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## **Food Safety in Turkey**

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## 1. Executive summary

1. Considerable efforts have been made, and great progress has been achieved, in modifying Turkish legislation and regulation in the areas of food standards and food safety towards harmonization with EU standards. However, a large number of regulatory issues exist where current requirements differ in Turkey from those stipulated by Community legislation.
2. Some difficulties exist in coordination and harmonisation of approaches and activities of the Ministry of Agriculture and Rural Affairs (MARA) and the Ministry of Health (MoH), among which responsibilities for food safety and control are shared. An even greater obstacle for efficient implementation of food safety are shortcomings in coordination of different divisions of the General Directorate of Protection and Control (GDPC) of MARA, the lack of sufficient number of staff, the lack of sufficient training and experience of staff, and the lack of other resources such as adequate information technology.
3. The standards of the 81 Provincial Directorates and 39 Provincial Control Laboratories involved in ensuring food safety are not harmonized and vary significantly. Major differences in the practice and implementation of food safety measures seem to exist in different parts of the country. In the less developed areas of Central and Eastern Anatolia, and particular in Kurdistan, implemented quality standards and practices are far weaker than in the Western, more affluent parts of the country.
4. Generally the numbers of and the means available to the inspectors seem less than satisfactory. The number of trained staff and inspectors often is far too limited to ensure adequate supervision and effective controls of marketed foods and feeds. The level of training must be enhanced. There is a lack of sufficient access to information technology (including Computers and Internet access), which limits rapid and complete information exchange and effective crisis management.
5. Existing regulations on foodstuffs are often not enforced.
6. Appropriate control and documentation of levels of contaminants in foodstuffs, including appropriate methods of sampling food products, accreditation and quality control of laboratories has not been achieved. Technology, quality standards and quality control in the laboratories analyzing food samples need considerable improvement.
7. Deficiencies in food processing facilities detected by provincial inspection are often not rectified, and there is lack of documentation of rectification.
8. Large industrial food production facilities, such as major dairy, fishery and poultry product companies, seem to have achieved production standards similar to EU standards (e.g. Good Manufacturing Practices (GMP), Good Hygiene Practices (GHP), and Hazard Analysis and Critical Control Points (HACCP) principles). However, such standards are not achieved in the large majority of small and medium enterprises throughout the country.

9. In spite of good production standards of some large facilities, even they cannot meet EU food standards at present because the conditions of primary production, particularly of livestock, are far from satisfactory. Freedom from disease, such as Brucellosis or Tuberculosis, cannot be adequately documented and guaranteed, and effective and comprehensive control measures and eradication programmes have not been implemented. There is no effective control of the import and trafficking of animals, and of the use of antibiotics and agrochemicals.
10. There is an unacceptably high prevalence of diseases in livestock in Turkey, including Foot and Mouth Disease, Brucellosis (2 % of the cattle population), Tuberculosis (10 % of the cattle population), Sheep Pox and Goat Pox and Peste de petit ruminants (PPR). This high disease rate causes losses to the livestock production, with significant financial costs, and endangers food safety and consumer health. The Turkish Ministry of Health has estimated that a very high number of persons in the order of 14.000 people/year acquire Brucellosis by consumption of milk and milk products. There are no sufficient control measures and eradication programmes planned or implemented to reduce and control diseases in livestock. Veterinary administration has not been sufficiently strengthened to achieve such tasks. Trade of livestock is not embedded in a supervision system ensuring that only disease free animals from disease free holdings are traded. Key measures have not been implemented such as: a) only officially approved holdings can trade with livestock, animals are accompanied by a cattle passport (or in case of sheep and goats a referring certificate), b) markets have to fulfil certain sanitary conditions, entry and exit control of markets is obligatory, disobeying the rules shall be punished. Illegal animal movement from eastern neighbouring countries (Iran, Iraq and Syria) introduces highly contagious diseases as Foot and Mouth Disease or Peste de petit ruminants into Turkey.
11. The Avian Flu (Bird Flu) spread very rapidly in Turkey, with a large number of affected animals as well as a significant number of affected humans. It appears that measures of food safety and crisis management were not effective. The performance of the veterinary service supervision of the production of poultry and poultry products, in particular regarding certification, verification of own-checks, *ante* and *post mortem* inspection, checks of potable water, and the documentation thereof, has major shortcomings.
12. Long-term funding and support to be invested over the years to come by the Government of Turkey to establish, support and maintain disease control measures and eradication programmes has not been secured.
13. Food labelling of some products of major manufacturers has achieved EU standards, whereas labelling of the majority of food products is nowhere near EU standards of food labelling.
14. It seems impossible for Turkey to reach EU standards of food safety by 2012, which is known and acknowledged in private conversations by officials of the Ministry of Agriculture and Rural Affairs (MARA) and the Ministry of Health (MoH). However, there is the will and determination to achieve adequate standards of food safety at least in some areas, not the least for economic reasons in order to secure export of food products into the EU.

## 2. Background

The European Parliament requested a briefing note in relation to the Food Safety situation in Turkey in preparation of Committee Delegation visit to Turkey in October 2006, addressing the following issues:

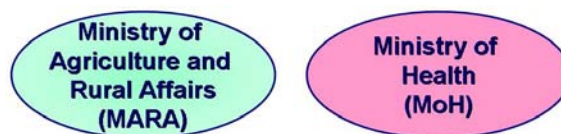
- A general representation of the situation of food safety in Turkey;
- A presentation of problems related to risk management and risk communication of certain foods diseases/crises;
- Status of preparation of Turkey (based on the *acquis communautaire*) in the area of food safety (i.e. avian flu, food hygiene, and feed hygiene) and forthcoming challenges;
- A series of recommendations of sectors or areas to be discussed with the Turkish authorities (i.e. avian flu, food labelling).

The sources of information used to address these questions include information published in the scientific literature, as screened by an electronic literature search and data search, information available from different scientific and regulatory authorities, as well as personal communication with experts in regulatory authorities, in food companies with activities both in the EU and in Turkey, and in scientific institutions, including experts with particular insights into the practice of food safety issues in Turkey. In some cases information was shared based on the condition to the identity of the source of information would not be disclosed. However, every effort has been made to ensure that the information presented here is accurate.

### 3. Overall structure of the food safety and control system in Turkey

Legislation was adopted in 1995 (Decree No. 569/1995, cf. Table 1) which stipulates that both the Ministry of Agriculture and Rural Affairs (MARA) and the Ministry of Health (MoH) are responsible for the implementation of the legislative framework and carry out the food inspection within the whole country of Turkey (Fig. 1). This shared responsibility has sometimes led to difficulties in coordination and harmonisation of approaches and activities.

**Figure 1: Responsibilities for food safety and control are traditionally shared between the Ministry of Agriculture and Rural Affairs (MARA) and the Ministry of Health (MoH), which has sometimes led to difficulties in coordination and harmonisation of approaches and activities**



The responsibilities of the MARA includes strategies and decisions in the areas of agriculture related issues, food legislation and food safety. The MARA carries out the food control from farm to sales point through its General Directorate of Protection and Control (GDPC).

The responsibilities of the MoH include strategies and decisions in the areas of health related issues, legislation on food safety and public nutrition, and the registration of drugs, foods for special medical purposes (FSMP), and water. The MoH carries out the food control at retailing and consumption points, through its General Directorate of Primary Health Care.

Within the framework of Decree No. 560, secondary legislation has been adopted in the form of implementation regulations and communiqués, where harmonisation with EU legislation was the major concern in line with the Decision No 2/97 of the EC-Turkey Association Council of 4 June 1997 establishing the list of Community instruments relating to the removal of technical barriers to trade and the conditions and arrangements governing their implementation by Turkey (97/438/EC). However, food safety and control system stills needs to be strengthened considerably to achieve being in line with established practices in the EU.

With the aim of reducing the organizational difficulties arising from the shared and split responsibilities between the MARA and the MoH, an agreement was reached in 2003 between the Minister of Health and the Minister of Agriculture and Rural Affairs on transferring the responsibilities of the MoH in food safety and control system to MARA. The protocol was signed between MARA and MoH on 28 August 2003 to consolidate the applicable procedures for food safety and control under the responsibility of MARA. Within the framework of this protocol and harmonization to EU, amendments to the Decree No. 560 have been prepared to be discussed at the Parliament's sub-committees. The actual adoption deadline is unknown, but given the sensitivity of the issue it is expected that some months will be required.

