



## EVALUATION OF SANITARY MONITORING AND THE POSSIBILITY OF IMPLEMENTING INSPECTION PROGRAM IN BAGHDAD RESTAURANTS

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### ABSTRACT

To evaluate the sanitary monitoring in Iraq, this study was performed to demonstrate the efficiency and effectiveness of sanitary monitoring authorities related with food establishments control, and in the case of the restaurants with different kind and size, and for its correlation with consumer health, this study has considered a highlight to the actual situation of inspection related to the restaurants in Baghdad city and the possibility of implementing an ideal program for controlling of these high risk food establishment in order to serve safe and healthy food to the Iraqi consumer.

**KEYWORDS:** Sanitary monitoring, inspection, restaurants.

### INTRODUCTION

The department of Sanitary Monitoring in Baghdad city and the other supporter units located in Iraqi provinces are the responsible of food safety supplied by all type of food establishments in the Republic of Iraq. Because of this high responsibility related with consumer's health, it requires to execute continues reviews to evaluate the performance of theses departments and to identify the risks involved of the consumer<sup>[7]</sup>. This work also requires from the monitoring authorities in developing countries such as Iraq; updating of their systems in line with the scientific and technological advances happened in last year's in developed countries, and to take the experiences of these countries that uses advanced monitoring systems, in addition to the continues updating of the national regulation, legislation and work mechanisms to enforce the performance of sanitary monitoring authorities<sup>[1]</sup>. Food inspection is considered as an essential element in sanitary monitoring for its role to prevent foodborne illness to appear among consumers, however; the facilities of food inspection in general, will be specific to describe the condition of food in a specific date and time. When the food inspection includes the evaluation of a risk, the responsible administration authorities of the sanitary monitoring will receive an added information value which will enforce the using of human resources in the local inspection.

The procedures of evaluation of the risks takes into account various factors in the classification of food establishments depending to the level of risk related, and this classification is calculated according to a standard method of the total number of annual inspection visits and the calculating of the wages of these visits, and to increase or reduce these wages depending to the level of specific risk<sup>[8]</sup>.

### MATERIALS & METHODS

Visits to the central department of sanitary monitoring of Iraqi Ministry of Health have been considered for

evaluating the actual sanitary monitoring in Baghdad city, in order to take data related of sanitary monitoring of various food establishments and other statistics of annual food inspection visits achieved, with the numbers of non-conforming assessment, beside of using other references and reviewing of Iraqi food regulations and legislations in force.

### RESULTS & DISCUSSIONS

#### 1. The legislative base of sanitary monitoring in Iraq

The work of sanitary monitoring in Iraq is based on a set of regulations and legislations which regulate the work of sanitary monitoring of all kind of food establishments; this set includes the following:

- a. Public health regulation (no. 89/1981) and its amendments<sup>[2]</sup>.
- b. Regulation (no. 54/2001) (the eighth amendment of the public health regulation)<sup>[3]</sup>.
- c. Food system (no. 29/1982)<sup>[4]</sup>.
- d. Regulation of the Central Organization of Standardization and Quality Control<sup>[5]</sup>.
- e. The set of instructions which regulate the work of various kinds of food establishments.

#### 2. Classification of food establishments and the number of monthly visits

Establishments that subjected to sanitary monitoring have been classified to different kinds, Table 1, describes the classification of these establishments with number of monthly visits realized in Baghdad city during June 2015 in according to the monthly statistic of Iraqi Ministry of Health<sup>[6]</sup>.

#### 3. Sanitary Monitoring Activities

The activities of the department of sanitary monitoring in Baghdad city and other relevant departments in Iraqi provinces includes various responsibilities, and that can be listed as it indicated in (Tables 2, 3, 4), which detailed sanitary monitoring activities in all Iraqi provinces in June/2015 except of the provinces (Alanbar, Salahaldin and Nienawa) for its special security situation and the

Province of Basrah because of not submitting the statistic of indicated month.

**TABLE1:** Inspection visits to public establishments in Baghdad city during June 2015.

Public establishments	Baghdad / Alkarj	Baghdad / Alrisafa
Tourist restaurants	33	134
Popular restaurants	779	991
Tourist hotels	27	117
Popular hotels	131	100
Cafeterias / Coffee shops	203	365
Bakeries	1092	1795
Butcher shops	329	391
Fish shops	26	19
Confectionery and pastry shops	166	127
Ice cream shops	45	103
Men hair-cut shops	648	920
Women hair-cut shops	530	596
Fitness shops	0	16
Meat and fish stores	133	289
Dairy products stores	5	16
Pickles shops	72	103
Oriental baths	8	7
Swimming pools	10	10
Cinemas	0	7
Soft drink stores	19	14
Food products shops	919	916
Hospital kitchens	7	27
Social clubs	12	8
Night clubs	0	0
Tea shops	9	15
Slaughterhouse / Meat	3	1
Slaughterhouse / Chicken	11	8
Live chicken shops	2	8
Small shop	8	0
Hawkers	12	0
Ice cold and juice shops	50	42
Body-building halls	0	0

