



World Food Programme  
Programme Alimentaire Mondial  
Programa Mundial de Alimentos  
برنامج الأغذية العالمي

**Executive Board**  
Annual session  
Rome, 18–22 June 2018

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Distribution: General

Agenda item 10

Date: 1 June 2018

WFP/EB.A/2018/10-B\*

Original: English

Administrative and managerial matters

*\*Reissued for technical reasons  
on 8 June 2018*

For information

Executive Board documents are available on WFP's website (<https://executiveboard.wfp.org>).

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## **Report on post-delivery losses for the period 1 January–31 December 2017**

### **Executive summary**

In 2017, WFP confronted the challenges posed by an unprecedented seven concurrent Level 3 emergencies. Despite the resulting increased operational complexity, WFP provided safe, high-quality food assistance to more than 80 million people globally while minimizing post-delivery losses.

The continued use of the integrated supply chain, supported by strong management processes and risk mitigation systems and greater support to country offices from regional bureaux, were instrumental in ensuring that post-delivery losses were the lowest since 2011 in terms of percentage of food handled.

In 2017, WFP handled 4.5 million mt of food in 75 countries, of which 0.33 percent or 14,733 mt was lost after being received in-country and before being distributed to the people in need. The value of post-delivery losses amounted to USD 12.8 million and constituted 0.52 percent of the total value of food handled – USD 2.46 billion.

WFP's seven Level 3 emergency operations accounted for 43 percent of all post-delivery losses. Losses in Yemen, the Syrian Arab Republic and South Sudan, all of which are affected by severe conflict, accounted for the vast majority – 93 percent – of all post-delivery losses in Level 3 emergency operations.

The main reasons for post-delivery losses in 2017 were storage and transport issues, problems with food commodities at origin, theft and losses during reconstitution or repacking.

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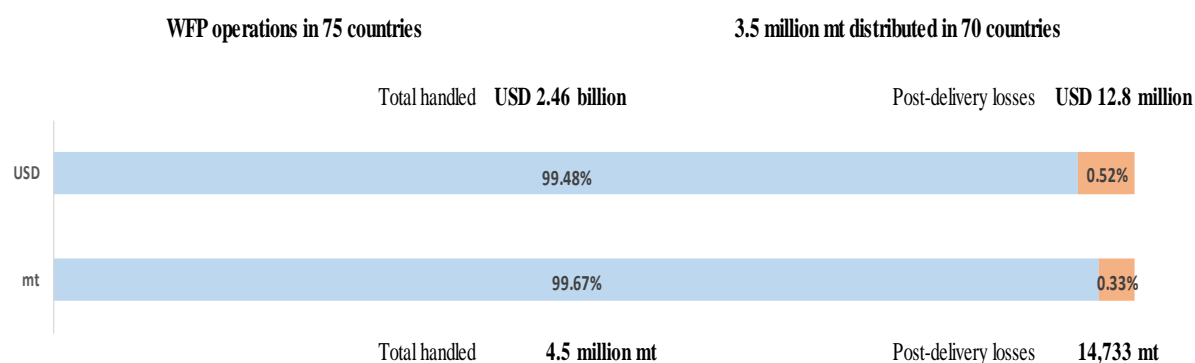
## Introduction

1. This report provides an overview of post-delivery losses in 2017 and describes recent measures for preventing or minimizing them. The annexes detail country-specific losses and identify countries with losses that are above WFP's reporting thresholds.<sup>1</sup> The report does not cover pre-delivery losses or unintended uses of food after distribution to beneficiaries.<sup>2</sup>

## Characteristics of post-delivery losses in 2017

2. Post-delivery losses in 2017 are presented in terms of volume (tonnage) and value and are compared with losses in previous years in terms of volume, value, cause and operational context.
3. Despite the difficulties posed by the seven concurrent Level 3 emergencies, the tonnage of post-delivery losses in 2017 was the second lowest since 2011 in absolute terms and the lowest in terms of the percentage of food handled.<sup>3</sup>
4. In 2017, post-delivery losses amounted to 14,733 mt, or 0.33 percent of the 4.5 million mt of food handled; the corresponding figures in 2016 were 20,109 mt and 0.47 percent (see figure 1 and annex VIII).

