

Bangladesh in the Rapid Alert System for Food and Feed notifications in the period 2000–2012: a review

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ABSTRACT: Information provided in the Rapid Alert System for Food and Feed (RASFF) portal database of the European Commission on “crustaceans and products thereof” for Bangladesh during 2000–2012 was investigated to analyse the trends of occurrences. A total of 159 (10.56%) notifications (alert – 40; border rejection – 47; information – 72) were recorded for Bangladesh against a worldwide 1505 notifications. During the period 120 (20.27%) notifications were identified for residue of veterinary medicinal products against 592 notifications recorded in the portal. Forty-eight consignments were re-despatched to Bangladesh while 11 consignments were destroyed at the European border as a consequence of the notifications by the European countries.

Keywords: crustaceans; RASFF; rejection; notification; veterinary medicinal product

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1. Introduction

Bangladesh is a small player in a complex international seafood trading system accounting for about 3% of the global seafood market both in volume and value. Fisheries accounted for about 20.87% of agricultural commodities and 3.77% of the country's GDP during 2010–2011 (DOF 2011), with shrimp providing the greatest proportion of total Bangladeshi fish exports in volume and value. In 2010–2011, this sector earned US\$ 611.36 million in foreign exchange in which US\$ 478 million (78%) came from shrimp alone (EPB 2012). Farm-produced shrimp constituted more than 90% of fish export earnings.

In 2008–2009, Bangladesh exported shrimp and fish products to around 50 countries of which over 50% of shrimp products were exported to around 20 EU nations (Alam 2010). Belgium, Great Britain, Germany, Netherland and Denmark were the most significant European Union (EU) export destinations for Bangladeshi shrimp. Belgium remained at the top of the list for import of Bangladeshi shrimp despite its notifications of semicarbazide, a metabolite of nitrofurantoin antibiotic in 2009. Belgium imported shrimp from Bangladesh had a value of US\$ 97 million in 2008–2009; this fell slightly to US\$ 73 million in 2009–2010 and then jumped to US\$ 129 million in 2010–2011 (EPB 2012).

Importing countries encountered a number of food safety problems for fish and fish products, which included microbiological contaminants due to lack of hygiene in the production process, residues from use of prohibited antibiotics, metal contaminants, parasites and a broken cold chain (Willems et al. 2005). Among the reported problems, residue detection was more common in shrimp and resulted in frequent rejections by the national authorities. The destruction of rejected products by some EU nations caused further concerns among the European importers and resulted in economic losses for exporters in developing countries. Exports from Bangladesh, like any other third countries, are subjected to border inspection and the results are notified to all EU countries through RASFF. Non-compliance can have serious consequences. Increasing RASFF notifications in early 2009 forced Bangladesh to impose a ban on the export of fresh water prawn to the EU.

This study was aimed at identifying the trends of notifications of occurrences for the “crustaceans and product thereof” category from Bangladesh through the RASFF database.

2. Rapid Alert System for Food and Feed (RASFF)

RASFF is the official network of national authorities from 27 EU member states that exchange information on the presence of potential health risks to consumers presented by a food product. A Rapid Alert System for food has been operating within the European Commission since 1979. It was included in the EU Food Legislation (Regulation 178/2002, Chap. IV) in 2002 as the Rapid Alert System for Food and Feed. The RASFF database portal was introduced in 2009.

When food and feed products do not comply with EU food safety standards, all authorities throughout Europe are informed and measures are taken, which can include withholding, recalling, seizing or rejecting products.

3. Types of RASFF notifications

The RASFF notification system has three levels of notification according to the seriousness of the risks identified and the distribution of the product in the market. These levels are alert, information and border rejection and after verification by

the Commission contact point, the notification is transmitted to all network members (EC 2011).

3.1. Alert of RASFF notification

Alert notifications are sent when a food or feed presenting a serious risk is on the market and when immediate action is required. Alerts are triggered by the Member State that detects the problem and initiates the relevant measures such as withdrawal/recall. The notification aims at giving all the members of the network the information to verify whether the concerned product is on their market, so that they also can take the necessary measures.

The aim of this alert is to reassure consumers that products subject to an alert notification have been withdrawn or are in the process of being withdrawn from the market. The Member States have their own mechanisms to carry out such actions, including the provision of detailed information through the media if necessary.

3.2. Information notification

Information notifications concern a food or feed that was placed on the market for which a risk has been identified but for which other members of the network do not have to take immediate action because the product has not reached their market, is no longer present on their market, or the nature of the risk does not require any immediate action.

