the non-activation of the Civil Defense Law and there is no national program for disaster preparedness. There is no special budget for disaster risk management.

**Keywords:** COSO Internal Control, Disaster, Sendai Framework (SF-DRR)

## 1- Introduction:

The study (Yilmaz&Baltaci, 2006) tries to fill the implementation gap through developing a conceptual framework of internal control and audit at the local level. By analyzing the internal control role of exercising public financial administration, we can identify the steps required to develop modern internal audit and control systems. The study highlights the importance of risk management. The effective internal control cycle is a dynamic process. The management needs to be in a state of continuous alert to address risks and emerging issues. Thus, risk assessment is vital to internal control because it enables management to identify and mitigate potential risks. When addressing potential risks, INTOSAI internal control guidelines 2004 suggest a risk assessment model that consists of four stages: 1) risk identification 2) risk assessment 3) (risk significance assessment 4) response development. This model reflects the measures need to be taken to identify and prevent risks. It also reflects actions to identify and fix weak points within the internal control system. Study by (Jokipii 2009) suggests that to ensure efficiency and effectiveness of activities, reliability, information and compliance with valid laws, companies need adequate internal control. However, many frameworks such as COSO, COCO etc presume that the need for internal control varies according to the companies features. This conforms to the theory of emergency which claims that each organization needs to choose the kind of control that suits it by taking into account the emergency features. This study aims at exploring features of emergency selected by the companies to adapt the internal control structure and to verify whether it leads to a

more adequate assessment for the control effectiveness by the management. This paper is but an attempt to highlight internal control and place it in a wider context.

Results derived from online survey that covers 741 Finnish companies show that companies do adapt to the internal control structure to deal with environmental uncertainty and achieve it. In addition, strategy has impacts of a statistical significance on the internal control structure. The study by (Wahlstrom 2015) explains that Sendai framework demands that the focus need to be on disaster risk management treatment rather than disaster management. The program concentrates on disaster risks motives. Sendai framework states that "it is urgent and vital to anticipate, plan and reduce disaster risks so as to protect people, societies and countries more efficiently. It includes risks that emerge slowly like drought as well as sudden events such as earthquakes. Along with reducing disaster risks as an expected result, the framework objective is to prevent new risks and reduce the existing ones and to support environmental and social resilience. There is also a set of guidelines, including the primary responsibility of states for disaster risk reduction and mitigation, emphasizing the involvement of all institutions of society and public institutions. Disaster risk reduction has been significantly expanded to focus on both natural and human hazards and related environmental, technological and biological hazards and risks. study (While 2015) shows that developments in disaster risk reduction awareness have improved the understanding of risk profile - a combination of risks to vulnerability - the application of this knowledge has not led to the development of institutional and technical mechanisms to address the risk profile. Risk management (policies, legislation and regulatory arrangements) remains highly focused on preparedness for risk response and recovery planning. This largely leaves behind the element of vulnerability to risk, the only element that can make a difference. Governance arrangements, risk assessments, early warning systems and other institutional and technical potentials continue to focus on natural hazards, and this is the major change that still needs to be addressed objectively. The study (Zia 2015) notes that early warning systems (EWS), if integrated into planning for development, disaster relief and recovery, can provide a significant opportunity to achieve many of the objectives of the reporting and forecasting framework. We explore the complexities of using hydro meteorological early warning systems for high-density communities in the Indus Basin in Pakistan to be prepared for disasters and floods in, in contrast to the less stable grassland in the African Coast. The paper prepared by (Garschagen 2015) used the example of Can Tho, a high-growth urban center of the flood-prone Mekong Delta, to analyze in detail (i) whether the city has a decentralized disaster risk management system and to what extent. (ii) What opportunities and challenges arise with decentralization and (iii) whether the agendas of different players from the local to the national level must accelerate or constrain local empowerment? Analysis, based on a review of policy documents and in-depth interviews with decision makers in respective States and other stakeholders, reveals that the image of decentralization in Vietnam is much less clear than that often stated. The study of (Mysiak et al, 2016) showed that proper understanding of risk does not only mean accounting for damage and loss in the past. Natural hazards are the result of environmental changes, including the climate. This makes developing result-oriented measurements concerning DRR a hard task. SFDRR should encourage states and regions to better understand the risks they are being exposed to. This requires risk modeling and simulation.

The multi-level governance systems often dominate the top-down central management bias and face great difficulty in responding to the needs of the surrounding and vulnerable populations. Study by (Rishma et al 2017) shows that the Sendai Disaster Risk Reduction Framework 2015-2030

recognizes the strong relationship between Health and disasters and promotes the concept of lifelong health resilience. Many of the seven global goals mentioned in the Sendai framework are directly related to health in terms of reducing mortalities from disasters, the number of people affected, disaster damage to critical infrastructure, and disruption of basic services such as health facilities. The Sendai framework also maintains close coordination with other United Nations conventions related to health. The study found that measuring health indicators is difficult. Problems arise, for example, in linking mortalities and disasters due to the complex interaction between exposure, risk, vulnerability and hazards. The absence of a global classification of disasters means that health data of disasters are not standardized. The development of guidelines to enable data collection and reporting to support Sendai's goals requires detailed reflection, time and consultation with a variety of stakeholders, strong collaboration and partnership will be vital to success

According to (Hamdan2017)the purpose of the research is to define the framework of Hyogo for disaster management and then to use an administrative method it is benchmarking in evaluating the effectiveness of internal control. It is using the results of the implementation report for the Hyogo Framework for Action for 2013-2015 in the Republic of Iraq were compared with the United Arab Emirates according to the basic indicators and the procedures included according to priority priorities and the level of progress in the implementation of the basic indicators of priority has been compared. The researches reached which are the strengths of internal control in the Iraqi environment in the risks of disasters are included in the plans and strategies and Provide Emergency and Disaster Funds, while the weaknesses are the absence of an independent body for disaster risk management. There is no funding of disaster risk reduction. it is allocated a sum of money for a disaster or emergency to the respond to this event, including the relief of the victims or those affected, as well as it is There are no method and procedures agreed to assess the damage and losses . So university education curriculums and specialized educational programs do not include disaster risk.

s for studying Al-Obaidi, Al-Taha ( 2017 ) its importance of the research emerged from the need of decision-makers and at all levels for high-quality accounting information about the damage caused by disasters that we present to Iraq and the presence of a number of effective accounting topics that are absent from local accounting procedures, which requires an update of the approved accounting treatments, the research reached a number of conclusions The most important of which is that the unified accounting system is insufficient to meet the requirements of international financial reporting as a result of its failure to recognize many accounting procedures when disasters occur, which led to the distortion of financial statements in terms of their relationship to the value of losses incurred as a result of disasters.