**Figure 1: Post-delivery losses in 2017**



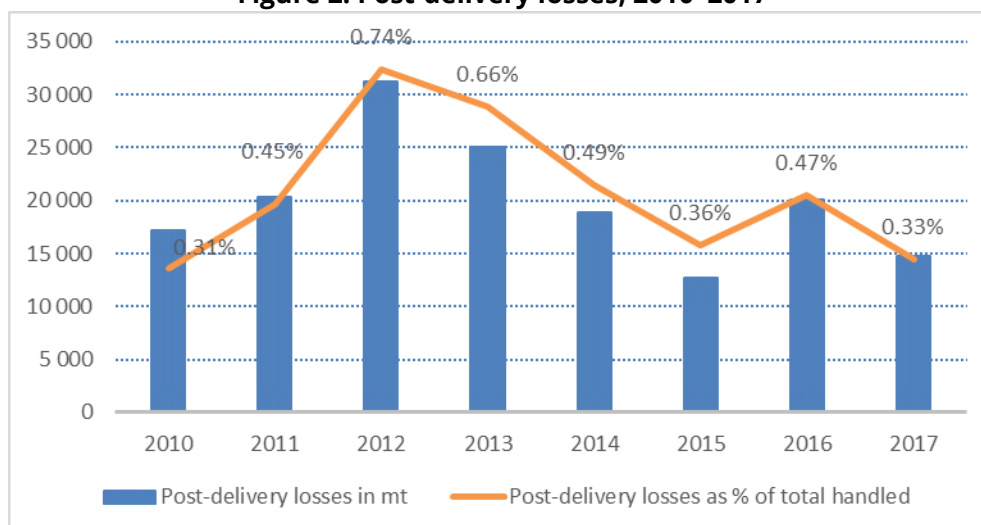
5. In 2017, post-delivery losses represented a value of USD 12.8 million, the second lowest since 2011 in absolute terms. This was 0.52 percent of the USD 2.46 billion value of food handled, the third lowest percentage since 2011. The corresponding figures for 2016 were USD 18.1 million in post-delivery losses, representing 0.72 percent of the total value of food handled (see figure 1 and annex VIII).<sup>4</sup>

<sup>1</sup> These are countries where losses of a single food type amount to at least 2 percent of the tonnage handled and have an absolute value of at least USD 20,000; and countries where losses of a single food type have an absolute value of more than USD 100,000.

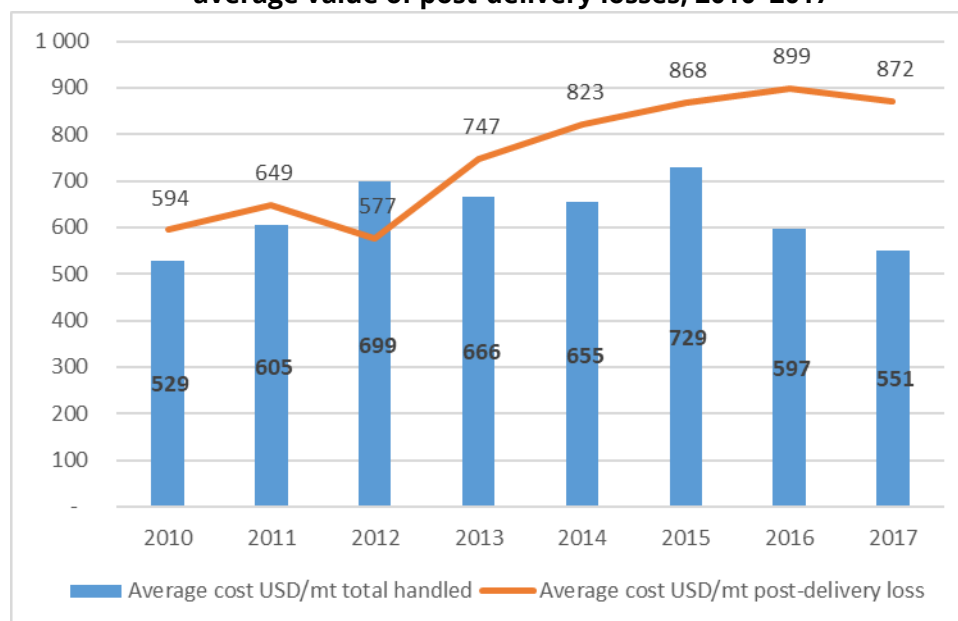
<sup>2</sup> Pre-delivery losses are those that occur before food arrives in the recipient country. They are insured against all risks, with settlements received by WFP for reprogramming. Unintended uses such as sharing, theft or sale are captured through monitoring and addressed accordingly.