3.3. Border rejection

These notifications were introduced in 2008 and concern food and feed consignments that have been tested and rejected at the external borders of the EU (and the EEA). The notifications are transmitted to all EEA border posts in order to reinforce controls and to ensure that the rejected product does not re-enter the Community through another border post.

3.4. News

Any information related to the safety of food and feed products which has not been communicated as an alert or an information notification, but which is

judged of interest to the control authorities, is made available by the Commission to the members of the network under the heading “News”. RASFF news items are often based on information picked up in the media or forwarded by food or feed authorities in third countries, EC delegations or international organisations, after having been verified with the Member States concerned (EC 2011).

3.5. Involvement of third countries

The Commission must inform a third country where it is known that a product subject to an alert notification has been exported to that country or when a product originating from that country has been the subject of a notification. This allows the country to take corrective measures and avoid repetition of the problem. The country of origin of the product is not always where the hazard originated.

4. Methods

Data in the RASFF database from 01.01.2000 to 01.05.2012 was retrieved from the web <https://webgate.ec.europa.eu/rasff-window/portal/>. The database includes detailed information on each notification, including the type and date of notification, the reason for notification, the hazard(s) identified, the nature and traceability of the product(s) involved, the country of notification, the country of origin, and the laboratory analyses performed with corresponding contamination levels detected. This study investigated the trends of occurrence of notifications and residue hazards of veterinary medicinal products and the actions taken by the notifying countries. The data were transferred to a Microsoft excel spread sheet for tabulation.

5. RASFF notifications by numbers

Over the period 2000–2012 (until 1 May), a total of 1505 notifications were transferred for the ‘crustaceans and products thereof’ category through RASFF, of which 287 were classified as alert, 978 as information and 208 as border rejections. Bangladesh received 159 notifications during the same period, of which 40 were classified as alert, 72 as information and 47 as border rejections (Figure 1). This was higher than that of Thailand,

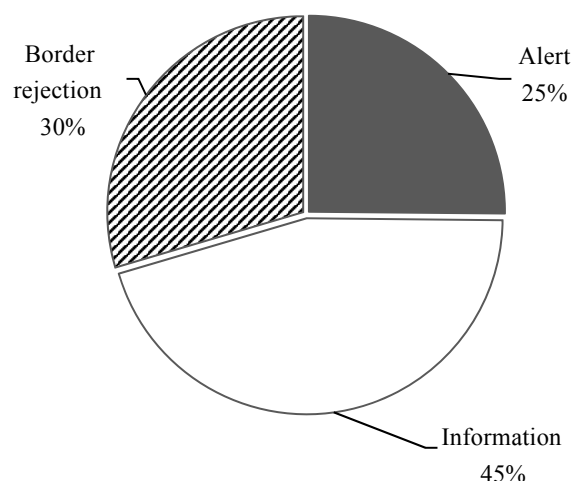


Figure 1. Types of notifications: Bangladesh in the period 2000–2012

which had 90 notifications (25 alert; 3 border rejections; 62 information) and lower than that of India with 225 notifications (31 alert; 62 border rejections; 132 information) during the same period.

5.1. Notifications according to notified countries

The notifications were made by 12 EU countries. Belgium made the most notifications (63) followed by Great Britain (59) and Norway (19). The least number of notifications were made by France (5), Italy (3), Germany (2), The Netherlands (2), Finland (2), and one each from Luxemburg, Austria, Sweden and Greece. Among the 47 border rejection notifications, Belgium notified 36 times followed by Great Britain (9) and Netherland (2).

5.2. Notifications according to year

Of the 159 notifications, the highest number (50) was notified in 2009 followed by 27 in 2006 and 21 in 2005. No notification was made in 2012 up until 1 May. The distribution of notifications by year is summarised in Figure 2.