The problem of research that internal control of disaster management in the Iraqi environment has not been assessed to determine the degree of compliance (control environment, risk assessment, control activities, information and communications, Monitoring Activities) according to the Sendai Framework for Disaster Risk Reduction (SF-DRR).

The research is based on hypothesis that "the evaluation of the elements of internal control (control environment, risk assessment, control activities, information and communications, Monitoring Activities) for disaster management according to the Sendai Framework for Disaster Risk

Reduction (SF-DRR) In Iraq contributes to the identification of strengths and weaknesses in each element of internal control framework priorities.

### **The study aims**

- Identify the elements of internal control (**COSO**) and Sendai Framework for Disaster Risk Reduction (SF-DRR).
- Determine the degree of commitment to internal control of disaster management in the Iraqi environment priorities of Sendai Framework for Disaster Risk Reduction (SF-DRR).

### **Study tools:**

The triangular scale is used (fully applied, partially applied, and not applied) Degree (2, 1, 0) on respectively).

## **2. Theoretical framework:**

### **2-1 COSO Internal Control Framework**

Integrated process carried out by the management and staff of one of the parties in the pursuit of its functions and is designed to provide reasonable assurance that the following general objectives have been achieved : (Implementing operations in a systematic, ethical and economical manner, Meeting requirements for liability accounting, Compliance with applicable laws and regulations, Avoiding loss of assets and The regulatory environment). Components of internal control according to COSO framework. COSO framework 2013 consists of 5 key components. They are defined as follows:

#### **A. Control environment:**

They provide a disciplined, structural and also climate that affects how strategies and objectives are developed. The important risk mitigation strategy is carried out through internal control activities, but regulatory activities and corrective measures must provide that the cost of control activities and corrective actions does not exceed the benefits (Cost rationalization).

#### **B. Risk assessment:**

The process of identifying risks related to achieving the objectives of the establishment and analyzing them and determining how to properly address them.

#### **C. Control activities:**

Regulatory activities are risk-based policies and procedures that meet the objectives of the entity. In order for the audit activities to be effective, they must be appropriate and consistent in accordance with periodic planning processes and should also be cost effective, inclusive, and reasonable and integrated with the overall objectives of the enterprise.

#### **D. Information and Communication:**

Information and reporting are essential means of achieving internal control objectives immediate registration and appropriate classification of financial transactions and events are essential for information to be credible and relevant. Information must be relevant, specific, well known and communicated in form and time frame so that staff can perform their internal control and their other responsibilities (timely reporting to the right person).

**E. Monitoring Activities:**

Continuous or separate evaluations, or both are useful to know if each one of the of internal control five components is in place and properly works. Results are measured against the standards set by prudent standard setters or bodies known for standard-setting or management and the board. Shortcomings are reported to the management.(INTOSI 9100,2004)

**2-2 Sendai Framework for Disaster Risk Reduction**

The framework includes elements for ensuring the continuity of action carried out by states and other stakeholders within the Hyogo Framework for Action, and the Framework contains a number of changes that were called for during consultations and negotiations. The framework includes objectives, scope of work, goals and priorities for action.

**A. Scope and Objective:**

The Framework applies to the risks of small, large, recurrent and rare, sudden and slow emerging disasters that are caused by nature or man as well as related environmental, technological and biological hazards and risks. The framework aims to prevent disaster risks and to reduce disaster risks through carrying out comprehensive integrated economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional arrangements that prevent vulnerability and the possibility of being affected by disasters. Also ,the framework aims at promoting preparedness for response and recovery, thus , Strengthening disaster resilience.

**B. Priorities for action****Priority 1 - Understanding disaster risk:**

Disaster risk management is based on understanding the dimensions of disaster risk i.e. Vulnerability for people and property, their exposure to hazards, and the characteristics of hazards and environment.

**priority 2 – enhancing disaster risk management in order to better address risks:** Disaster risk management is of national, regional and global importance in managing disaster risk reduction in all sectors and ensuring consistency of national and local frameworks with laws, regulations and public policies for the public sector or The private sector, through the identification of tasks and responsibilities, which assist in taking action and addressing disaster risks.

**Priority 3 -Investing in disaster risk reduction to enhance resilience:**

Investment in disaster risk prevention and reduction must be made in both public and private sectors to achieve economic, social, health and cultural benefits for people, society, country and property and environmental conservation as well. The measures contribute to saving lives, reducing and preventing losses, ensuring recovery, rehabilitation and reconstruction and improving disaster preparedness.

**Priority 4- Enhancing Disaster Preparedness for Better Response and Reconstruction for Disaster Recovery, Rehabilitation and Reconstruction:**

The integration of lessons learned from past experiences has led to the need to strengthen disaster preparedness to ensure that disaster response capacities are effectively available. It is proved, from the disasters that were experienced that the stage of recovery, rehabilitation and reconstruction that needs disaster preparedness represents a crucial opportunity "to better

reconstruct by integrating disaster risk reduction measures." In this context, women and persons with disabilities must be empowered to execute approaches that are characterized by Gender-equality and accessed by all during the response and reconstruction phases (UNDRR, 2015).

### **3. Evaluation Internal Control to Disaster Management on According Sendai Framework for Disaster Risk Reduction in Iraq.**

#### **A. Priority 1 - understanding disaster risks:**

- **Disaster risk data collection and dissemination National disaster collection database**

1. There is a mechanism to record deaths due to disasters. The number of deaths attributed to disasters classified by event is collected but not linked to the hazard type and disaggregated by location, age, gender, disability and income (Ministry of Environment 2005).
2. No Disaster risk data collection and dissemination, no National database for Missing persons injured or sick due to disasters and for the number of people whose homes were damaged and whose work was.

That it is Affects the **Information and Communication** element of internal control elements according to the COSO framework as shown in the table (2).

- **Using geospatial information systems to develop disaster risk information:**

- The general framework document of the National Reconstruction and Development Plan for the provinces affected by the terrorist acts and military operations in 2017 indicated that the evaluation will include basic GIS data on all facilities damaged by terrorist acts. It is clear that GIS is used after the occurrence of damage and not in the disaster preparation phase.

That it is Affects the **Information and Communication** element of internal control elements according to the COSO framework as shown in the table (2).