**Table 1: Turkish legislation regarding food safety and control**

**Year Law, Decree, Regulation or Communiqués**

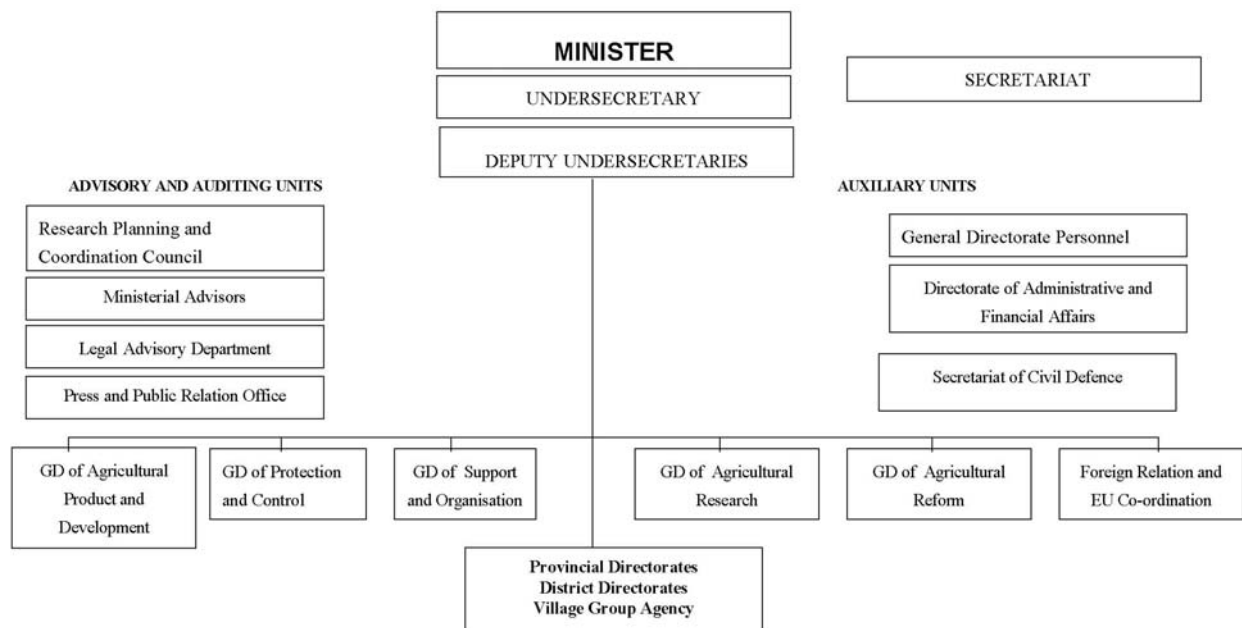
1995	Decree No: 560 concerning the Production Consumption and Inspection of Foodstuffs
1995	Law No: 4128 amending the decree 560.
1996	The regulation on Food Production Premises and Sale Points.
1996	The regulation on the procedures and principles about the establishment, production and inspection of red meat and meat products premises.
1997	The regulation on Turkish Food Codex, which involves the Communiqués enforced under the Turkish Food Codex
1997	The regulation on amendments for the regulation on Turkish Food Codex.
1997	The regulation on the packing and sale conditions of Natural spring waters, drinking waters, mineral waters and medicinal waters.
1998	The regulation on food production, consumption and inspection.
1999	The regulation on the procedures and principles of collecting and expenditure of the fees that have been taken for working license to food premises.
1999	The regulation on the procedures and principles of collecting and expenditure of the fees that have been taken for product license to food premises.
1999	The regulation on food irradiation.
2000	The regulation on amendments for the regulation on the procedures and principles about the establishment, production and inspection of red meat and meat products premises.
2000	The regulation on amendments for the regulation on the packing and sale conditions of Natural spring waters, drinking waters, mineral waters and medicinal waters.
2000	The regulation on the establishment and activities of private food control laboratories.
2000	The communiqué of sampling methods and methods of analysis for official control of the levels for certain contaminants in foodstuffs.
2000	The regulation on establishment and duties of the Provincial Control Laboratory Directorates of the Ministry of the Agriculture and Rural Affairs.
2002	Regulation of production of organic products and its implementation
2002	The amendment of regulation on food production, consumption and inspection.
2002	The amendment of regulation on food irradiation
2003	The amendment of regulation on food irradiation



### 3.1. Organisational structure of the Ministry of Agriculture and Rural Affairs (MARA) in the area of food safety

The Minister of Agriculture and Rural Affairs, Mr. Mehdi Eker, is assisted by Undersecretary Dr. Nihat Pakdil (Figure 2). Responsible for foodstuffs is the Protection and Control General Directorate, located in Ankara, led by the General Manager Dr. Hüseyin Sungur, assisted by the Head of the Food Division, Assistant General Manager Prof. Dr. Nevzat Artik.

Figure 2: Organisational structure of the Ministry of Agriculture and Rural Affairs (MARA)



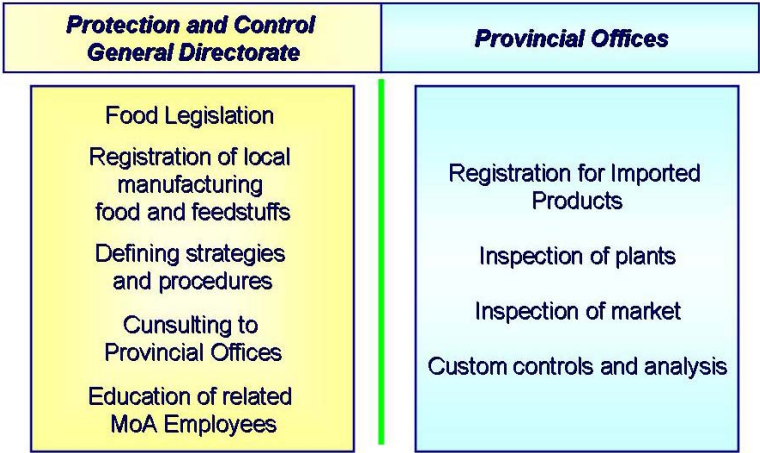
The responsibilities of the Protection and Control General Directorate include food legislation, registration of local manufacturing of food and feedstuffs, defining strategies and procedures, and training and education of related MARA employees (Figure 3).

Under the umbrella of the General Directorate of Protection and Control of the MARA there are 81 Provincial Directorates, 39 Provincial Control Laboratories and one Food Control and Research Institute (Figure 4). Food control inspection services are carried out by about 1400 food inspectors as of the end of 2003 (with bachelor degree in agronomy, chemistry, biology, veterinary and food engineering) that work in the Control Division Directorates under the Provincial Directorates of Agriculture. Food analysis services are carried out by about 1000 food analysts as of the end of 2003 (with bachelor degree in agronomy, chemistry, veterinary, and food engineering).