<sup>3</sup> Tonnage of food handled is defined as "opening stocks in the recipient country plus commodities received in the recipient country".

<sup>4</sup> Food items are valued according to "moving average prices", whereby the cost of each item is determined from the weighted average of the costs of similar items at the beginning of and during the period. The losses in this report are valued at the moving average prices as at the end of 2016.

**Figure 2: Post-delivery losses, 2010–2017**

6. The average value of food handled was USD 551/mt, compared with USD 597/mt in 2016; the average value of post-delivery losses was USD 872/mt, compared with USD 899/mt in 2016 (see figure 3).

**Figure 3: Average cost of food handled and average value of post-delivery losses, 2010–2017**

7. The three conflict-affected countries of Yemen, the Syrian Arab Republic and South Sudan accounted for 40 percent of all post-delivery losses: Yemen for 18 percent, or 2,600 mt at an average value of USD 1,134/mt; the Syrian Arab Republic for 13 percent, or 1,922 mt valued at USD 1,059/mt; and South Sudan for 9 percent, or 1,348 mt valued at USD 773/mt.
8. Losses of corn-soya blend amounting to 1,557 mt with an average value of USD 815/mt constituted 11 percent of all post-delivery losses. Of the corn-soya blend losses, 1,064 mt with an average value of USD 850/mt were lost in the Sudan, South Sudan and Chad.
9. Losses of 1,490 mt of vegetable oil with an average value of USD 1,063/mt accounted for 10 percent of all post-delivery losses. Half of these losses, with an average value of USD 955/mt, were lost in Yemen.

10. Losses of 1,307 mt of high-energy biscuits with an average value of USD 1,566/mt comprised 9 percent of post-delivery losses. Of these losses, 54 percent with an average value of USD 1,658/mt were lost in the Syrian Arab Republic.

### Main reasons for post-delivery losses

11. In 2017, 82 percent or 12,091 mt of post-delivery losses were attributable to storage issues, inadequate transport, deterioration due to problems at origin, pilferage or theft and reconstitution or repacking (see figure 4).

**Figure 4: The five main reasons for post-delivery losses in 2017**

| Improper/overlong storage  | Inadequate transport   | Deterioration of food due to problems at origin  | Pilferage/theft  | Reconstitution/rebagging/packing  |
|--|--|--|--|---|
| <ul style="list-style-type: none"> <li>• 3,032 mt</li> <li>• 0.07% of total food handled</li> <li>• 21% of total post-delivery losses</li> </ul> | <ul style="list-style-type: none"> <li>• 2,991 mt</li> <li>• 0.07% of total food handled</li> <li>• 20% of total post-delivery losses</li> </ul> | <ul style="list-style-type: none"> <li>• 2,744 mt</li> <li>• 0.06% of total food handled</li> <li>• 19% of total post-delivery losses</li> </ul> | <ul style="list-style-type: none"> <li>• 1,976 mt</li> <li>• 0.04% of total food handled</li> <li>• 13% of total post-delivery losses</li> </ul> | <ul style="list-style-type: none"> <li>• 1,348 mt</li> <li>• 0.03% of total food handled</li> <li>• 9% of total post-delivery losses</li> </ul> |