- **Evaluating of all losses resulting from disasters:**

(a). The general framework document of the National Plan for Reconstruction and Development of the provinces affected by the terrorist acts and military operations in 2017 has shown the following:

- Preliminary unofficial estimates of the size of the destruction and losses. The Reconstruction Fund for Areas Affected by Terroristic Operations (REFAATO) preliminary estimates of the losses were over 50 billion at the end of September 2016 (Ministry of planning, 2017: p18).

- The document sets out indicators to assess the losses and social damage, and determine the amounts of these losses, damage and needs of the infrastructure sector (removing debris and war remnants, electric power services, water and sanitation services, sheltering and housing, health and education services, roads and Bridges) losses, damage and needs of the economic development sector (depending on the priorities of the economic activities by governorate- building and housing, electricity and water, social security, mining and quarries, agriculture, fishing and forestry, wholesale and retail).

(b). When reviewing the National Development Plan 2018-2022, the following is noted:

The plan showed an assessment of the risks of disasters resulting from the terrorist operations in some governorates of Iraq. The assessment of the damage was after the disaster and the assessment methodologies were not identified. The cost of the affected units by sectors according to the assessment of the national development plan was estimated with an amount of 36046 billion Iraqi dinars (16% of GDP) and the highest cost was in the electricity sector (9586 billion Iraqi dinars)

then comes oil and gas (6145 billion Iraqi dinars) and the transformational industries sector (5477 billion Iraqi dinars) (Ministry of Planning, 2017: p. 120).

That it affects the **risk assessment** element of internal control elements according to the COSO framework as shown in the table (2).

- **Recording and publicizing of all losses resulting from disasters, and identifying their economic, social, health, educational and environmental impacts as well as the effects related to cultural heritage:**

Data on agricultural economic losses and economic losses resulting from critical infrastructure and direct economic losses of damaged or destroyed cultural heritage attributed to disasters were not collected nor data were collected on the number of destroyed or damaged health facilities and the number of destroyed educational facilities (UNDRR, 2017)

That it affects the **risk assessment** element of internal control elements according to the COSO framework as shown in the table (2).

- **Partnership with academia to reduce disaster risks:**

The general framework document of the national plan reconstruction and development of the governorates that were affected by the terrorist acts and military operations 2017 mentioned the local and international partnership. For example through ministries/governorates, formations and partnerships committees by the local governments, grand authority, endowments, civil society organizations and the private sector as well. However, the framework document has not mentioned scientific, academic and technological partnership identified by the framework to enhance international practices, share expertise and linking scientific knowledge with policies to come up with effective decisions for disaster risk management (Ministry of plan 2017:P 18).

This it affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

- **Training and supervision for disaster risk reduction**

The Civil Defense Law No. (44) provides for the tasks of the Director General. One of these tasks is to develop plans to organize, train and supervise the training of civil defense workers in the public, mixed and private sectors in the training centers in provinces; urging citizens outside the civil defense field to enroll in such training, making sure of the availability of well trained work teams and call for students from schools, institutes and colleges to work in the field of civil defense as well in coordination with the relevant authorities. The Act also stipulates that the instructions and directives of civil defense are to be taught in schools, institutes and colleges in accordance with the general plan for training in the field of civil defense work. However, none of the above was carried out on the ground (Civil Defense Law 2013).

This it affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

- **Disaster awareness raising :**

No programs, media campaigns or social media were used to educate, and raise the awareness of, the public on disaster risk reduction despite the fact that in the Civil Defense Act No. (44) Of 2013, Article (3) -2 provides for raising the public's awareness of the damage of war and disasters and Article (11) – 12 stipulates raising citizens' awareness of the preventive measures for civil defense

through the media. The Act also mentions financial incentives to strengthen mechanisms and initiatives related to raising the awareness of disaster risks (Civil Defense Law, 2013).

The researcher noticed that the Meteorological Organization and seismology website includes guidelines on the prevention of natural disasters risks. Similarly, the website of the Joint Coordination and Monitoring Center of the General Secretariat of the Council of Ministers provides guidance on the preparedness of individuals for emergencies. The guidance includes educating citizens and enabling them to prepare for and respond to natural and non natural disasters.

The Iraqi Red Crescent Society's website has published a guide to provide the public with practical information on the best ways to prepare for and recover from disasters. It also includes safety tips and information on the preparedness and protection of individuals and families) International Federation of Red Cross and Red Crescent Societies, 2007).

This is affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

The researcher is with the view that it is necessary to disseminate these guidelines to the social media sites and to activate the role of the media in raising citizens' awareness of risk reduction, preparedness and emergency measures. The guidelines also include natural and non-natural disasters and coordination between the Ministry of Culture and Information and other relevant ministries.

## **B. priority 2 :To strengthen disaster risk management in order to better address them.**

- **Mainstreaming and integrating disaster risk reduction into all sectors and promoting coherence and further development of national and local frameworks of laws, regulations and policies**

(1).A disaster risk management law has not been passed, although Iraq has witnessed several wars since 1980 namely the Iran- Iraq war, the Gulf War, the 2003 events and control of ISIS over various areas of Iraq from 2014 to 2017 not to mention disasters resulting from climate change, arms warehouse explosions due to poor storage and high temperatures, and fire in some old shops.

(2). Iraq issued the general framework document of the National Plan for Reconstruction and Development of the provinces affected by the terrorist acts and military operations 2017. It includes the following:

Guidelines of the reconstruction plan has been linked to the National Development Plans (2018-2022) and (2023-2027) and the reconstruction of infrastructure within the National Development Plan (2018-2022) and taking into account the urban planning of cities and areas under reconstruction to ensure the achievement of the goals of the 2030 Sustainable Development Agenda.

The scope and term of the general framework: The present document aims to provide the general framework for a long-term reconstruction plan consisting of relief and rehabilitation efforts and long-term development. The Iraqi government's efforts are divided into three phases: relief and urgent and temporary sheltering phase, families' urgent settlement phase and long term reconstruction and development phase. The Federal Government will shoulder the responsibility of the leadership and supervision process and through the Reconstruction Fund for the Areas Affected by the Terrorist Operations, ministries and the competent authorities in terms of planning and allocation of funds and the request for international loans and accepting financial and in kind grants. Ministries and provinces, in turn, are responsible for implementation and achievement while

providing a framework for follow-up and monitoring. Annual allocations are earmarked to the Higher Committee for Relief and sheltering of displaced families and REFAATO. Thus, it is clear that the framework document has been developed for reconstruction and development, i.e. for post-disaster phase not for disaster risk reduction (Ministry of planning, 2017: p18).

This affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

- ***Adoption and implementation of national and local strategies and plans for disaster risk reduction:***

1. From the responses to the questions of the framework questionnaire, we noted that there is neither national strategy for disaster risk reduction nor local government strategies for disaster risk management (Ministry of planning, 2017: p18).

**(1) Strategy for poverty alleviation:**

Among the activities of the strategy for poverty alleviation is the establishment of a permanent mechanism for the coverage of social safety networks for those affected by natural disasters and emergencies. The procedural activities include the development of standards for coverage for the social safety nets for the affected, cooperation between local governments and the Ministry of Labor and Social Affairs, between the international organizations and the Ministry of Labor and Social Affairs. The strategy also includes emergency response activities, which include labor-intensive employment programs to provide urgent employment opportunities for IDPs and returnees in the provinces and victims of terrorism to ensure their integration in community again, and the provision of health services for the poor displaced individuals and to ensure the provision of basic education for poor displaced children, the construction of low cost housing units while giving priority to poor IDPs in addition to giving them small grants for house refurbishment (Central Bureau of Statistics, 2018 :P78).

**(2) The National Development Plan 2018-2022:** chapter five includes the post-crisis provinces reconstruction and development plan and the situation analysis namely the efforts to confront displacement. The plan referred to the government's program in managing the crisis through humanitarian relief and response – displacement phase (short term). Stabilization Programmers in the liberated areas – return phase (medium term) and Iraq Relief and Reconstruction Fund for areas affected by terrorist operations the return phase, Framework Document for National Plan for Reconstruction and Development 2017 – reconstruction and stabilization phase (long term) and identified the implementing entities at different stages of the crisis management program (General Secretariat of the Council of Ministers, Ministry of Finance, Ministry of Planning, Ministry of Displacement and Migration, Reconstruction Fund, sectoral bodies, security agencies, international organizations, local governments) (Ministry of planning, 2017: p 112).

**(3). Stabilization programs for liberated areas**

The government has adopted this program with the assistance of the United Nations and the international community to respond to the needs of restoring stability and safe and sustainable return of the displaced to their cities. The plan also sets the timetable for the implementation of the program 2017 -2027(10 years) p1-5. The plan included objectives and means to achieve them.

The plan also included poverty alleviation, sectoral and spatial development, and environmental sustainability in terms of climate change (253,257), floods and earthquakes,. thus, the following is noted:

2. The national plan does not include procedures and programs before and during the disasters to ensure disaster preparedness. Most of the procedures are after the occurrence of disasters.
3. No strategy has been put in place to take into account the risks of disasters given the fact that Iraq is not stable in terms of security.
4. The plan addressed the risks of natural disasters by referring only to climate change without establishing a national program or mechanisms for disaster risk reduction.

Periodic assessment of the implementation of national and local plans (Ministry of planning 2017).

This affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

- **Establishment of mechanisms for monitoring and reporting the progress in the implementation of national and local plans**

The fourth section of the general framework document of the national plan ensures that the implementation and performance audit is according to a timetable for the procedures and the implementation steps of the reconstruction and development plan. The implementation of the plans is monitored by the Federal Board of Supreme Audit, the ministries and the governorates.

This affects the **monitoring Activities** element of internal control elements according to the COSO framework as shown in the table (2).

- **Encouraging the development of quality standards in disaster risk management:**

Quality standards in disaster risk management have not been adopted and there is no business continuity guide to be circulated to all institutions operating in the country such as ISO 22301 Business Continuity Management System.

Addressing the issues of protection or resettlement of people in disaster-prone areas:

The general framework document of the National Plan for Reconstruction and Development of the provinces affected by the terrorist acts and military operations in 2017 included the priorities of the economic activities placement according to governorates. The activities include construction and housing, electricity and water, public relations and social security, mining and quarries, agriculture, fishing and forestry wholesale and retail for the provinces of Baghdad, Anbar, Babel, Diyala, Kirkuk, Nineveh, Salah al-Din (Ministry of Planning, 2017: p11).

This affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

- **Encouraging cooperation among global and regional institutions that deals with disaster risk reduction:**

Iraq has acceded to the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-personnel Mines and on their Destruction signed at Ottawa No. 11 of 2006: for the purpose of ending the suffering and injuries caused by anti-personnel mines and economic development and reconstruction (Republic of Iraq, Iraqi official Gazette, 2006).

1. Law on the accession of the Republic of Iraq to the Vienna Convention and the Montreal Protocol for the Protection of the Ozone Layer No. 42 of 2007: For the purpose of participating with the States of the world in protecting the ozone layer, which protects human and environmental health from the harmful effects of ozone layer distortion and Ozone depleting chemicals (Republic of Iraq, Iraqi official Gazette, 2007).
2. The law of accession of the Republic of Iraq to the Ramsar Convention on Wetlands and its amended Protocols No. 7 of 2007: for the purpose of the continuous provision of water to the marshes as they are inscribed in the World Heritage list (Republic of Iraq, Iraqi official Gazette, 2007)
3. The Law of Ratification of the Republic of Iraq on the Statute of the Arab Center for the Prevention of Seismic and Other Natural Disasters No. 56 of 2008: This Law was enacted for the purpose of participating in promoting joint Arab action to keep up with technological and scientific progress movement, to put modern technology at the disposal of Arab nation and to develop it in the field of protection from the risks of earthquakes and other natural disasters (Republic of Iraq, Iraqi official Gazette, 2009).
4. Iraq joined the United Nations Framework Convention on Climate Change and its Kyoto Protocol No. 7 of 2009 for the purpose of participating with the international community in stabilizing greenhouse gases in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system (Republic of Iraq, Iraqi official Gazette, 2009).
5. The Law of Accession of the Republic of Iraq to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal No. 3 of 2011 and the annexes thereto, for the purpose of controlling the transport of hazardous wastes and preventing their import or export across borders and in order to benefit from international expertise (Republic of Iraq, Iraqi official Gazette, 2011).

The researcher believes that most of the agreements that Iraq has acceded to aim at reducing natural hazards save the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-personnel Mines and on their Destruction which deals with the non natural disaster risk reduction .