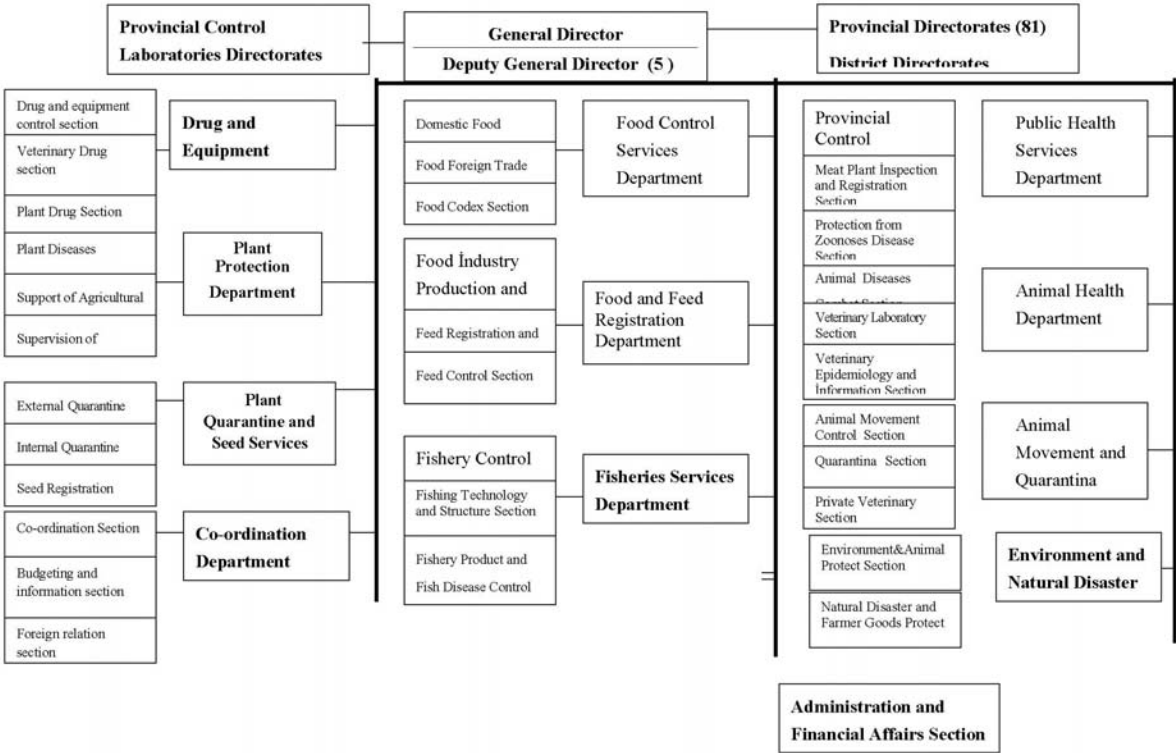
The three main departments of the General Directorate of Protection and Control (GDPC) of the MARA are

- The Department of Food Control Services:
- The Department of Feed and Food Registration Services, and
- The Department of Public Health Services.

**Figure 3: Main tasks of the Protection and Control General Directorate in the Ministry of Agriculture and Rural Affairs (MARA) located in Ankara, and of the 81 Provincial Field Offices**



**Figure 4: Organisational structure of the General Directorate of Protection and Control (GDPC) in the Ministry of Agriculture and Rural Affairs (MARA) located in Ankara, and of the 81 Provincial Field Offices**



The Department of Food Control Services has three divisions:

- Division of Food Codex
- Division of Domestic Food Inspection and
- Division of Food Foreign Trade

Duties and responsibilities of these three divisions are:

- preparing legislation related to the food sector to supply safe food, in accordance with the Decree no. 560
- contact point of the Codex Alimentarius Committee in Turkey which follows the activities of Codex, and participation in Codex meetings
- contact point of The Rapid Alert System for Food and Feed (RASFF) in Turkey
- preparation of the ministerial point of view on the draft technical regulations
- following the legislation on food production and food control of the countries with which relations exist
- ensuring inspection and control at all stages of the food production chain
- preparation and implementation of projects in relation with food and nutrition
- assistance in preparation of development and implementation plans related to food
- preparation and implementation of national inspection programmes
- import and export certification of foodstuffs
- import control with respect to food safety
- setting up necessary studies and coordination of international, bilateral and multilateral agreements related to foodstuffs
- determining customs for food import.

The two divisions of Domestic Food Inspection and Food Foreign Trade have an important role, principally for the exports to the European Union and other foreign countries. Good relations between the Department of Food Control Services, on one hand, and the Provincial Directorates of Agriculture and Provincial Control Laboratories, on the other hand, have been reported.

Duties of the Department of Feed and Food Registration Services are the registration and licensing of food production and food packaging materials that are in contact with foodstuffs, and the implementation of inventory studies on the food industry.

The Department of Public Health Services has three divisions:

- Division of Control Laboratories and Monitoring of Residues
- Division of Registration and Inspection of Facilities
- Division of Zoonosis

The duties and responsibilities of Control Laboratories and Monitoring of Residues Division are:

- To control the work and activities of the Provincial Laboratories
- To make necessary arrangements and improvement of the laboratory services
- To follow the staff movements
- To conduct training programmes for laboratory staff
- To purchase the equipment and the consumables of laboratories

- To control and monitor the activities of private and public/official food control laboratories
- To prepare the projects to improve laboratory services
- To prepare national residue monitoring plan and to monitor residues

While this division is in charge of the functioning of laboratories, it is not concerned with directly evaluating the analytical results. It does not collect all the results of analysis performed by the laboratories; however, it does receive general reports on the operations and organizes commissions to select analysis methods to be used by the laboratories.

According to personal comments received, the General Directorate of Protection and Control (GDPC) appears to have made great progress in advancing legislation and regulation to harmonization with EU standards. However, in particular due to the harmonization efforts with the EU a large number of projects are entertained, for which apparently there simply is not enough staff available. Therefore, work can often not be executed in an effective way, and shortcomings in terms of ensuring food safety result. There appears to be only limited experience in crisis management, and very limited experience in risk communication. A further stumbling stone appears to be the lack of close and harmonized collaboration between different departments within the General Directorate of Protection and Control (GDPC), where for example the Food Control Services Department led by a Food Technologist and the Departments. of Animal Health as well as Food and Feed Registration, both led by Veterinarians, seem to constantly compete for cognizance with respect to areas of work.

The Provincial Control Laboratories send analysis reports to the Directorates of Control Divisions of Provincial Agricultural Directorates. The results of analysis are evaluated by Directorates of Control Divisions of Provincial Agricultural Directorates.

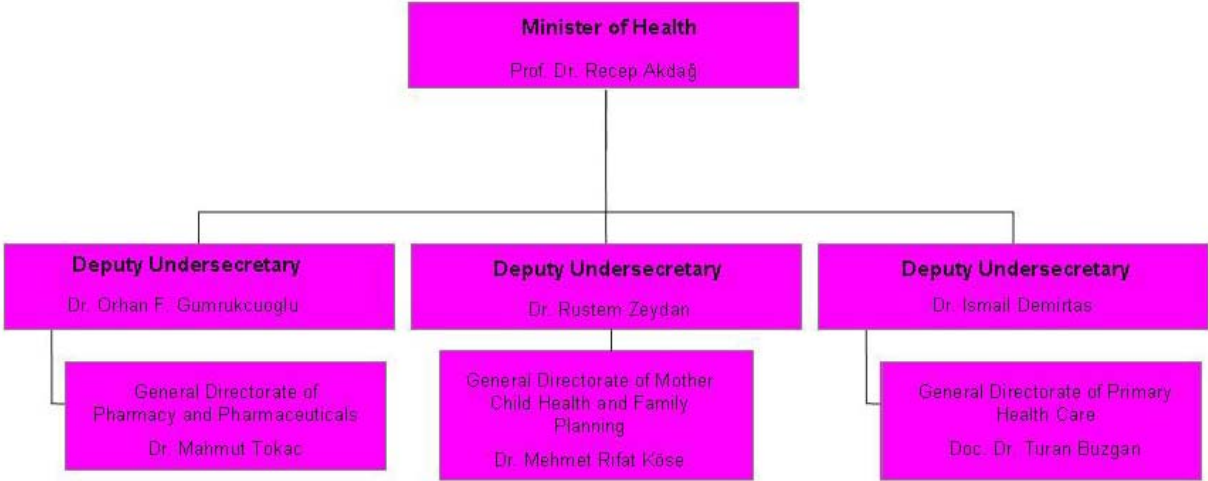
The authority to prepare annual inspection reports is given to Directorates of Control Divisions of Provincial Agricultural Directorates and Directorates of Provincial Control Laboratories. Under the Directorates of Provincial Control Divisions there are 81 Provincial Control Divisions in the Provincial Directorates of Agriculture. The number of inspectors in each province is variable and depends on the importance of the industry in the region and the number of existing plants. Official inspections are supposed to be conducted regularly twice a year, but also based on each establishment and in case of consumer complaints and suspicion. The main bottlenecks of inspection are reported to be the too low number of inspectors, insufficient training in food quality control practices, insufficient experience in crisis management and risk communication, and limitations in resources and equipment, including information technology such as computers and internet access. A further concern is the great variety of standards and practice across the 81 provinces, where provincial authorities seem to exert a great degree of autonomy, apparently resulting in rather different practices and levels of control across the country, with particularly poor standards apparently exerted in the eastern provinces and in Kurdistan.