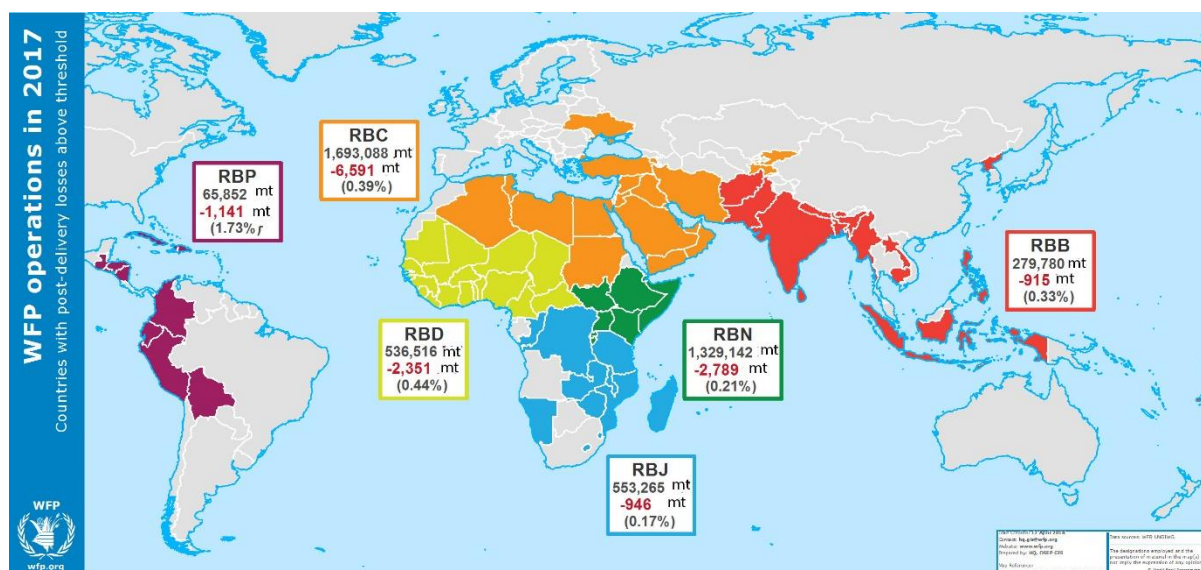
12. Improper or overlong storage resulted in post-delivery losses of 3,032 mt – 0.07 percent of the food handled and 21 percent of all post-delivery losses. Of these storage-related losses, 1,932 mt or 64 percent occurred in Chad, Yemen and Haiti.
13. Inadequate transport accounted for 2,991 mt of losses, representing 0.07 percent of food handled and 20 percent of all post-delivery losses. Of these losses, 68 percent or 2,032 mt occurred in the Syrian Arab Republic, the Central African Republic, South Sudan, Haiti, Afghanistan and Yemen. Contractual provisions for recovering post-delivery losses from service providers enabled recovery of USD 4.02 million in 2017. Rigorous selection and review of service providers are crucial for minimizing food losses.<sup>5</sup>
14. Food deterioration caused mainly by problems at origin resulted in post-delivery losses of 2,744 mt – 0.06 percent of food handled and 19 percent of all post-delivery losses. Of these losses, 2,234 mt or 81 percent occurred in Yemen, the Sudan and the Syrian Arab Republic.
15. Pilferage and theft resulted in post-delivery losses of 1,976 mt, or 0.04 percent of food handled and 13 percent of all post-delivery losses. Of these losses, 1,292 mt or 65 percent occurred in South Sudan, the Central African Republic and Yemen.
16. Problems related to reconstitution or repacking resulted in post-delivery losses of 1,348 mt – 0.03 percent of food handled and 9 percent all post-delivery losses. More than half of these losses – 680 mt – occurred in the Syrian Arab Republic.