This is affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

### **C. Priority 3: Investing in disaster risk reduction in order to increase resilience**

#### **• Allocation of the necessary resources:**

1. There is no allocation in the budget for disaster risk management, but a small amount of emergency reserve is allocated within the appropriations of other expenditures of the Federal budget of the Ministry of Finance. The budget includes borrowing from the German Development Bank (KfW) to finance projects for the reconstruction of areas liberated from ISIS. The Minister of Finance must develop regulations for the use of emergency reserve allocations within the instructions of the execution of the annual federal budget and that the Federal Board Supreme Audit should submit a quarterly report to the House of Representatives that includes the objects of expenditure of the emergency reserve and the technical audit opinion whether they are emergency expenditure or not (Iraqi Council of Representatives, 2018).
2. The national plan referred to the method of financing reconstruction projects as they are funded by the reconstruction fund of the areas affected by terrorist operations, ministries and the competent authorities in terms of planning and allocation of funds and the request for

international loans and acceptance of financial and in kind grants. The ministries and governorates are responsible of implementation in addition to providing a framework for following up and monitoring. Annual allocations are earmarked for the High Committee for Relief and Sheltering for Displaced Families. The framework document includes the government's decision to agree with the International Monetary Fund on the stand-By arrangement and to obtain a loan and credit facilities of 18 billion dollars for the years 2016/2018 (Ministry of planning, 2017).

3. As for The poverty alleviation strategy, an annual allocation from the current and investment budget is earmarked to it, and a percentage of the annual allocations is earmarked to the program of regional development and petrodollar. In terms of international funding, the possibility of initial funding is available in light of international support for reconstruction efforts (Central Bureau of Statistics, 2017:p48).

This is affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

- **Strengthening mechanisms of disaster risk transfer, insurance or sharing to reduce the financial impact of disasters on governments and communities in urban and rural areas:**

No Insurance or insurance facilities, reinsurance, disaster bonds and other capital market mechanisms are used for disaster risk reduction (Ministry of Environment for HFA, 2015) : p25).

This is affects the risk assessment element of internal control elements according to the COSO framework as shown in the table (2).

- **Public and private investments in construction projects to prevent and reduce disaster risks, so that they are appropriately designed and constructed to withstand hazards, including the use of global design principles and standardization in terms of building materials:**

1. The plan lists the challenges facing the implementation of the plan, including poor effectiveness of urban planning and the absence of the national housing policy that responds to the real situation of management of risks resulting from crises and conflicts. The number of slum areas houses is 347,000 .This numbers explain the causes and consequences of the lack of urban planning (Ministry of Planning, 2018:p20).
2. There are no investments to reduce risks in vulnerable urban settlements , to drain water to flood-prone areas and no investments to areas prone to landslides, in addition to the absence of training programs on safe building techniques.
3. Although there are building codes but they have not been adhered to. Therefore, measures must be taken to reduce non-compliance (Ministry of Environment for HFA, 2015: p. 22).

This is affects the Control **activities** element of internal control elements according to the COSO framework as shown in the table (2).

- **Promote the design and implementation of policies and mechanisms for social safety networks for all to provide access to basic health services, housing and education, with a view to eradicating poverty:**

1. In 2018, the Council of Ministers approved the draft law on the accession of the Republic of Iraq to the Convention on the Minimum Standards of Social Security No. 102 of the

International Labor Conference, which includes medical care, and sub to sides the cases of unemployment, aging, work injuries, maternity, disability

2. The Poverty Strategy refers to establishing the Social Fund for Development (SFD) the purpose behind is to increase the adequacy of institutional structures for development and those adopting poverty alleviation policies in particular as a direct national tool for implementing the objectives of the Strategy (Central Bureau of Statistics, 2017 :p 94-95)

This is affects the Control **activities** element of internal control elements according to the COSO framework as shown in the table (2).

- **Encouraging the adoption of policies and programs to address the displacement of populations following disasters to enhance the resilience of affected persons and host communities, in accordance with national laws and circumstances:**

1. Iraq has witnessed in 2014 the displacement of large numbers of residents of the areas affected by the terrorist operations launched by ISIS, the number of displaced families and the numbers of mortalities among these families were shown in the statistics of the Central organization of Statistics within the indicators of environment and sustainable development. Table (1) depicts the Numbers of displaced families and mortalities due to displacement.

**Table (1) Number of IDPs**

	2017	2014
Number of displaced families	45070	150027
Number of individuals of displaced families	240873	782392
Number of deaths of IDPs	727	

Preparation researcher of the researcher based on the (Republic of Iraq, Ministry of Planning Central statistical organization IRAQ, Priority Indicators for Environment and Sustainable Development in Iraq, 2012)

The 2017 Global Report on New Displacement cases due to Conflict and Violence in 2016 showed 659,000 cases of displacement in Iraq. Thus, Iraq is ranked third in the number of IDPs out of 10 countries. As stated by the report, the figures do not reflect the real size of internal displacement because there is no accurate and transparent data to monitor displacement from the beginning to the end (Global Report, 2017).

Therefore, it is clear that the numbers of displaced people are not accurately defined and that their needs are not met and therefore they will suffer from a lack of food and health services.

(2) Despite the enactment of the Civil Defense Act No. (44) for the year 2013, which includes the preparation and development of approved plans to respond to emergency situations and make requirements available and implement the necessary practices and the preparation and implementation of plans to prepare hospitals and health centers for the purpose of treating citizens in times of possible disasters and the preparation and implementation of plans for relief of the affected people, the Act has not been activated as Iraq witnessed in 2014 the displacement of large numbers of residents of the areas affected by terrorist operations launched by ISIS. However, basic

requirements have not been provided to IDPs. The study of (Culbertson & Robinson, 2017:p18-32) showed the following:

- The camps established for internally displaced persons do not meet the Sphere standards (International Standards for camps). (Sphere Standards)
- Health services in the camps were not comprehensive.
- Camp teams used their own vehicles to transport people to hospitals.
- Skin diseases spread among most children in camps.
- - Lack of mental health treatment constitutes a major gap especially with the number of internally displaced persons that are being traumatized.
- Current programmers to reduce explosives risks are not sufficient to fully deal with the problem given the size of explosives and the fact that a number of important areas are still mined.
- Lack of a comprehensive plan to clear urban areas, housing, or agricultural areas of explosives and mines.
- Hospitals have not been equipped to treat those wounded and injured.

This affects the Control **activities** element of internal control elements according to the COSO framework as shown in the table (2).