### **3.2. Organisational structure of the Ministry of Health (MoH) in the area of food safety**

The Minister of Health, Prof. Dr. Recep Akdağ, is assisted by 3 Undersecretaries (Figure 5): Dr. Orhan F. Gumrukcuoglu supervises the General Directorate of Pharmacy and Pharmaceuticals led by Dr. Mahmut Tokac, which is responsible for the registration of drugs and their price determination as well as for the registrations of foods for special medical purposes (Figure 6); Dr. Rustem Zeydan supervises the General Directorate of Mother Child

Health and Family Planning led by Dr. Mehmet Rifat Köse, with the tasks to determine problems and aims on mother and child health and family planning, to prepare, audit, evaluate and coordinate plans, programmes and organizations, and to collaborate with national & international organisations; finally Dr. Ismail Demirtas supervises the General Directorate of Primary Health Care led by Doc. Dr. Turan Buzgan which is in charge of informing the public about general health facts and diseases, of organizing educational activities and of broadcasting publications on food safety.

**Figure 5: Structure of the executive management of the Ministry of Health**



**Figure 6: Responsibilities of the three General Directorates in the Ministry of Health**

<i>General Directorate of Pharmacies&amp;Pharmaceuticals</i>	<i>General Directorate of Mother Child Health &amp; Family Planning</i>	<i>General Directorate of Primary Health Care</i>
Registration of drugs Price determination of drugs Registrations of FSMP	Determine problems And aims on mother, Child health and family planning Prepare, audit, evaluate and coordinate plans, programs and Organizations Collaborate with the national & international establishments.	Inform public about general health facts and diseases Organize educations Broadcast publications on food safety

While the MARA, through its General Directorate of Protection and Control (GDPC) is supposed to carry out the food control from farm to sales point, the MoH, through its General Directorate of Primary Health Care, is supposed to carry out the food control at retailing and consumption. This is supposed to change under Decree No. 560.

Several comments received from observers in regulatory bodies and in food companies indicate that the approaches of the MARA and of the MoH are not always harmonized, in some cases even contradictory, which may impair effective approaches to adequately secure food safety. As an example, the addition of long-chain polyunsaturated fatty acids from fermentation oils (single cell oils) to foodstuffs for infants, which is accepted in the European Union, has been approved by the MoH for Foods for Special Medical Purposes (FSMP) for infants while it has not been accepted by the MARA for Infant Formulae or Follow-on Formulae. When asking for the rationale for this divergent approach of the two ministries, officials of the MARA that I approached in the beginning of 2006 did not offer an explanation.

#### **4. Examples of regulatory decisions in Turkey which differ from regulations in the European Union**

Considerable progress has been made in moving towards a greater degree of harmonisation of legislation and regulation with EU standards. However, a large number of regulatory issues exist where current requirements differ in Turkey from those stipulated by Community legislation, of which some examples are presented here. Since the author of this briefing note has particular expertise in child health, examples selected refer primarily to products for infants and to other foodstuffs for particular nutritional uses (PARNUTS).

##### Measuring spoon in cereal based baby foods

Turkish regulations require that processed cereal-based foods for infants and young children (cereal based baby foods) must have a measuring spoon inside the package, and the weight of 1 spoonful of the respective cereal based baby food should be declared on the label. However, currently, none of the producers/importers of cereal based baby foods has measuring spoons inside the packages. Therefore, also in the instructions for preparation on the labels, instead of measuring spoon the unit of a tablespoon is being used. It appears that the existing Turkish regulations requiring the addition of a measuring spoon in the cereal based baby food package are not enforced.

##### Caramel in cereal based baby foods

Turkish regulations do not allow the addition of “caramel” in cereal based baby foods. The Ministry of Agriculture considers “caramel” as a colorant or aroma and therefore does not allow caramel in cereal based baby foods. Nonetheless, producer/importers are using “caramel” in cereal based baby foods on a regular basis but declare “caramel” as “sucrose”. Again, it appears that the existing Turkish regulations are not enforced in this case.

##### Long-chain polyunsaturated fatty acids from fermentation oils (single cell oils) in infant formulae and follow-on formulae

Turkish regulations do not allow the addition of long-chain polyunsaturated fatty acids from fermentation oils (single cell oils) in infant formulae and follow-on formulae, under regulations of the MARA, while their addition to foods for special medical purposes for infants (i.e. “infant formulae” given under certain disease conditions) is accepted under regulations of the MoH. The reason for the restrictive approach of MARA is not clearly indicated, but it may be due to remaining concerns about safety. Apparently the Turkish authorities do not accept the safety evaluations performed on this issue by the Commissions Scientific Committee for Food as well as the conclusions reflected in Community Legislation on this issue.

##### Nutrition and Health Claims for Infant Foods

The claim “nutritionally complete” is not allowed for use on labels of cereal based baby foods. It is considered that the term “nutritionally complete” would mislead the consumer to believe that one could feed a baby only with cereal based baby foods, without other foodstuffs.

Also, the use of the “meal” denomination is not allowed for use on labels of cereal based baby foods. In contrast to the European Union, in Turkey it is considered that a single infant’s meal should not be composed only of a cereal based baby food, and therefore such a label statement would mislead consumers. The reasoning for this approach and any possible justification by scientific and risk assessment evaluation is not available.

#### Foodstuffs Intended for Particular Nutritional Uses

According to Turkish regulations, only the limited number of product groups shown below is considered to be foodstuffs for particular nutritional uses (PARNUTS), and no other products can be considered as PARNUT. Considered in Turkey as PARNUTS are:

- Infant formulae
- Follow-up formulae
- Baby foods
- Low-energy and energy-reduced foods intended for weight control
- Foods for special medical purposes (FSMP)
- Low-sodium foods, including low-sodium or sodium-free dietary salts
- Gluten-free foods
- Foods intended to meet the expenditure of intense muscular effort, especially for sportsmen
- Foods for persons suffering from carbohydrate-metabolism disorders (diabetes)

#### Nutrition and health claims

According to Turkish Regulation on Labelling, there is a positive list of health claims. Only these claims can be used if the required conditions are met. Other claims are not allowed to be used.

#### General advice not directly related to the foodstuff

In general, advices and information on food labels on healthy lifestyles, such as encouragement on regular physical activity or exercise, are considered as misleading the consumer and are not allowed.



## **5. Reports on expert missions and a twinning project**

Reports on a limited number of expert missions to Turkey performed by the European Community's Food and Veterinary Office since 2000 are available on Internet pages. They mainly relate to:

- Facilities and measures in place for the determination of aflatoxin levels in hazelnuts, pistachios, and dried figs intended for export into the European Union (cf. Annexe, 10.1);
- Conditions of production of fishery products (cf. Annexe, 10.2);
- Evaluation of a food irradiation facility (cf. Annexe, 10.3);
- Assessment of the control systems in place to prevent aflatoxin contamination in hazelnuts, pistachios, and dried figs intended for export into the European Community (cf. Annexe, 10.4);
- Assessment of the conditions of production of fresh poultry meet intended for export to the EU (cf. Annexe, 10.5).
- A twinning project report points out a very high prevalence of Foot and Mouth Disease, Brucellosis, Tuberculosis, Sheep Pox and Goat Pox and Peste de Petit Ruminants (PPR) among livestock in Turkey (cf. Annexe, 10.6).

Details are provided in the Annexe to this briefing paper.

## 6. Labelling of foodstuffs

Labelling of foodstuffs is regulated in the Turkish Food Codex – Communiqué on Rules for General Labelling and Nutritional Labelling of Foodstuffs (2002/58), which contains 17 articles, addressing in particular:

- Labelling of Pre-packaged Foods
- Labelling of Small Packaged Foods
- Bulk Food
- Compliance with EU
- Registration and Inspection
- Inspection
- Provisional Article
- Enforcement
- Objective
- Scope
- Legal Basis
- Definitions
- Rules for Labelling and Marking
- Labelling Information
- Definitions of Labelling
- Information Execution

Based on this legislation, compulsory information required on the labelling of foodstuffs includes:

- The name of the foodstuff
- List of ingredients
- Net quantity
- Name, registered mark, address, place of production of manufacturer and packager
- Expiry date
- Lot number and/or serial number
- Date and number of production allowance, registration number or date and number of import control certificate
- Country of origin
- Instructions for use and storage if necessary
- The amount of alcohol for beverages containing more than 1.2% by volume of alcohol

The communiqué 2006/3 amending 2002/58 added

- Annex 5. Products which may be indicated by the group name in the ingredient list (2003/89/EC)
- Annex 8. Allergens (2005/26/EC)
- Annex 9. Health claims (not harmonized)

Based on Annex 9, health claims are accepted for calcium; cholesterol, sodium, fat, saturated fatty acids; sugar; and probiotic/prebiotic and fibre.