### Post-delivery losses by country

17. WFP's ten largest operations in terms of volume of food handled in 2017 were, in descending order, Yemen, Ethiopia, the Syrian Arab Republic, South Sudan, Malawi, Nigeria, Uganda, the Sudan, Iraq and Kenya. These operations handled 3.2 million mt of food or 71 percent of the total, and accounted for 8,555 mt or 58 percent of all post-delivery losses (see figure 5 for an overview by region).

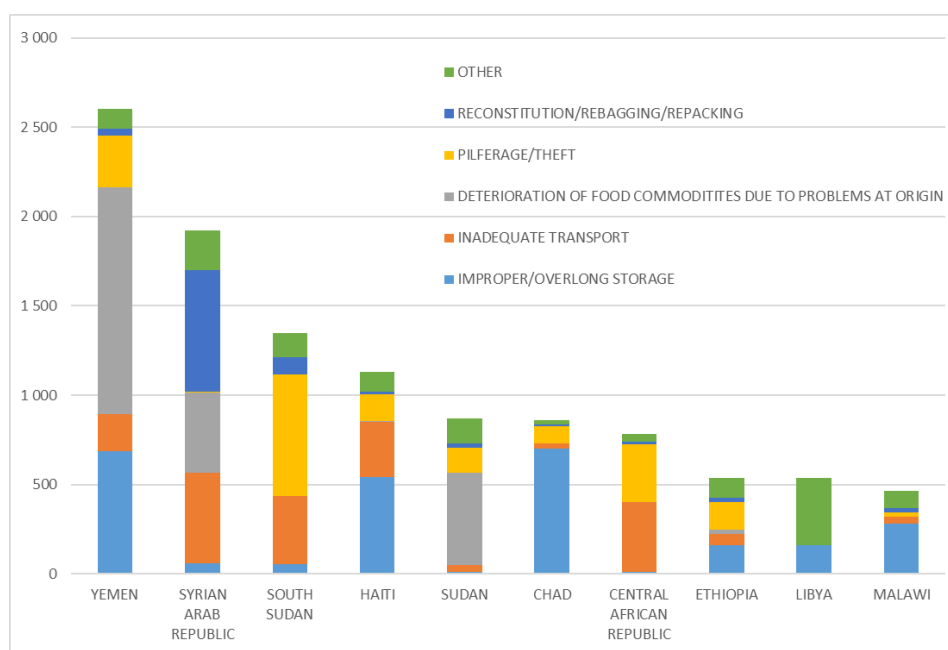
<sup>5</sup> Poorly performing service providers receive a warning or are removed from the list of suppliers. Performance indicators for transporters include amounts lost in transit.

**Figure 5: WFP operations by region — food handled and post-delivery losses  
(mt and % of total food handled in the region)**



18. Ten country operations accounted for 11,053 mt or 75 percent of post-delivery losses in 2017 (see figure 6). The Level 3 emergency operations in Yemen, the Syrian Arab Republic, South Sudan, Nigeria and Iraq – WFP’s first, third, fourth, sixth and ninth largest operations in terms of tonnage of food handled – accounted for 42 percent of losses, amounting to 6,226 mt.
19. WFP operations in 18 countries had above-threshold post-delivery losses totalling 9,079 mt in 2017 (see annexes I and VII). Of these countries, four were in the Asia and Pacific region, accounting for 5 percent of all above-threshold post-delivery losses; six in the Middle East, North Africa, Eastern Europe and Central Asia region, accounting for 57 percent; three in the West Africa region, accounting for 14 percent; one in the Southern Africa region, accounting for less than 1 percent; three in the East and Central Africa region, accounting for 12 percent; and one in the Latin America and Caribbean region, accounting for 11 percent.<sup>6</sup>

<sup>6</sup> These are post-delivery losses that exceed WFP’s thresholds for country-level post-delivery losses of single food types: valued at USD 20,000 or more and accounting for at least 2 percent of the tonnage handled; and valued at USD 100,000 or more.