**D. Priority 4: To Strengthen disaster preparedness to effectively address disasters and "to better rebuild" in recovery, rehabilitation and reconstruction phase.**

- **Preparing or reviewing policies, plans and programs related to disaster preparedness and emergency and periodically update them.**

The Civil Defense Law No: (44) of 2013 includes civil defense work to prepare the necessary plans to control the distribution of electricity in emergency situations, Preparing and developing approved plans to face emergency situations and secure their requirements and implementing the necessary practices to prepare and implement plans for the preparation of hospitals and health centers for the purpose of treating citizens in the event of potential disasters, Preparing and implementing plans for disaster relief, fire fighting and light and heavy rescue, examinations of facilities, projects and factories and follow up the implementation of the conditions of prevention and safety for civil defense purposes, purify areas from pollution in coordination with the relevant authorities. The Law provides for the formation of a committee at each center in the provinces and provides the services mentioned above (Law). However, there is no national program for disaster preparedness (Ministry of Environment for HFA, 2015).

This affects the **Monitoring Activities** element of internal control elements according to the COSO framework as shown in the table (2).

**Investing in forecasting and early warning systems.**

The Civil Defense Law No: (44) of 2013 provides for civil defense works namely securing and regulating early warning systems and alerting citizens to possible risks. However has not been activated.

This affects the Control **activities** element of internal control elements according to the COSO framework as shown in the table (2).

● **Establishing centers for raising the public awareness and storing the materials necessary for the implementation of rescue and relief activities:**

1. The Kurdistan region established the first center of its kind for coordination and preparedness in times of disasters on 17/5/2015.
2. (The Joint Crisis Coordination Center, mandated by the Council of Ministers in January. the main functions of the Center are the collection and analysis of information, through monitoring, research and follow-up of all humanitarian crises and developments 24/7 , provision of advice concerning policies that strengthens the Government's strategic decision-making capacity , resource management and mobilization, crisis coordination among relevant ministries, departments, the international community and non-governmental organizations.( UNDP ,2015).
3. Establishing the Joint Coordination and Monitoring Center (JCMC) of the Government of Iraq. JCMC is a government institution dedicated to coordination between the Iraqi Government entities, and between the Government and the international community on issues related to crisis management. The key network for coordination of crisis response consists of the Joint Coordination and Monitoring Center in coordination with the main ministries and governorates. The General Secretariat of the Council of Ministers has endeavored through the JCMC to expand the work of the Joint Center to build an effective partnership for crisis related coordination between the Government and its institutions on the one hand and civil society and international partners on the other. The Center has established a network of representatives of the Joint Center which includes (32) governmental bodies, including the governorates of Iraq, except the Kurdistan region, ministries and sectoral entities. The aim is to serve as an effective point of contact with the Center for the purpose of coordinating efforts and joint action (General Secretariat of the Council of Ministers JCMC, 2017).

This affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

● **Training existing manpower and volunteers to face disaster risks:**

- (1). Despite the fact that the Civil Defense Act included provisions for training there is no training and drills in schools and hospitals to prepare for emergencies.

This affects the control environment element of internal control elements according to the COSO framework as shown in the table (2).

Based on the professional judgment of the researcher, a numerical value (20) for each element of internal control to Framework (COSO)(control environment, risk assessment, control activities, information and communications, Monitoring Activities) was given to the importance of the control element in view of the disasters faced by Iraq due to the continuous terrorist operations as well as the disasters resulting from climate change. Therefore, the results obtained for the control elements Internal to 20% .The table (2) shows the effectiveness and risks of internal control of disaster management in the Iraqi environment the results indicate that there are risks (59%) which require action to reduce those risks.

**Table (2):**Evaluating the effectiveness of the internal control elements (COSO) of disaster management according to Sendai Framework for Disaster Risk Reduction (SF-DRR) In Iraq

priorities	Indicator	Contr ol Environme nt			Risk Assess ment			Contr ol activiti es			Inform ation& Comm unicati on			Moni torin g Activ ities		
		0	1	2	0	1	2	0	1	2	0	1	2	0	1	2
Weights																
<b>Priority 1</b> <b>Understan ding disaster risks</b>	<b>Disaster risk data collection and dissemination National for recording cases and a database for mortality rates due to disasters are in place.</b>											1				
	<b>Disaster risk data collection and dissemination National database for Missing persons injured or sick due to disasters and for the number of people whose homes were damaged and whose work was interrupted.</b>										0					
	<i>Using geospatial information systems to develop disaster risk information.</i>											1				
	<i>Evaluating of all losses resulting from disasters</i>						2									
	<i>Recording and publicizing of all losses resulting from disasters, and identifying their economic, social, health, educational and environmental impacts as well as the effects related to cultural heritage</i>					1	1									
	<i>Partnership with academia to reduce disaster risks.</i>		1													
	<i>Training and supervision for disaster risk reduction.</i>		1													
	<i>Disaster awareness raising.</i>											1				
<b>priority 2 :</b> <b>To strengthen disaster risk Managem ent in order to better address</b>	Mainstreaming and integrating disaster risk reduction into all sectors and promoting coherence and further development of national and local frameworks of laws, regulations and policies.		1													
	<b>Adoption and implementation of national and local strategies and plans for disaster risk reduction.</b>		1													

<p><b>them.</b></p>	<p><i>Establishment of mechanisms for monitoring and reporting the progress in the implementation of national and local plans</i></p>														<p>1 1 1</p>	<p>2</p>
	<p><i>Encouraging the development of quality standards in disaster risk management.</i></p>	<p>0</p>														
	<p><i>Encouraging cooperation among global and regional institutions that deals with disaster risk reduction.</i></p>		<p>2</p>													
<p><b>priorities</b></p>	<p><b>Indicator</b></p>	<p><b>Contr ol Envir onme nt</b></p>	<p><b>Risk assess ment</b></p>	<p><b>Contr ol activiti es</b></p>	<p><b>Inform ation and Comm unicati on</b></p>	<p><b>Moni torin g Activ ities</b></p>										
<p><b>Weights</b></p>		<p>0</p>	<p>1</p>	<p>2</p>	<p>0</p>	<p>1</p>	<p>2</p>	<p>0</p>	<p>1</p>	<p>2</p>	<p>0</p>	<p>1</p>	<p>2</p>	<p>0</p>	<p>1</p>	<p>2</p>
<p><b>Priority 3: Investing in disaster risk reduction in order to increase resilience</b></p>	<p><b>Allocation of the necessary resources</b></p>	<p>1</p>														<p>1</p>
	<p><b>Strengthening mechanisms of disaster risk transfer, insurance orsharing to reduce the financial impact of disasters on governments and communities in urban and rural areas.</b></p>		<p>0</p>													
	<p><b>Public and private investments in construction projects to prevent and reduce disaster risks, so that they are appropriately designed and constructed to withstand hazards, including the use of global designprinciples and standardization in terms of building materials.</b></p>						<p>1</p>									
	<p><b>Promote the design of policies and mechanisms for social safety networks for all to provide access to basic health services, housing and education, with a view to eradicating poverty.</b></p>						<p>2</p>									