5.3. Notifications according to the type of control

RASFF notifications were also triggered by the controls at border inspection posts when the con-

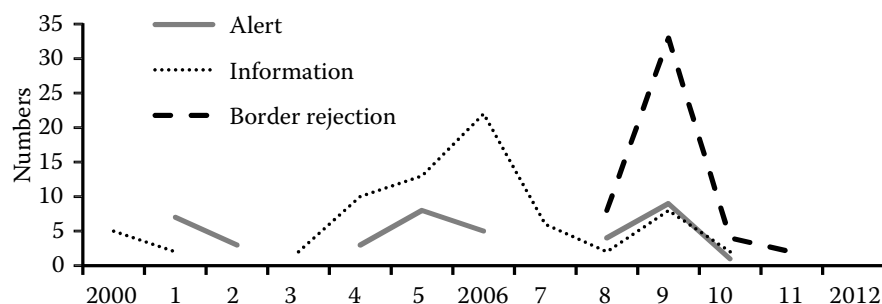


Figure 2. Types of RASFF notifications for Bangladesh by year

signment was not accepted for import (“border control – consignment detained”), and Bangladesh received 73 such notifications. In some cases, a sample was taken for analysis at the border (screening) and the consignment was released, a process known as “border control – consignment released”. This occurred in the case of 33 notifications. The next category of notifications concerned official controls on the internal market. Bangladesh received 33 of these types of notifications. The other notifications were one for a consumer complaint and two in the case of a company notifying the outcome of its internal checking.

6. Hazards in RASFF notifications

6.1. Notifications according to type of hazard

Among the listed 24 hazard categories, Bangladesh received notifications in six categories of which residues from veterinary medicinal products (VMP) ranked the highest (120, 75%) followed by pathogenic microorganisms with 32 (20%) notifications. The other notifications were in adulteration (2),

non-pathogenic micro-organisms (2) and organoleptic aspects (1).

6.2. Notifications according to notified countries

Belgium made 59 notifications followed by Great Britain with 57 notifications for residues from VMPs. The highest number of notifications for residues from VMPs was recorded in 2009 with 48 notifications of which 42 came from Belgium. The notification of residues from VMPs by year is summarised in Figure 3.

6.3. Notifications according to type of VMPs

Among the 120 notified VMPs, 116 (97%) were for semicarbazide, a metabolite of nitrofurazone found mainly in freshwater prawn (*Macrobrachium rosenbergii*) from Bangladesh. The highest number of VMP notifications (48) was made in 2009 followed by 26 notifications in 2006 (Table 1). The Belgian authority tested both the shell and meat of the prawn, which was a controversial issue within

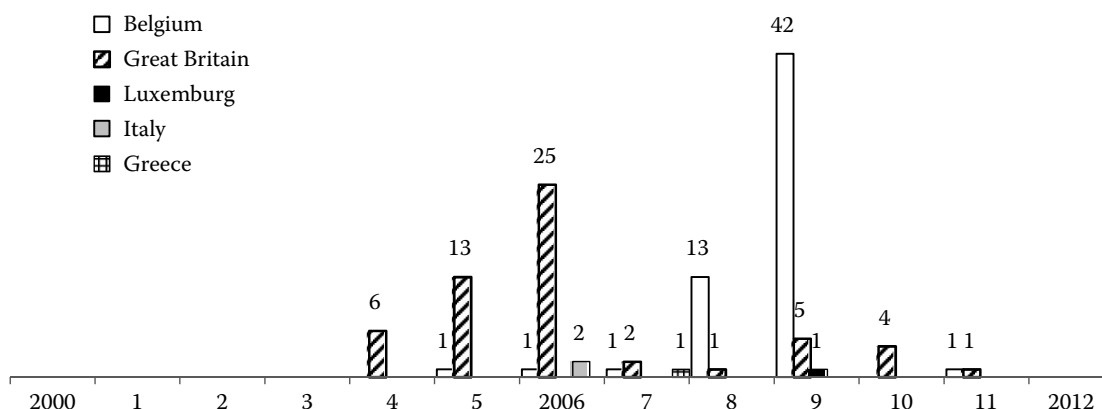


Figure 3. Countries notifying residues of VMPs by year

Table 1. Notifications according to type of VMPs

Year	Nitrofurantol (metabolites)			Chloramphenicol
	SEM	AOZ	AMOZ	
2012 (until 1 st May)				
2011	1	1		
2010	4			
2009	48			
2008	14			
2007	3		1	1
2006	26	1		
2005	14			
2004	6			
2003	0			
2002	0			
2001	0			
2000	0			

SEM = semicarbazide (nitrofurazone); AOZ = amino-oxazolidinone (furazolidone); AMOZ = amino-morpholino-methyl-oxazolidinone (furaldazone)

the EU and around the world. The Commission services had recommended that Belgium analyse peeled shrimps only because it was argued that to use whole prawn for analysis could lead to false positives due to environmental presence of semicarbazide in shells. Belgium corrected its analytical method and no non-compliances of Bangladesh shrimp were detected by Belgium in 2010 (EC 2011), but four non-compliances were identified by Great Britain.