Considering the current practice of food labelling in Turkey, several large food producers are using food labelling standards that are in line with EU standards. However, the majority does not bear food labelling anywhere close to what would be considered appropriate in the EU. Both consumers and authorities seem to attach importance to the Halal-labelling of foods, and to ensuring proper conditions of Halal food production, while other issues seem not to get anywhere near the same level of attention. Again, large differences exist across the different provinces in Turkey, where particularly poor standards of food labelling appear to exist in the eastern provinces and in Kurdistan.

## **7. Avian flu (Bird flu)**

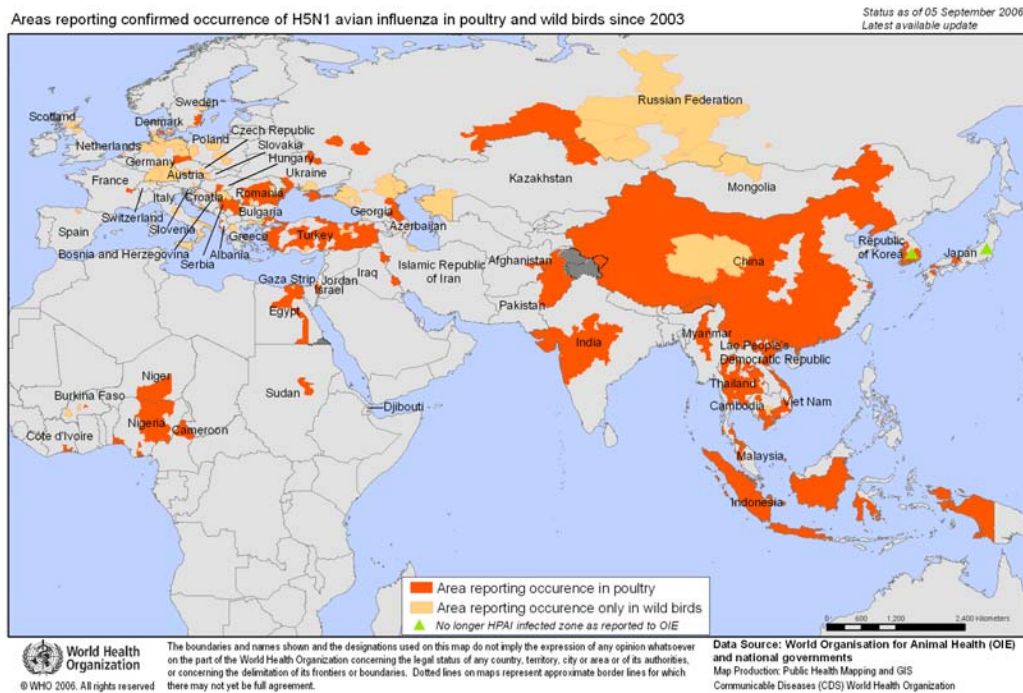
Avian influenza, or 'bird flu', is a highly contagious viral infection which can affect all species of birds. While domestic birds are generally highly susceptible to the clinical manifestation of the disease, wild birds, and especially waterfowl, are usually naturally resistant and may not show any sign of illness. Wild waterfowl therefore represent a natural reservoir for these viruses and can be responsible for the primary introduction of infection into domestic poultry. There are many different strains of the disease, but the type causing current concern is the H5N1 variety, which can be fatal to humans.

The rapid spread of avian flu across Asia to Eastern Europe and Turkey has prompted fears that the disease may become endemic in the country and spread across Europe. The H5N1 epidemic has covered more than a third of the area of Turkey. Bird flu was detected in 28 of 81 provinces of the country. More than a million of domestic birds were annihilated in districts, where the bird flu virus was confirmed officially, and where it is suspected, and preventive measures to counteract the virus are being undertaken.

Since early in January 2006, there were several reported cases of human infections with bird flu in Turkey. On 9 January, the World Health Organisation (WHO) reported that the total number of human infections with the dangerous H5N1 variety in Turkey was 14. Of those patients, two have died, which have been the first recorded human deaths from disease outside of Asia.

The number of infected humans varies according to source. On 18 January 2006 it was reported that laboratory tests conducted at Turkey's national influenza centre in Ankara revealed a total number of 21 confirmed human cases on a total of about 60-70 hospitalized people, of which 4 died.

**Figure 7: Areas of the world with confirmed occurrence of H5N1 avian influenza in poultry and wild birds since 2003** (Status as of 05. September 2006, latest available update 06/Sep/2006. Source: World Organisation for Animal Health (OIE) and national governments. [http://gamapserver.who.int/mapLibrary/Files/Maps/Global\\_SubNat\\_H5N1inAnimalConfirmedCUMULATIVE\\_20060905.png](http://gamapserver.who.int/mapLibrary/Files/Maps/Global_SubNat_H5N1inAnimalConfirmedCUMULATIVE_20060905.png); last downloaded 9 September 2006)



**Figure 8: Geographic distribution of human cases infected with avian influenza (H5N1) in Turkey as reported by the EC Joint Research Centre (Orange circles indicate location of infected human cases. Status of January 2006; <http://disasters.jrc.it/AvianFlu/Turkey/>, last downloaded 9 September 2006)**



**Table 2: Human cases infected with Avian Influenza (H5N1) in Turkey, as reported by the EC Joint Research Centre (Status of 18 January 2006; <http://disasters.jrc.it/AvianFlu/Turkey/>, last downloaded 9 September 2006)**

<b>Animal infected</b>	<b>Human Infected</b>	<b>Human Fatalities</b>
Yes	about 60 hospitalized, 21 confirmed	Number: 4
Locations: Horasan, Higdir, Hilvan, Akbaslar	Locations: Dogubayazit, Van, Aralik, Beypazari, Istanbul, Sivas, Cankiri, Kastamonu, Corum, Samsun, Agri	Locations: Dogubayazit

These numbers were not confirmed by later statements of the EC Joint Research Centre or by WHO, both of whom reported in September 2006 a total of 12 confirmed human cases in Turkey, of which 4 died (Table 2). Based on these most recent numbers, Turkey had 5 % of the reported human cases found worldwide, or 42 % (12/28) of human cases found outside of the Far East, and 2.8 % of the reported human deaths due to Avian Influenza worldwide and 33 % of human deaths outside of the Far East (Table 3). Thus the largest number of human cases outside of the Far East occurred in Turkey (Figure 9). As a caveat, one needs to consider that potentially reporting may not have been complete in all countries, and hence one cannot exclude that there is an under representation of cases from countries other than Turkey in reported figures.

