

## **Prevention of the Environmental Risk ——from the view of food safety**

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**Abstract.** The interactions between food production and environment protection afford us many instances, for example, the food event caused by pollution, or the environment disruption caused illegal food production. The essay discuss the risk of environment and the food safety, analyses the state of national system of food safety law. And then by considering the food safety, the essay point out the method to prevent the risk of environmental by improving the food safety law and by establishing the trace system of food products, defect product recall system, risk analysis and management, etc.

**Keywords:** Environmental risk; food safety; prevention of the risk.

### **1. Introduction**

Environment and food safety are both the essential factors in our society which intend to provide a high level of human beings' cultures. Actually, food safety and environment safety have contractor impact for each other—the procedure of food production or food consumption could make influence to the balance of environmental condition, while the environmental conditions could also make effect the level of food safety. Therefore, the essay will contend that the approach of prevention of environmental risk would be stablish in the legal system of food safety protection may be the most effective measures especially in China.

### **2. The Contract of Food Safety and Environment Protection**

The Condition of food safety is not only an essential target of the economic development level of the whole country, but also an important indicate of the living level of people of the entire society.

Meanwhile, the food safety events caused by environmental degeneration occurs time and time again:

- Japan minamata disease. In 1950s, the Japanese river pollution by mercury, and thousands of fish and shrimp cause numerous disease patient. And sixty patients died.
- Japan itaiitai disease. During the 1950 to 1972, the Japanese river was polluted by cadmium. The inhabitant use the water to irrigate their crops which make the rice, flour and other basic food for the Japanese contaminated by cadmium. These food cause disease which make people occurs arthralgia and bone pain and nearly 400 people died.
- Shanghai Excessive blood lead. In 2011, the physical examination for 2-3years old children in Shanghai one of the highest developed city in China, shows that the index of Blood lead content abnormal. The final report contended that the drinking water and the soil have become contaminated with lead, which the children touched very frequently. The pollution caused food safety problem and cause a danger of serious damage to children's health.
- Fatal milk powder by radioactive contamination. In December 6<sup>th</sup>, 2013, the Japanese company calls back their milk powder for its contains the Cesium element which come from the Fukushima nuclear power plant explosions.

With the development of the social economy, the events of food safety caused by environment degeneration show a tendency to expand. As a result, there is a coincidence contract between the legal system of food safety and environmental protection.

### **3. The Legal System of Food Safety in China**

There are three Legislative levels in China, the first level is the law passed by National People's Congress or the Committee of the National People's Congress, such as the Food Safety Law, the second level is the laws and administrative regulations or State regulations References passed by the State Council, such as the Regulations on the implementation of the food safety law, and the third level is the regulations passed by Ministries and Commissions of the State Council or the Local governments, such as the Provisions on the administration of food additives.

In China, the number of the law or regulations about the food safety is 840, which contained by 2 basic law in the first legislative level, 10 law and 12 regulations in the second legislative level and hundreds of laws in the third legislative level.

### **4. The Prevention of the Environmental Risk – from the Food Safety Law**

#### **4.1 The Coincidence of the Environment Risk and Food Safety.**

As mentioned above, there is a coincidence contract between the environment and the food safety just as there is an accepted connection between the environment factor and the food production. And the Risk means an unforeseeable danger situation that anything could happen. People control the risk in order to reduce the ratio of the unforeseeable situation happen which situation could not controllable or needed high cost control measures.

The environmental risk means the happen ratio which the disaster result caused by environmental damage or pollution happened unforeseeably, which all of the damage or pollution or contamination was brought by people's living or production in highly developed society. The essay contend that the environmental risk have three characters which would make food safety problems and should solved by revising or accomplishing the legal system of food safety law.

First character is the relativity. This means there is no absolutely safety of food or environment, for the vanish of the ratio of dangerous situation happened is not rational. The target of food safety is not to eliminate the ratio to 0, but to reduce the ratio as possible in order to control the threaten brought by uncertainty process or nip in the blossom. Therefore, the approach taken to solve the environmental problems in order to reduce the food safety risk may be a relativity measure which would lie on the condition of environment and the target of food safety in the decades.

Second character is the progress. This means the target both of food safety or environment protection is developed by the economic level of society and the technology of the human beings. As the economic and society developed, new acknowledge and technology would be obtained by people, and used in the process of production and planting. Meanwhile, the requirement of food safety and environment protection from people would be higher criterion and lager scope. In other words, the environment risk and safety risk both a continuous changed index during the progress of development.

Third character is the systematism. This means that the food safety not simply point to the stuff to eaten, but means the series of actions related to food, including the planting, breeding, production, storing, and process of food production, etc. all of the actions mentioned above should be regulated in order to reduce the risk of food safety. As a result, the environmental risk which would lead to a food safety means a systematic index should keep a balance that not only means there is no pollution or damage actions have been occurred, but also means the improvement and repairmen during the food production or planting or other actions should been taken as well.

Generally speaking, the precaution principle mean that plan ahead seriously and prohibit the potential harmful actions with the purpose of avoid the damage or destroy, should not only reflected in the regulations or laws in environmental law, but also carry out in the food safety laws. That would reduce the possibility hazard risk brought by environment conditions, and the ratio of food safety events in our living lives.

## 4.2 The Measures of the Environment Risk Prevention.

In China, there is an Food Safety Law in the first legislation level, and establish a series of legal systems to regulate the food problems, such as the monitor system, the evaluation system, the examining system, the permission system and calls-back systems, etc. Here the essay argues that the three approaches should be taken in the food safety law in order to prevention the environment risk which may lead to a serious and uncontrolled food problems.

First measure is to establish scientific food safety standards. Standards means to regulate the actions taken by producer or farmers or other people goes in the food productions, in order to prevention the process of food production or selling, or planting or breeding would bring certain damage or pollution. This measure should basic on the practice of the food safety and environment safety, and coincide kinds of food safety standards, such as the food stuff or the food additive. And the dynamic of the standards should be noticed at the same time. The standards would be improved or developed by the market changed or the environmental condition changed. That may be the first measure we should take to ensure the environmental risk prevention.

Second measure is to establish the registration system. That means to combine the monitor system we have now, the environment information of food should be relisted one by one, from the situation of the food stuff planting or breeding, to the factory address where the food producing or processing or packing. That means consumer or the administrative department can trace the food to where it has been planted or produced. And the responsibility of action who taken would therefore be clear to see. Meanwhile, the credit system of food safety and environment safety should establish as well in order to encourage the farmers or producers to take a green process to produce the food. This measure would make the food market and their consumer play a big role in the prevention of environment risk.

The third measure is to enlarge the calls-back system to the administrative department. This means that the calls-back actions not only the obligation of food producer, but also the responsibility of the administrative department or the local government when the food safety event would happen, especially the events which brought by environment uncontrolled and expensive risk. The key issue of the measure is to evaluate the ratio of the possibility of the events. The essay suggest that a “rational possibility” should be set in the calls-back system, for the administrative calls-back should influence the consumer and change the rules of market. Only the ratio of the event possibility reach a “rational and possible” level, Can the government take the calls-back system.

## 5. Conclusion

The third measure may contain another support system which notices the public warning system. This system means that if it is very near to the “rational and possibility” level but nor reach it, the government could notice a publish warning in order to inform the producer or the market to call back the food products and to suggest consumer making decisions. This system may protect the market rules and prevention the environmental risk at the same time.

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