**Figure 6: The ten countries with the highest post-delivery losses in 2017, with causes (mt)**

## Measures for preventing and mitigating losses

### Sourcing and food quality and safety for WFP operations

20. Through its supply chain function, WFP is committed to identifying ways of reducing food losses. Robust processes for sourcing food and ensuring its quality and safety, complemented by monitoring at all levels, are key to ensuring that post-delivery losses are minimized.
21. In 2017, building on previous food safety and quality management auditing activities, WFP worked to establish a baseline for the quality management systems of its suppliers, prioritizing high- and medium-risk food suppliers for emergency operations. During the year, the supply chain unit conducted 55 audits in ten countries, supporting four Level 3 emergency responses and using both internal and certified external food safety auditors. As well as helping WFP to reduce the risk of procuring non-compliant food and create a robust vendor base to support emergency response readiness, the audit exercise will also help strengthen partnerships with the United Nations Children's Fund, the United States Agency for International Development and *Médecins sans frontières*.
22. WFP invested in knowledge management and the training of field staff. The services of an external organization were contracted to train WFP staff from cross-functional areas involved in the handling of the food basket at "the last mile" of WFP's supply chain. The first pilot training of food safety and quality focal points was conducted in Nairobi for 28 staff members and took the form of inclusive, themed, practical sessions. Throughout 2018, the training will be introduced and enhanced in all six WFP regional bureaux. Training in food safety and quality management equips staff in the field with the skills and tools they need to better manage the foods in WFP's supply chain and reduce post-delivery losses.
23. WFP continued to work on the compliance testing of new products, with 27 spot checks performed in 12 countries on four products – lipid-based nutrition supplements, oil, Supercereal Plus and Supercereal – from 13 suppliers. Such checks reveal any deterioration in quality and/or nutritional value after food commodities have entered WFP's supply chain. The results have enabled WFP to work with suppliers on improving the stability of the products it purchases and distributes.

24. WFP also investigated ways of improving the packaging of vegetable oil and high-energy biscuits in order to extend the commodities' shelf-lives and reduce food losses. Evidence-based analyses and action plans were initiated with a view to improving cost-benefit evaluation and enhancing understanding of the impact of storage conditions. At the same time, WFP supported country offices and regional bureaux in better defining packaging specifications and storage practices and identifying local and regional packaging suppliers.
25. In 2017, the supplier of all the 1-mt jumbo bags used to deliver food procured in Turkey changed the bags' seals from plastic to metal, making the bags more resistant to tampering.
26. The company contracted to inspect food commodities being transported from Turkey, Saybolt Turkey, was instructed to use additional staff members to ensure that the counting and sealing of jumbo bags was supervised fully instead of through random checks. The additional cost that this entailed was accepted by WFP's logistics officer in the Syrian Arab Republic.
27. WFP's Food Procurement Service and food quality and safety unit have been collaborating on reducing losses of vegetable oil and the need for post-delivery reconstitution by improving suppliers' packaging. Based on analysis of average failure rates of packaging for commodities going through the port of Lomé in Togo, corrective action plans have been developed and will be shared with suppliers in 2018.