**TABLE 2:** Human resources and accessories

Human Resources and accessories	Number
Doctors working in sanitary monitoring field	64
Preventive staff working in sanitary monitoring field	1043
Sanitary monitoring team	341
Cars used	49
Wages taken from sanitary monitoring activities	122,977,000 Iraqi dinar
Total fines imposed on infringing shops	28,168,000 Iraqi dinar

**TABLE 3:** Employees in public shops and hawkers

Employees in public shops and hawkers	Number
Employees obtained sanitary education certificate	3717
Employees vaccines against typhoid	4608
Employees obtained medical test certification	5260
license work to hawkers	12
Seminars	169
Participants	2219

**TABLE 4:** Food samples tested.

Resource	Total samples Valid	Total samples Not valid	Total
Local	2135	234	2369
Imported	1145	63	1208
Total	3280	297	3577

#### 4. Implementing of inspection program for restaurants

##### 4.1 Classification of risk factor for restaurants and other food establishments

Due to the high number of consumers frequented to the restaurants of various kinds, whether they are first class,

popular or mobile restaurants, it is necessary to do a classification for these restaurants with a risk factor in order to calculate the number of annual visits required for each restaurant based on its risk factor<sup>[9]</sup>. Table 5,

describes the classification of various food establishments including mentioned restaurants with details.

**TABLE 5:** Classification of food establishments depending on its risk factor

Risk factor	Process / type of food	Examples
High risk	- Preparing (raw meat, raw chicken).	- Cooking to prepare dishes meals of raw (meat, chicken), grilling kebab, grilling Pizza with meat.
Medium risk	- Cooling	- Cooling after cooking.
	- Preparing of vegetables.	- Preparing of vegetables salads.
	- Preparing of dishes from animal products, raw fish, egg or pasteurized milk.	- Preparing of various kind of dishes that contains these products.
	- Preparing, cutting and crushing of raw meat.	- Cutting, crushing of meat.
Low risk	- Re-heating.	- Re-heating after serving.
	- Warming.	- Food warming for serving or for transporting to the consumer in another place.
	- Refrigerated storage.	- Selling refrigerated food products.
Very low risk	- Manual preparing of ice cold products.	- Selling of ice cold products.
	- Baking.	- Baking industry.
Very low risk	- Handling of food products with non-necessary of refrigerating.	- Selling fruits and vegetables.
	- Handling of frozen foods.	- Selling frozen foods.
	- Heating of ready frozen food products.	- Heating of pizza pieces for serving.

#### 4.2 Calculating of annual time of inspection visits

In order to calculate the annual wages of inspection visits that should be paid by food establishment owners, for example to the tourist restaurant; it must be calculate the grade of risk of this restaurant, using the following equation:

Grade of risk = (Risk factor 1 + Risk factor 2) X number of additional inspection hours.

Where the:

Risk factor 1= Type of food establishment compared to the number of points, according to its classification.

In the case of the tourist restaurant, classifies as high risk and it is equal to 45 points as a risk factor 1 (Table 6).

Risk factor 2= Amount of production in the food establishment.

In the case of the tourist restaurant which serve for example (80-250) food menu daily, classifies as (very small 1) compared to 15 points as a risk factor 2 (Table 7).

Number of additional inspection hours in case of the tourist restaurant is equal to (1 hour) because of there is only written a description of food menu without labeling or packing<sup>[9]</sup>.

**TABLE 6:** Risk factor 1

Risk factor 1/ type of food establishment	Risk grade
High risk	45
Medium risk	35
Low risk	15
Very low risk	5

**TABLE 7:** Risk factor 2

Risk factor 2/ production amount	Risk grade
Very high	55
High	45
Medium	35
Small	25
Very small 1	15
Very small 2	10
Too small	5

Grade of risk=(Risk factor 1 + Risk factor 2) x number of additional inspection hours = (45+15) X 1= 60  
60 classifies as risk category 5 compared to 6 hours as annual inspection time (Table 8)<sup>[10]</sup>.

**TABLE 8:** Required inspection time

Risk category	Risk grade	Required inspection time (hour)
1	More than 100	26
2	90	20
3	80	14
4	70	10
5	60-65	6
6	55	4
7	35-50	2
8	Less than 30	1

If we assume that the inspection price for one hour is (25.000 Iraqi dinar) therefore, the annual inspection wage in the case of the tourist restaurant will be (175.000 Iraqi dinar) according to the data above.

It is clear from the mentioned Iraqi food regulation and legislation in force which regulate the work of Sanitary

Monitoring, that it has established from decades and day now, it needs reviewing in order to be in line with the technological and scientific development happened in last years in the field of food industry and to use new procedures in food administration and updating sanitary monitoring system in order to be more effective.

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