6.4. Notifications according to type of pathogenic micro-organisms

Figure 4 below shows that *Salmonella* and *Vibrio* cholera were the only frequently reported pathogenic micro-organisms in RASFF for Bangladesh during the specified period with 32 notifications.

7. Consequences of notifications

Every recorded notification has consequences of which the most severe are the destruction of the affected product at the border point, re-despatch to the country of origin or withdrawal from the

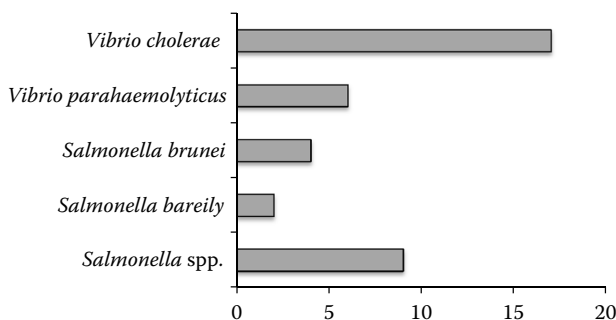


Figure 4. Pathogenic micro-organisms

market. During 2000–2012, the most common consequence for the Bangladeshi trade was re-despatching of 48 consignments to the country followed by 26 actions on product recall/withdrawal from the market, which resulted in major economic losses for the country's export trade (Table 2). Eleven consignments were destroyed at the border posts during this period.

The destruction of 11 consignments during the period related to four notifications for nitrofurantol (three SEM; one AOZ), four for *Salmonella* spp., two for *Vibrio* spp., and one for a fraudulent certificate. Of the 48 re-despatched consignments, Belgium sent back 27 consignments (21 in 2009) and Great Britain sent back 18 (eight in 2006).

Table 2. Types of action taken

Types of action	Number
Destruction	11
Action taken	5
Official detention	3
Re-despatch	48
Withdrawal from market	4
Return to despatcher	5
Recall from consumer	1
Destination of the product changed (obsolete)	1
Destination of the product identified (obsolete)	8
Product (to be) seized (obsolete)	2
Product recall or withdrawal (obsolete)	26
Prohibition to trade – sales ban	5
Re-despatch or destruction (obsolete)	15
Reinforced checking	7

8. CONCLUSIONS

The trend of occurrences of notifications was uneven throughout the studied period. Border rejection notifications were higher in 2009 with Information notifications higher in 2006. Belgium and Great Britain notified most often. In 2009, a faulty testing protocol for fresh water prawn from Bangladesh by Belgium raised the number of unpredictable occurrences, which were reduced in the following years when Belgium rectified the protocol. It is unclear whether sufficient changes have been made in the testing and reporting procedures in the importing and exporting countries to avoid a repeat of these occurrences. However, Bangladesh has taken major steps to bring down the incidence of nitrofurans and other associated contaminations in shrimp/prawn. It has established three laboratories in three shrimp-centred locations with more up-to-date machine/equipment and the international accreditation of these laboratories is underway. New legislation such as the “Hatchery Act 2010” and “Fish Feed and Animal Feed Act 2010” has been introduced. The implementation of a register of all commercial shrimp farms will assist in ensuring there is adequate traceability in the supply chain that meets EU legislative requirements.

9. Acknowledgement

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10. REFERENCES

- Alam SMN (2010): EU regulatory governance and the management of quality in the Bangladesh shrimp supply chain. [PhD thesis.] Curtin University. Perth, Western Australia. xxxii+309 pp.
- DOF (Department of Fisheries) (2011): Fishery statistical yearbook of Bangladesh (2010–2011). Fisheries Resources Survey System. Department of Fisheries, Ramna. Dhaka, Bangladesh.
- EC (European Commission) (2011): The Rapid Alert System for Food and Feed Annual Report 2010. 64 pp. http://ec.europa.eu/food/food/rapidalert/docs/rasff_annual_report_2010_en.pdf during 10 May 2012.
- EPB (Export Promotion Bureau) (2012): Export statistics (2010–2011). Information Division. Export Promotion Bureau. Kawran Bazar. Dhaka, Bangladesh.
- Willems S, Roth E, Roekel JV (2005): Changing European public and private food safety and quality requirements: Challenges for developing country fresh produce and fish export. European Union buyers survey. Agriculture and Rural Development. World Bank, Washington, DC. 64 pp.

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