**Table 3: Cumulative number of confirmed human cases infected with Avian Influenza (H5N1) reported to the World Health Organisation (08 September 2006; [http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2006\\_09\\_08/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_09_08/en/index.html); last downloaded 9 September 2006)**

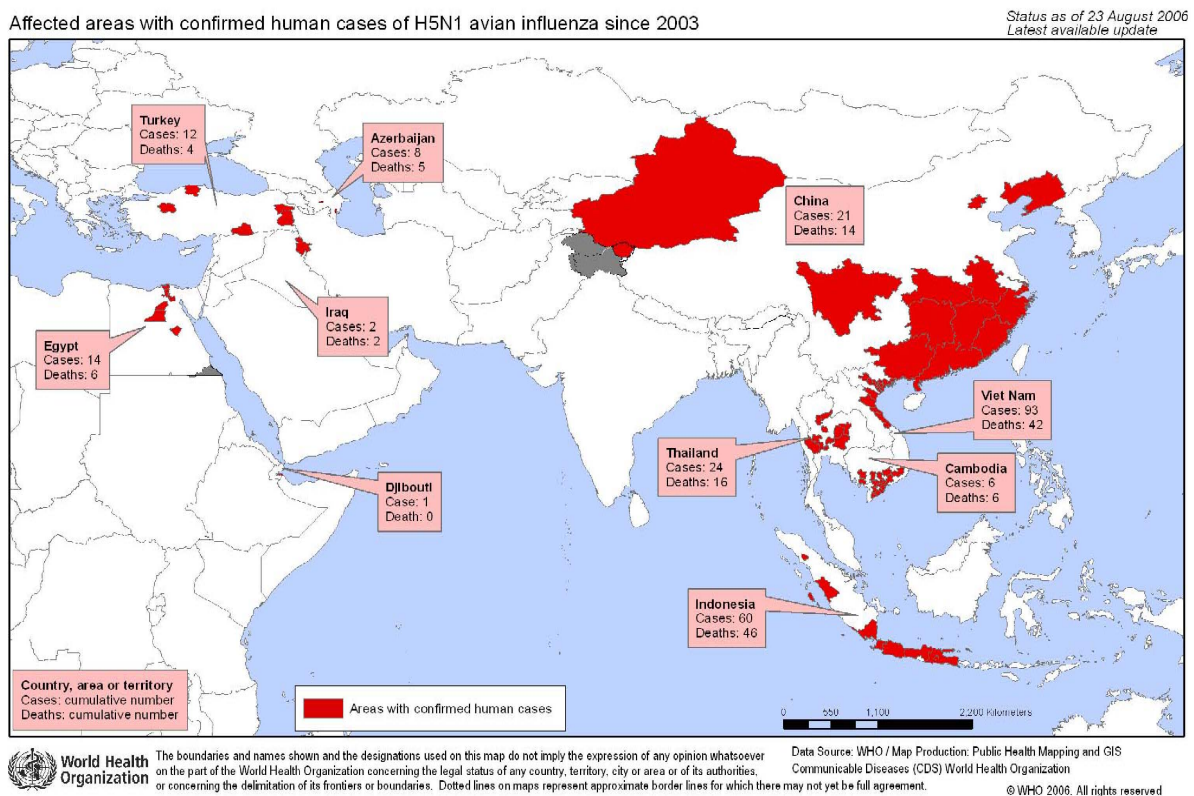
Country	2003		2004		2005		2006		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	8	5
Cambodia	0	0	0	0	4	4	2	2	6	6
China	1	1	0	0	8	5	12	8	21	14
Djibouti	0	0	0	0	0	0	1	0	1	0
Egypt	0	0	0	0	0	0	14	6	14	6
Indonesia	0	0	0	0	19	12	44	36	63	48
Iraq	0	0	0	0	0	0	2	2	2	2
Thailand	0	0	17	12	5	2	2	2	24	16
Turkey	0	0	0	0	0	0	12	4	12	4
Viet Nam	3	3	29	20	61	19	0	0	93	42
Total	4	4	46	32	97	42	97	65	244	143

Total number of cases includes number of deaths.  
WHO reports only laboratory-confirmed cases.

The WHO is investigating how, despite the best efforts of Turkish authorities to contain the disease, Avian Flu has been able to spread so rapidly in Turkey. The WHO reports that initial investigations have so far found no evidence that the virus has become more transmissible or that it is spreading from person to person.

However, this situation is being closely monitored by the food industry, particularly in the light of Turkish news reports attributing the infections to the consumption of infected chicken as food, rather than contact with infected birds.

**Figure 9: Affected areas with confirmed human cases infected with H5N1 Avian Influenza since 2003. Turkey had the largest number of cases outside of the Far East (status as of 23.08.2006, latest available update 06/Sep/2006. Source: World Health Organization ([http://gamapservr.who.int/mapLibrary/Files/Maps/Global\\_H5N1inHuman\\_CUMULATIVE\\_20060823.png](http://gamapservr.who.int/mapLibrary/Files/Maps/Global_H5N1inHuman_CUMULATIVE_20060823.png); last downloaded 9 September 2006)**



The question as to why Avian Flu has been able to spread so rapidly in Turkey, and whether enhanced measures of food safety and communication to the public might have resulted in better containment of the disease, is of relevance far beyond Turkey. For example, the Romanian Mediafax news agency (<http://www.mediafax.ro>) reported that ethnic Turks have most probably brought to Bulgaria the bird flu virus that triggered an outbreak of the disease in a southern village. In the village of Slanchogled, populated mainly by ethnic Turks, an avian flu outburst has been detected at a local farm. Ethnic Turks, who returned to Bulgaria in the summer, are said to have illegally imported infected birds from neighbouring Turkey. Thus the standard of the food safety situation in Turkey may be of major importance for food safety in other countries across Europe.



**Figure 10: Spread of Avian Flu across Europe** (Symbols: Orange circle = Human infected; Red circle = Human died; Triangle = Animal infected. Status of May 2006. From European Commission Joint Research Centre, <http://disasters.jrc.it/AvianFlu/>; last downloaded 9 September 2006)

**Avian Flu Disease Monitoring, 2006**

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## **8. Reported observations on practical aspects of securing food safety in Turkey**

Stakeholders from regulatory bodies inside and outside of Turkey and from international food companies with branches in Turkey have provided personal comments on practical aspects of securing food safety in Turkey. These comments must be regarded as personal views and are not based on accountable data.

It appears that considerable efforts have been made, and great progress has been achieved, in modifying legislation and regulation in the areas of food standards and food safety towards harmonization with EU standards.

Large industrial food production facilities, such as major dairy, fishery and poultry product companies, seem to have achieved standards similar to EU standards, including introduction of Good Manufacturing Practices (GMP), Good Hygiene Practices (GHP), and Hazard Analysis and Critical Control Points (HACCP) principles. However, such standards are not being achieved in large majority of small and medium enterprises throughout the country.

In spite of good standards of some large production facilities, even they cannot meet EU food standards at present because the conditions of primary production, particularly of livestock, are far from satisfactory. Freedom from disease, such as Brucellosis or Tuberculosis, cannot be adequately documented and guaranteed, and effective and comprehensive control measures and eradication programmes have not been implemented. There is no effective control of the import and trafficking of animals, and of the use of antibiotics and agrochemicals.

The structure, personnel, training and resources of the Competent Authorities in the area of food safety need to be strengthened. The General Directorate of Protection and Control (GDPC) of the Ministry of Agriculture and Rural Affairs (MARA) and its affiliates have not yet fully implemented a sufficient control of marketed foods. Imported food products are controlled to some degree upon entrance into the country. In contrast, locally produced products sold on the Turkish market are said to be only very rarely controlled, usually only upon the receipt of complaints. To achieve the goal to prevent fraud and unsafe food and protect consumers' health, a more efficient and effective food control system needs to be established and implemented.

There is a need to have an even better trained, skilled and motivated staff with both theoretical and practical knowledge of Food Quality Assurance (FQA), Good Manufacturing Practices (GMP), Good Hygiene Practices (GHP), Hazard Analysis and Critical Control Points (HACCP) principles. Moreover, a well-functioning system to register all relevant records and information is needed to assure the efficiency and the practical function of the food safety and control system in Turkey.

Several experts have emphasized that there is a major deficiency in availability of modern information technology for rapid exchange and evaluation of information. It appears important to develop a computer network which allows better and fast communication between the different services of the administration i.e. the central administration, the decentralized administration, and the laboratories. Such a system would allow to better store, process and exchange information, for example through internet, and to strengthen the interaction of the provincial laboratories with other national or foreign laboratories.

Such a computer network linking all Directorates of Provincial Laboratories, the Directorates of the Control Division and the General Directorate would allow higher speed and efficiency and enable a better response to the needs of the Food Control Services Department.

In addition, technology and quality standards in the laboratories analyzing food samples appear necessary. Computer technology for registration of samples at their arrival, for following them during the analysis process, and for final evaluation and exchange of the results should be implemented. Such a system would also make it easier to rapidly exchange quality assurance data, to participate in inter-laboratory comparison programmes, and to assess and enhance the quality and accuracy of measurements.

Generally the means available to the inspectors seem less than satisfactory. They also lack technology in the field of communication and general information. Moreover, the level of training must be enhanced.

