

Uzbekistan Food Safety Project
The World Bank & World Health Organization

Sanitary Epidemiological Service

**Hygiene Inspection, Sample Analysis,
Certification**

Tashkent, March 2008



Evaluation of Annual Report

1 local establishment of SES in Tashkent Region

- The Sanitary Epidemiological Service as it is now:
essentially a sound, adequate system
- The combination of hygiene control by state inspectors and analysis of food samples taken: good approach
- Paid certification could be separated from the other functions
point for discussion...



Structure of SES

- Central “Republican” Establishment
- Many establishments at Oblast and local level
- Inspection and “analytical” points at many markets and bazaars; impressive, seems effective but labor intensive (cost?)
- specializations



Problems seen in food control systems in many countries

- Authority split between many Ministries and Services
 - > poor collaboration
 - > reduced overall performance
 - > negative impact on food safety
- Existing, but inefficient coordination between Ministries
- Dis-jointed, complicated systems: significant overlap and duplication, waste of resources
- No national food safety strategy endorsed and supported by all relevant players
- Overlapping laboratory capacity, no joint testing plan



SES and Veterinary Service

- 2 separated functions is the most common situation in most countries (some developing countries: no services!)
- Consensus insight: veterinary control is an essential element of consumer protection
- The best structure is integrating both: new in Europe *Food Safety Authorities* include both food control and veterinary aspects
- Best coordination of info and action





chain-perspective in control of foodstuffs *'from farm to fork'*

- agricultural phase,
including imported raw materials
- industrial processing and
smaller scale preparation
- distribution
- consumer

è integrate hygiene control systems in all parts of the chain

Contamination of food occurs across the entire chain, from farm to fork



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Overview of activities in 2007

regional SES laboratory in Tashkent region

■ Total number of samples	6139
■ Certificates provided	2635
■ (# certificates refused, reason ?)	
■ Certificates imported prod.	1672
■ Certificates exported prod. (mainly plant products)	963
■ Sanitary quality measures	5
■ Organoleptic failure	19
■ Number of analyses	46395
■ Total of defective anal. samples (ochratoxin, coli, yeast & mould, chem. Microbiol.)	20



SES laboratories

establishments and equipment

- Laboratories need better housing in order to function properly
- Analytical chemical equipment should be improved both for accuracy and efficacy
- Microbiological sample analysis: similar observation
- Training of lab technicians both for new instruments and extended analytical methodology is needed
- Scientists: literature in English



Chemical sample analysis

- General approach is adequate
- Number of defective (“positive”) samples in 2007 is very low
- 2 samples of dried fruit: ochratoxin



Microbiological sample analysis

- General approach is adequate
- Number of defective (“positive”) samples in 2007 is very low
- Note for discussion:
 - Is the purpose of sampling certification or is it identifying poor hygiene conditions



Introduction of HACCP

consequences for SES

- Extended training needed for food producers and state food inspectors “control of control”
- HACCP, especially in high risk food production, can require sampling at critical points in the chain (not end products)
- Simple administrative procedures by industry and SES control of that



Food borne disease agents

additional agents to investigate

- Bacterial toxins e.g. SA enterotoxine
- Campylobacter species
- Brucella species
- E. Coli O157 H7
(Shiga toxin producing coli types)
- Clostridium perfringens
- Norovirus
- More...



Foodborne viruses - characteristics

Important characteristics of enteric viruses:

- only a few particles are needed to produce illness
- high numbers are shed in stools or vomits from infected persons
- viruses need specific living host cells to replicate
- foodborne viruses are environmentally stable outside the host
- **Norovirus and hepatitis A virus currently recognized as most important human foodborne pathogens**



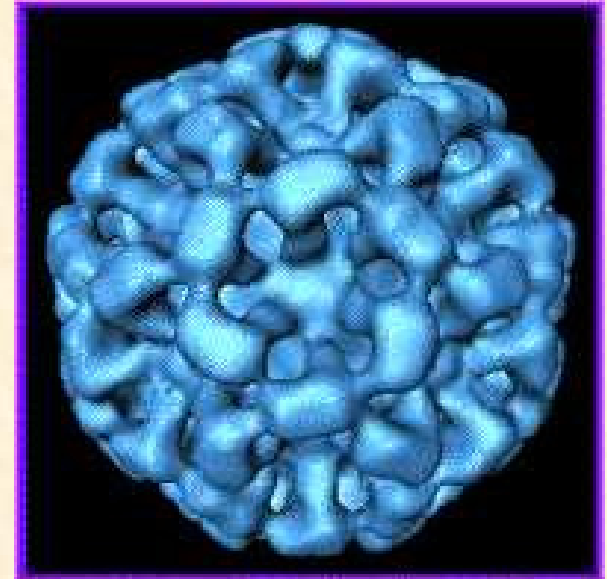
Why so much transmission and infection of Norovirus through food?

- Dose Response relation Norovirus??
("minimum infectious dose")
Only few particles needed to produce illness
- High numbers in stools of infected persons
- Most food- or waterborne viruses are more resistant to heat, disinfection and pH change than most vegetative bacteria*

*Koopmans, M., Duizer, E., 2004. Int. J. Food Microbiol. 90, 23-41

Norovirus - epidemiology

- number 1 cause of outbreaks of foodborne gastroenteritis in many countries;
- transmission mainly from person to person;
- contamination of foods by:
 - infected food handlers;
 - contaminated environments, water (e.g. shellfish, vegetables)



Yearly sampling plans

how to construct a good plan?

- Both chemical and microbiological samplings plans should be based on the review of results of passed years
- Focus on high risk areas in food production (including agriculture) and distribution is essential:
cost–benefit principle!
- Identify high risks areas on the basis of monitoring and surveillance (can be local only!)



Food Safety Monitoring and Evaluation

- Establish surveillance systems for food consumption
- Establish monitoring and surveillance systems for microbial and chemical hazards in the food chain
 - pesticides, contaminants, natural toxicants, medicine residues, antimicrobial resistance, use of antimicrobial agents in animals, radioactive isotopes in the food chain
- Surveillance of food borne diseases
(should include mechanisms for efficient follow-up if appropriate)



**Success with your
important work!**