### **Tracking of food**

28. In 2017, the country office tool for managing effectively, COMET, and the logistics execution support system (LESS) were integrated further to help country offices track commodity movements, from the programme request for the amount of food to be delivered to a partner (the COMET food release note) through the logistics activities involved in carrying out the request (LESS) to commodity movements and distributions to beneficiaries by partners (COMET).
29. COMET was integrated with WFP's information technology-based reporting platforms, facilitating data flows and extractions that support operational needs, corporate planning (through country office management plans) and corporate reporting, including by allowing extractions of live data on post-delivery losses and partners' closing stocks at any time.
30. By facilitating the adoption of a standardized approach for programme cycle management in WFP, COMET improves transparency and accountability, including transparent and accountable monitoring and management of the resources handled by partners, and supports decision-making at all levels. To ensure accountability for data accuracy, country office programme and monitoring staff must verify partners' distribution reports against monitoring findings and information on deliveries. Country office COMET validators are at the forefront in responding to questions and are accountable for the quality of the data.

## Regional bureau initiatives for minimizing post-delivery losses

31. Regional bureaux supported country offices by carrying out oversight and compliance missions to ensure that food management and logistics practices were in line with WFP best practices.
32. The Regional Bureau in Cairo augmented its capacity through the establishment of a food quality unit. An experienced food quality officer was assigned to the regional unit to lead work in this area. Training in the management of food safety incidents for supply chain staff throughout the region was held in Cairo. Focusing on techniques for effectively avoiding or swiftly mitigating such incidents, the training is intended to reduce post-delivery losses.
33. In addition, the first updated training in surface transport contracting provided participating staff members from throughout the region with techniques and knowledge for effective transport contracting and management, which is key to reducing post-delivery losses related to inadequate transport.
34. The Regional Bureau in Cairo also commenced a comprehensive process of reviewing and expanding its lists of food suppliers and is working with country offices to ensure that the optimum terms are used in procurement contracts. Optimizing suppliers' performance and carefully selecting procurement terms can reduce delays and disruption when commodities are handed over to country offices, thereby minimizing losses.
35. The regional bureaux in Dakar, Johannesburg and Nairobi emphasized, and followed up with country offices on, real-time reporting using LESS to facilitate planning for the distribution of WFP commodities, thereby mitigating potential losses due to overlong storage. The bureaux also encouraged countries to prioritize commodities approaching their best-before dates when planning distributions, thus minimizing post-delivery losses.
36. The Regional Bureau in Dakar trained cooperating partners in food storage best practices and provided cooperating partners with pallets when needed. The bureau also conducted a gap analysis of the procurement processes in country offices in order to identify challenges and design solutions for providing more effective support. This work will minimize post-delivery losses in the future.
37. The Regional Bureau in Johannesburg supported all of the country offices in the region with warehouse management training, especially on the handling of nutritious commodities and the best warehouse practices for avoiding losses related to storage. The bureau employed a food technologist to train WFP staff, farmers, aggregators, suppliers and inspection

### Box 1: Example of support from a regional bureau

The Regional Bureau in Bangkok outlined an action plan for evaluating and monitoring food safety and quality risks in WFP's Bangladesh operation, with a view to prioritizing preventive and mitigation measures based on a risk profile for the Bangladesh emergency. To help implement the action plan, it is recommended that the food technologist, currently supporting food safety and quality in sourcing, increase his responsibilities and manage food safety and quality throughout the supply chain. An alternative approach would be to recruit another food technologist to focus on monitoring cooperating partners and retailers, with the objective of preventing and minimizing losses from food-based general distribution and cash-based transfer programmes. It is expected that the Nepal and other country offices in the region will develop and incorporate similar risk matrices into their emergency preparedness and response strategies. For local processing, Pakistan and Bangladesh have streamlined auditing schemes, based on global practices, to be used as a capacity strengthening tool for the local private sector, and also in monitoring supplier performance and thereby minimizing potential losses.



companies in food safety and quality matters, with a view to building trust and helping to mitigate post-delivery losses.