Major differences in the practice and implementation of food safety measures seem to exist in different parts of the country. It was pointed out that in the less developed areas of Central and Eastern Anatolia, and particular in Kurdistan, implemented quality standards and practices would be far weaker than in the Western, more affluent parts of the country.

The experts I talked to generally agree that it will be impossible for Turkey to reach EU standards of food safety by 2012, and that this is also known and acknowledged in private conversations by officials of the Ministry of Agriculture and Rural Affairs and the Ministry of Health. However, there is the will and determination to achieve adequate standards of food safety at least in some areas, not the least for economic reasons in order to secure export of food products into the EU.

## 9. Recommendations on areas and questions to be discussed with Turkish authorities

1. Which time plan will be achieved for deciding on the amendments to Decree No. 560 at the Parliament's sub-committees, based on the agreement reached in 2003 between the Minister of Health (MoH) and the Minister of Agriculture and Rural Affairs (MARA), on transferring the responsibilities of MoH in food safety and control system to MARA, with the aim of reducing the organizational and difficulties arising from the shared and split responsibilities between the MARA and the MoH? Which adoption deadline is expected?
2. Which measures are being taken to reduce the current shortcomings of staff number and resources of the General Directorate of Protection and Control (GDPC) of the MARA, and to strengthen the level of staff training, particularly with regard to crisis management and risk communication, to enable them meeting the demands of the large number of projects entertained, and to ensure adequate execution of these tasks?
3. Which strategies and measures are developed and implemented to assure an adequate number of trained staff and inspectors in the 81 Provincial Directorates and 39 Provincial Control Laboratories, and to introduce sufficient access to information technology (including Computers and Internet access), to enable adequate supervision and more effective controls of marketed foods and feeds, and to enhance rapid and complete information exchange and more effective crisis management?
4. Which strategies and measures are introduced to ensure that existing regulations on foodstuffs are either enforced or removed (cf. lack of enforcement of the Turkish regulations requiring the addition of a measuring spoon in cereal based baby food packages, or of the non-approved addition of "caramel" to cereal based baby foods under the declaration as "sucrose")?
5. Which measures are being taken to ensure appropriate control and documentation of levels of contaminants, such as aflatoxin, in foodstuffs, including appropriate methods of sampling food products, accreditation and quality control of laboratories measuring contaminant levels in foodstuffs, and adequate standards for issuing export certificates by the Ministry of Agriculture and Rural Affairs (cf. Annexe, 11.1 and 11.4)?
6. Which measures are being taken to ensure that deficiencies in food processing facilities detected by provincial inspection are actually rectified, and that rectification is documented (cf. Annexe, 11.2)?
7. How is it explained that Avian Flu (Bird Flu) has been able to spread so rapidly in Turkey in 2005/2006, and why has it led to the significant number of human infections observed? Which consequences have evolved out of the experience gained during the recent Avian Flu epidemic? Which measures are being taken to further upgrade and enhance the performance of the veterinary service supervision of the production of poultry and poultry products, in particular regarding certification, verification of own-checks, *ante* and *post mortem* inspection, checks of potable water, and the documentation thereof (cf. Annexe, 11.5)?

8. Which measures are being taken to address the unacceptably high prevalence of diseases in livestock in Turkey, including Foot and Mouth Disease, Brucellosis (2 % of the cattle population), Tuberculosis (10 % of the cattle population), Sheep Pox and Goat Pox and Peste de petit ruminants (PPR)? This unacceptably high disease rate is causing losses to the livestock production, with significant financial costs, and endangers food safety and consumer health. The Turkish Ministry of Health has estimated that a very high number of persons in the order of 14.000 people/year acquire Brucellosis by consumption of milk and milk products. Which control measures and eradication programmes are planned or implemented to reduce and control diseases in livestock? How is veterinary administration at headquarter and local level enabled and authorized to comply with its tasks? How are downstream authorities strengthened to execute control and eradication measures? How is trade of livestock embedded in a supervision system ensuring that only disease free animals from disease free holdings are traded? Are key measures implemented such as: a) only officially approved holdings can trade with livestock, animals are accompanied by a cattle passport (or in case of sheep and goats a referring certificate), b) markets have to fulfil certain sanitary conditions, entry and exit control of markets is obligatory, disobeying the rules shall be punished? How is illegal animal movement from eastern neighbouring countries (Iran, Iraq and Syria), which introduces highly contagious diseases as Foot and Mouth Disease or Peste de petit ruminants into Turkey, banned and controlled? How will a legal basis established for import of high breeding animals from EU and other countries free of Foot and Mouth Disease/Peste de petit ruminants? How will rules for Border Inspection be adjusted to EU standards, and will Border Inspection Post be built and equipped accordingly?
9. Which funding and support is foreseen to be invested over the years to come by the Government of Turkey to establish, support and maintain disease control measures and eradication programmes? Is the creation of appropriate compensation schemes for animals to be slaughtered or destroyed during disease control measures foreseen?

Which options are available, and which measures are considered, to enhance the standards of particularly small and medium size food production facilities, and to introduce standards similar to EU standards (e.g. Good Manufacturing Practices (GMP), Good Hygiene Practices (GHP), and Hazard Analysis and Critical Control Points (HACCP) principles) which appear to have been successfully established in a number of large food production facilities in Turkey, but not in the large majority of small and medium enterprises throughout the country.

## **10. Annexe: Reports on expert missions and a twinning project**

Reports on a limited number of expert missions to Turkey performed by the European Community's Food and Veterinary Office since 2000 are available. Some findings and conclusions of these reports are summarised here.

### **10.1. Report on a mission to Turkey to assess the facilities and measures in place for the determination of aflatoxin levels in hazelnuts, pistachios, and dried figs intended for export into the European Union (4-8 September 2000) (DG SANCO/91256/2000)**

Aflatoxins are naturally occurring mycotoxins produced by many species of *Aspergillus*, a fungus that frequently affects crops, including cereals, oilseeds, spices and nuts. Aflatoxins are highly toxic and carcinogenic. Therefore, maximum levels in foodstuffs have been set in the EU and elsewhere.

The report of this mission notes that the relevant national legislation and legal instruments in Turkey would allow sufficient official controls to ensure that aflatoxin exposure from the foods studied would be within the specified EU limits, and that there is one competent authority in Turkey with the overall responsibility for performing official aflatoxin controls. However, it is noted that the specific training of the responsible staff regarding the entire export control procedures does not ensure that EU aflatoxin limits are met. Methods of sampling are not appropriate. The laboratories visited were not accredited and did not participate in international inter-laboratory comparison programmes to assess the quality and accuracy of measurements. The report stated that export certificates issued by the Ministry of Agriculture and Rural Affairs, if requested, do not ensure that the consignments described in these certificates are actually the consignments from which samples were taken and analysed. Official controls for aflatoxins were considered insufficient for pistachios, of basic level in hazelnuts and of limited sufficiency in figs.

The Turkish authorities replied to this by indicating the intention to change the sampling procedures, train staff for sampling procedures, introduce a detailed programme for routine monitoring of relevant products for aflatoxin contents, improve quality assurance of laboratories, and amend the export certificate procedures.

### **10.2. Report on a mission to Turkey to assess the conditions of production of fishery products (6-10 November 2000) (DG SANCO/1296/2000)**

The report concludes that the legislation concerning fishery products in Turkey is equivalent to the EC, and that the staff of the General Directorate of Protection and Control of MARA is sufficient for number and carries out effectively the task assigned to them.

However, it is noted that some of the analyses on the parameters for potable water stipulated in the legislation were not performed, and that no quality assurance system has been established in the approved laboratories.

It was noted that in the case of a food processing establishment deficiencies detected by the province inspector were not rectified, without any reaction from the Competent Authority. Hygiene procedures were not completely respected in food processing establishments, and official staff would need further training on general hygiene principles.

### **10.3. Report on a mission to Turkey to evaluate a food irradiation facility (3-5 March 2003) (DG SANCO/9114/2003)**

Irradiation is used for some foods (e.g. herbs and spices) because it can kill some or all of the microbes and insects present, depending on the dosage used. Irradiation may also create new chemicals in food that are unique to this process - chemicals that would not be created by cooking or other standard food processing techniques.