	Encouraging the adoption of policies and programs to address the displacement of populations following disasters to enhance the resilience of affected persons and host communities, in accordance with national laws and circumstances.									1									
Priority 4: To Strengthen disaster preparedness to effectively address Disasters and "to better rebuild" in recovery, rehabilitation and reconstruction phase.	Preparing policies, plans and programs related to disaster and Preparedness and emergency and periodically update them.																		1
	Investing in forecasting and early warning systems.									1									
	Establishing centers for raising the public awareness and storing the materials necessary for the implementation of rescue and relief activities.		1																
	<i>Training existing manpower and volunteers to face disaster risks.</i>		1																
Frequency		1	7	1	1	1	1	0	3	1	1	3	0	0	1	1			
Weighted		0	1	2	0	1	2	0	1	2	0	1	2	0	1	2			
<sup>11</sup> Weighted mean		<b>1</b>			<b>1.67</b>			<b>1.25</b>			<b>0.75</b>			<b>1.5</b>					
<sup>22</sup> Application %		<b>0.33</b>			<b>0.56</b>			<b>0.42</b>			<b>0.25</b>			<b>0.50</b>					
Gap(1-Application %)		<b>0.83</b>			<b>0.44</b>			<b>0.58</b>			<b>0.75</b>			<b>0.50</b>					
Effectiveness of internal control Degree Percomponent		<b>6.6</b>			<b>11.1</b>			<b>8.3</b>			<b>5</b>			<b>10</b>					
Effectiveness of internal control %		<b>41</b>																	

<sup>11</sup>  $\sum(\text{Frequency} \times \text{Weighted})$ .

$\sum$  Frequency

<sup>22</sup> Weighted mean

## **5. Conclusions:**

The following weaknesses and strength in internal control according COSO Framework for each of the priorities of the Sendai Framework for Disaster Risk Reduction (SF-DRR):

### **Control Environment**

#### **Priority 1 Understanding disaster risks**

There is no partnership with scientific, academic and technological circles to promote and share international practices and to benefit from experiences

Although the Civil Defense Law No. 44 guarantees training and supervision for disaster risk reduction and disaster risk education, this has not been done on the ground

#### **Priority 2 :To strengthen disaster risk Management inorder to better address them.**

No disaster risk management law has been passed, but there is a Civil Defense Act that includes disaster risk reduction and response measures.

National and local disaster risk reduction strategies and plans were adopted and implemented, including the poverty reduction strategy, the stabilization programs for the liberated areas and the National Development Plan 2018-2022. However, these plans and strategies did not include procedures and programs before and during disasters to ensure disaster preparedness. Post-disaster, There is no national strategy for disaster risk reduction, nor are local government strategies to address disaster risk

Quality standards have not been adopted in disaster risk management, and there is no evidence of business continuity being applied to all institutions.

#### **Priority 3: Investing in disaster risk reduction in order to increase resilience**

There is no allocation in the budget to manage the risk of disasters, but is allocated the amount of contingency reserve within the appropriations of other expenditures of the budget of the Federal Ministry of Finance, as well as included the budget on grants and borrowing for reconstruction and also included the strategy of poverty alleviation annual allocation of the general budget investment and ongoing balance strategy

#### **Priority 4: To Strengthen disaster preparedness to effectively address disasters and "to better rebuild" in recovery, rehabilitation and reconstruction phase.**

The Kurdistan Region, the first center of its kind for coordination and preparedness in the case of disasters in Kurdistan on 17/5/2015, was established and the formation of the Joint Coordination and Monitoring Center (JCMC) of the Iraqi Government was established.

Although the Civil Defense Law guarantees the development of training plans, there is no training and mock exercises in schools and hospitals to prepare for emergencie

### **Risk assessment**

#### **Priority 1 Understanding disaster risks**

Disaster losses were assessed in the National Plan 2018-2022 for reconstruction, The effects of economic, social, health, educational, environmental and cultural losses related to cultural heritage resulting from disasters have not been evaluated and recorded,

#### **Priority 3: Investing in disaster risk reduction in order to resilience**

Disaster risk transfer and insurance mechanisms have not been strengthened.

**Control activities****Priority 3: Investing in disaster risk reduction in order to resilience.**

Although there are building codes it is not being adhered to

The Council of Ministers approved the draft law on the accession of the Republic of Iraq to the Convention on the Minimum Standards of Social Security and The Poverty Strategy refers to establishing the Social Fund for Development (SFD).

The necessary supplies for the displaced were not provided with nutrition, health services and camps

The law guarantees civil defense works to secure and regulate early warning systems and alert citizens to possible risks, but it is not on the ground.

**Information and Communication****Priority 1 Understanding disaster risks**

The number of deaths attributed to disasters classified by event is collected but not linked to the hazard type and disaggregated by location, age, gender and income

There is no national database of persons missing or sick due to disasters and the number of people whose homes have been damaged and their work interrupted

- It is GIS is used after the occurrence of damage and not in the disaster preparation phase.

No programs, media campaigns or social media were used to educate, and raise the awareness of, the public on disaster risk reduction measures for civil defense through the media. The Meteorological Organization and seismology website includes guidelines on the prevention of natural disasters risks. Similarly the website of the Joint Coordination and Monitoring Center. As well as Iraqi Red Crescent Society's website.

**Monitoring Activities:****Priority 2: To strengthen disaster risk Management in order to better address them.**

The performance audit is according to a timetable for the procedures and the implementation steps of the reconstruction and development plan. The implementation of the plans is monitored by the Federal Board of Supreme Audit, the ministries and the governorates.

**Priority 4: To Strengthen disaster preparedness to effectively address Disasters and "to better rebuild" in recovery, rehabilitation and reconstruction phase.**

The Law provides for the formation of a committee at each center in the provinces and provides the services; however, there is no national program for disaster preparedness.