Therefore, the limited cases where irradiation of foodstuffs may be used, and the conditions thereof, have been defined in Community legislation.

The Turkish regulation No. 24907/15.10.02 is not fully harmonised with Council Directive 1992/2/EC, in particular with regard to the requirements that an irradiation facility should meet and concerning documentation which must be kept for every foodstuff treated. The amendment of the Turkish regulation on Production, Consumption and Inspection of Foodstuffs (24937/15.11.2002) does not require the applicant food irradiation facility to implement food quality safety systems based on HACCP (Hazard Analysis Critical Control Point) principles.

The procedures for official controls and approval were considered adequate. However, in the one facility visited there were substantive shortcomings with respect to hygiene requirements, including elimination of waste water and pest control.

#### **10.4. Report on a mission to Turkey to assess the control systems in place to prevent aflatoxin contamination in hazelnuts, pistachios, and dried figs intended for export into the European Community (3-8 March 2003) (DG SANCO/9105/2003)**

This mission followed up the mission in 2000 (cf. 3.1.) and found that new sampling instructions had been laid down in the Turkish legislation which are in compliance with Community legislation. The inspection frequency had been increased, particularly during harvesting periods, given an improved level of control. The reports concludes that significant progress has been made since the last mission, but some of the issues raised in the main recommendations of the 2000 report were still not fulfilled.

Private laboratories that may carry out official analyses for export purposes do not need to fulfil specific quality assurance requisites, and therefore analytical competence and accuracy of results is not guaranteed. Of the 19 official laboratories involved in aflatoxin analysis for export purposes, only 3 participated in international inter-laboratory comparison programmes for quality assurance, and proper documentation was lacking. The provincial and the private laboratories visited did not generate analytical results with complete reliability.

The report notes impressive efforts and considerable progress in upgrading the performance of the veterinary service supervision, but also addresses weaknesses in the supervisory systems, in particular regarding certification, verification of own-checks, *ante* and *post mortem* inspection, and checks of potable water. The documentation for such supervisory activities needs to be improved. Deficiencies were noted with respect to the standard of technical equipment for stunning.

#### **10.5. Report on a mission to Turkey to assess the conditions of production of fresh poultry meat intended for export to the EU (16-26 September 2003) (DG SANCO/9130/2003)**

Turkey was added in 1994 to the list of third countries from which in principle Member States can import fresh poultry meat. The quality assurance of poultry meat production is of considerable relevance, given the potential risks induced by contamination of poultry with hazardous substances (e.g. dioxins) and infectious agents (e.g. salmonella, avian flu or bird flu).

The report notes impressive efforts and considerable progress since a previous mission in 2000 in upgrading the performance of the veterinary service supervision, but also addresses weaknesses in the supervisory systems, in particular regarding certification, verification of own-checks, *ante* and *post mortem* inspection, and checks of potable water. The documentation for such supervisory activities needs to be improved. Deficiencies were noted with respect to the standard of technical equipment for stunning.

## **10.6. Office memorandum on the EU Twinning Project TR02/IB/AG-01 on Animal Disease Control and Eradication in Turkey and on Trade with food of animal origin and consumer protection (structural and programmatic preconditions for joining the EU market) (Project number: TR 0203.05)**

This twinning project report points out a very high prevalence of Foot and Mouth Disease, Brucellosis, Tuberculosis, Sheep Pox and Goat Pox and Peste de petit ruminants (PPR) among livestock in Turkey. At the time of the report there was a Foot and Mouth Disease and PPR endemic, and prevalence rates of Brucellosis and Tuberculosis were 2% and 10%, respectively, among the cattle population. This unacceptably high disease rate is causing losses to the livestock production and endangers food safety and consumer health. The Turkish Ministry of Health has estimated that a very high number of persons in the order of 14.000 people/year acquire Brucellosis by consumption of milk and milk products. Tuberculosis is another zoonotic disease that is spread from infected cattle to humans through the consumption of milk and meat. Rabies is causing costs due to vaccinations for persons having been in contact with rabies suspected animals. It is estimated that the costs for rabies vaccinations in humans amount to 15 million € per year.

While particularly some of the large Turkish food producer are ready to trade with products of animal origin such as meat products, milk products and honey and their food production establishments fulfil to a large extent the hygiene requirements as requested by EU provisions, the disease situation in livestock is still putting trade barriers. Without freedom of certain livestock diseases such as Foot and Mouth Disease and Peste de petit ruminants (PPR), Turkey will be excluded from the common market regarding certain animal products as meat and meat products. For honey export the big constraint is the contamination with antibiotics due to a unsolved disease situation regarding American foul brood in the bee hives. The uncontrolled use of antibiotics for controlling American foul brood in bee hives leads to a residue problem in honey.

Without implementing effective control measures and eradication programmes regarding the named diseases, it is assumed that livestock industry and trade of animal products can not be developed adequately. With the present statistical figures available the current costs of Foot and Mouth Disease, Brucellosis, and Tuberculosis (production losses, present disease control measures) are adding up according to calculations to more than 59 million € per year. True losses due to incapability to participate on international trade are unknown, but must be estimated as a multiple of the above figure. Improvement of the animal health situation in Turkey is essential if Turkey wishes:

- to participate on the international trade with animal products as milk and milk products, meat and meat products and honey
- to develop the livestock production in Turkey
- to have equal chances, after becoming a EU member state, to participate on the common EU market with livestock products
- to protect consumers adequately from zoonotic diseases and residues.

The report points out major shortcomings and challenges for achieving improvements of the situation:

### **1. Policy**

The policy must express exclusively the support of livestock development, trade and consumer protection. This must include the control and eradication of certain animal diseases, the safety of food of animal origin and trade with livestock and food (within Turkey and export). This policy should be provided by the Ministry of Agriculture and Rural Affairs in accordance with the Cabinet of Ministry.



The policy necessarily should be connected with a policy for livestock and livestock production development, preferably with a master plan for agricultural development in Turkey.

## 2. Administration

Improving the Veterinary Services is prerequisite for the success of any animal disease control programme. Veterinary administration at headquarter and local level must be enabled and authorized to comply with the tasks. In particular the downstream authorities need to be strengthened to be able to execute control and eradication measures. The strengthening must comprise: legal Power, personnel, equipment funds and training. The downstream authorities must be guided by a transparent chain of command starting at headquarter. Authorities outside of the chain shall be incorporated or abolished.

## 3. Legislation, eradication programmes and contingency plans

The legislation and programmes shall be in compliance with EU requirements. At the same time they shall be implemented, adapted to the actual situation and financially feasible at a time.

## 4. Market and trade control

In order to avoid the spread of animal diseases, trade of livestock must be embedded in a supervision system ensuring that only disease free animals from disease free holdings are traded. Key measures are: only officially approved holdings can trade with livestock, animals are accompanied by a cattle passport (or in case of sheep and goats a referring certificate), markets have to fulfil certain sanitary conditions, entry and exit control of markets is obligatory, and disobeying the rules shall be punished.

## 5. Border control

Illegal animal movement from eastern neighbouring countries plays a mayor role introducing highly contagious diseases as FMD or PPR to Turkey and bears therefore a high risk for Turkish livestock and livestock farmer. The illegal animal movement is very strong in particular through the provinces Van and Hakkari, but other border provinces are concerned as well. Illegal animal movement must be banned entirely, if disease control measures in Turkey should be successful. A legal basis should be established for import of high breeding animals from EU and other FMD/PPR free countries to limit illegal imports with a high disease risk. Illegal import of cattle and sheep from Iran, Iraq and Syria should be banned, and the legal power to enforce adequate measures on animals which have been found imported illegally should be enforced. The rules for Border Inspection should be adjusted to EU standards, and Border Inspection Post should be built and equipped accordingly.

## 6. Financing of measures assuring sustainability

The Government of Turkey must be aware that disease control measures and eradication programmes need substantial funding and support. Without appropriate commitment of financing the programmes, the disease situation can not improve. This includes the creation of appropriate compensation schemes for animals to be slaughtered or destroyed during disease control measures.

The geographical position of Turkey bears particular risks of receiving livestock diseases. Those risks must be minimized from the Turkish side by accurate implementation of the measures as described.

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