**Reference**

1. Al-Obaidi Jaafar Jawad Jassim, Al-Taha Safwan Qusay Abdul Halim, (2017 ) A proposed framework for activating international accounting procedures on the effects of disasters and wars on the local environment Journal of Economic and Administrative Sciences Issue (96) Volume (23) pp. 384-413
2. Central Bureau of Statistics (2017) Higher Committee for Poverty Alleviation Strategy Poverty Reduction Strategy 2018-2022 World Bank printing.press@mop.gov.iq
3. Civil Defense Law 2013, Iraqi Legislation Base Iraqi Chronicle No. 4297 Number of Pages 19 Part .10 Civil Defense Act No. (44)

4. Civil Defense Law 2013, Iraqi Legislation Base Iraqi Chronicle No. 4297 Number of Pages 19 Part .10
5. Culbertson & Robinson 2017, "Achieving the maximum benefit from victory after defeating the Islamic state in Iraq and Syria ISIS the challenges associated with achieving stability in Mosul and beyond", publishing RAND ,p. 18-32
6. Garschagen Matthias(2015)Decentralizing urban disaster risk management in a centralized system? Agendas, actors and contentions in Vietnam, Habitat International, Volume 52, Pages 43-49.
7. General Secretariat of the Council of Ministers, Joint Coordination and Monitoring Center (JCMC)2017
8. GLOBLE Report (GRID)2017 "Internal displacement monitoring center IDMC NORWEGIAN REFUGEE COUNCIL"
9. Hamdan( 2017) Using benchmarking in evaluating the effectiveness of internal control in disaster risk reduction according to the Hyogo Framework for Action, Third International Scientific Conference, Modern Trends of Accounting for Scientific and Practical Approaches 24-25 \ 10, University of AL- Arabi Um Al - Bouaki , College of Economic , Commercial and management sciences ,Algeria.
10. INTOSAI, International organization of Supreme Audit institutions (2004) INTOSAI Gov 9100-Guidelines for Internal Control Standards for the Public Sector
11. International Federation of Red Cross and Red Crescent Societies(2007 ) Explanation of the draft guidelines concerning facilitating and organizing International Disaster Relief and Initial Recovery Assistance at the local lever in times of disasters .www.ifrc.org
12. International Federation of Red Cross and Red Crescent Societies) 2017(World Disasters Report Resilience: saving lives today, investing for tomorrow, p 257 Web: www.ifrc.org
13. Iraqi Council of Representatives (2017 ) Federal Budget Law of the Republic of Iraq
14. Jokipii Annukka (2009) "Determinants and consequences of internal control in firms: a contingency theory based analysis", Springer Science+Business, p 115-144.
15. Mysiak Jaroslav Surminski Swenja, Thieken Annegret, Mechler Reinhard, and Aerts Jeroen (2016),"Brief communication: Sendai framework for disaster risk reduction – success or warning sign for Paris?, Natural Hazards and Earth System Sciences 16, pp. 2189-2193.
16. Ministry of Planning Central statistical organization IRAQ,( 2012) environmental statistics in Iraq.
17. Ministry of Environment of Iraq (2015) Progressive national report on the implementation
18. Ministry of Planning (2013) National Development Plan 2013-2017 in Republic of Iraq,
19. Ministry of Environment of Iraq (2015) Progressive national report on the implementation of the Hyogo Framework for Action (HFA) Building the resilience of Nations and communities to disasters 2005-2015. National Progress Report - 2013-2015 A National HFA, UNISDR United National office for Disaster Risk Reduction <http://www.preventionweb.net/>
20. Ministry of Planning (2017), Document the general framework of the national plan for reconstruction and development of the provinces affected by terrorist operations and freedom 2017
21. Ministry of Planning (2018) National Development Plan 2018-2022 in Republic of Iraq,
22. Ministry of Planning (2017), Document the general framework of the national plan for reconstruction and development of the provinces affected by terrorist operations and freedom 2017

23. Ministry of Planning Central statistical organization IRAQ( 2018 ), Priority Indicators for Environment and Sustainable Development in Iraq)
24. RishmaMaini ,Clarke Lorcan , Blanchard Kevin , MurrayVirginia (2017),”The Sendai Framework for Disaster Risk Reduction and Its Indicators—Where Does Health Fit in?”,International Journal of Disaster Risk Science, Volume 8, Issue 2, pp 150–155. www.emeraldinsight.com pp. 799-809.
25. Republic of Iraq(2006) Iraq has acceded to the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-personnel Mines and on their Destruction signed at Ottawa No. 11,Al waqai Aliraqiya issue No. 4028.
26. Republic of Iraq(2007) Law on the accession of the Republic of Iraq to the Vienna Convention and the Montreal Protocol ,Iraqi official Gazette ,Al waqai Aliraqiya issue no.: 4048.
27. Republic of Iraq (2007) law of accession of the Republic of Iraq to the Ramsar Convention on Wetlands and its amended Protocols No. 7 ,Iraqi official Gazette ,Al waqai Aliraqiya issue No. 4035.
28. Republic of Iraq(2009) Law of Ratification of the Republic of Iraq on the Statute of the Arab Center for the Prevention of Seismic and Other Natural Disasters No. 56, Iraqi official Gazette ,Al waqai Aliraqiya issue no. 4130.
29. Republic of Iraq(2009)Iraq joined the United Nations Framework Convention on Climate Change and its Kyoto Protocol No. 7 , Iraqi official Gazette ,Al waqai Aliraqiya) issue 4128.
30. Republic of Iraq(2011) Law of Accession of the Republic of Iraq to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and the annexes theretoNo. 3,Iraqi official Gazette ,Al waqai Aliraqiya issue no. 4175.
31. UNDP (2015) crisis-coordination-and-disaster-p. Crisis and support center, ten years of work www.iq.undp.org/Iraq/press center.
32. UNDRR NATIONS OFFICE FOR DISASTER RISK REDUCTION (2015 ) ,Sendai Framework for Disaster Risk Reduction 2015-2030.
33. UNDRR (2017), Sendai Framework Data Readiness Review - Report – Iraq,Republic of Iraq – government <https://www.preventionweb.net/go/54275>
34. Wahlström Margareta(2015) “New Sendai Framework Strengthens Focus on Reducing Disaster Risk” International Journal of Disaster Risk Science , Volume 6, Issue 2, pp 200–201.
35. While Briceño Sálvano (2015) “Looking Back and Beyond Sendai: 25 Years of International Policy Experience on Disaster Risk Reduction” ,International Journal of Disaster Risk Science, Volume 6, Issue 1, pp 1–7.
36. Yilmaz Serdar&Baltaci Mustafa (2006),” Keeping an Eye on Subnational Governments: Internal Control and Audit at Local Levels, the International Bank for Reconstruction and Development/the World Bank Institute Stock”, No. 37257, P31.
37. ZiaAsim (2015) “Mainstreaming Early Warning Systems in Development and Planning Processes: Multilevel Implementation of Sendai Framework in Indus and Sahel”, International Journal of Disaster Risk Science, Volume 6, Issue 2, pp 189–199.