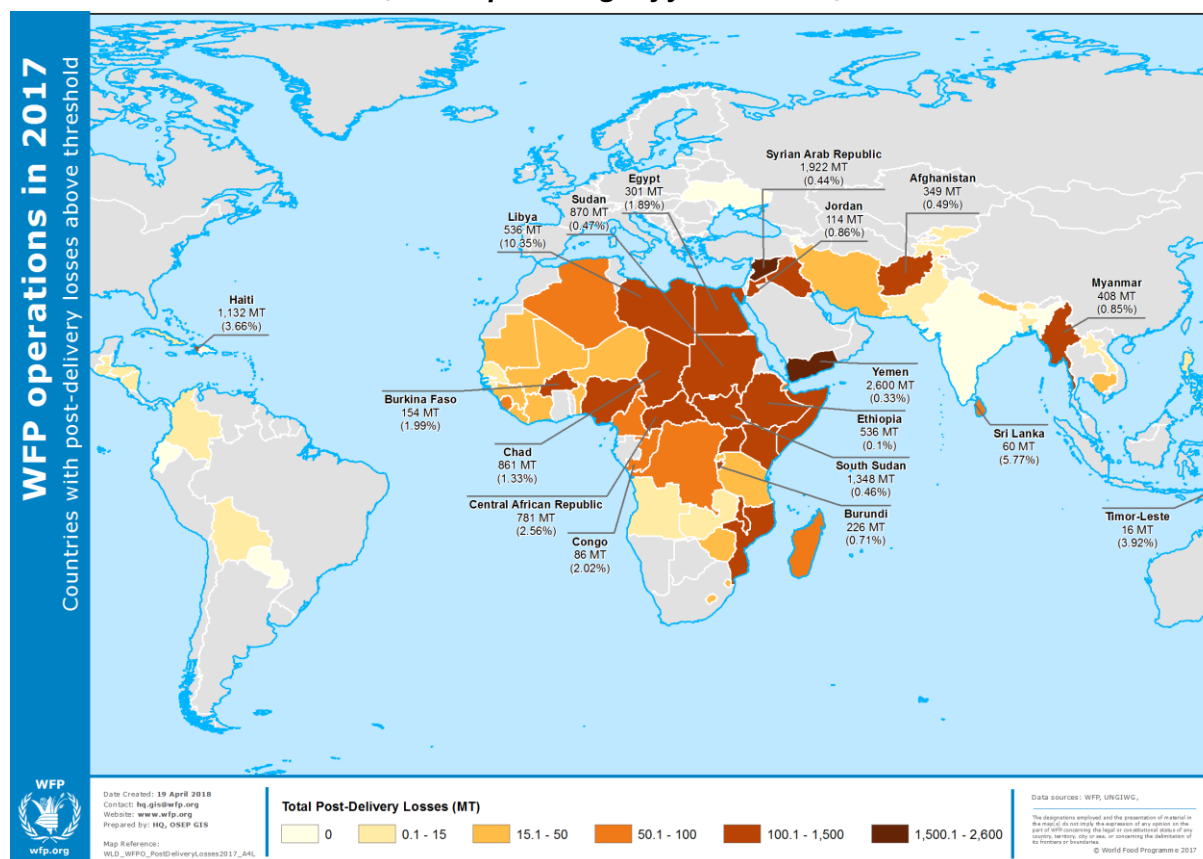
38. The regional bureau also conducted logistics capacity assessments to help country offices improve their planning of food deliveries by using suitable trucks and available routes to minimize food damage related to inadequate transport. The bureau emphasized the importance of inspecting trucks before loading at all WFP warehouses, to ensure that the trucks are clean and free from infestation, thereby helping to minimize food losses. The bureau increased WFP's presence and follow-up with clearing and forwarding agents and superintendents during de-stuffing operations at ports of discharge.
39. The Regional Bureau in Johannesburg also initiated upstream actions, including by introducing a system for verifying and ensuring that all the regional suppliers on WFP's shortlist are subject to a strict safety and quality validation process that complies with international or local legal and regulatory requirements, thus reducing the risk of post-delivery losses.

## ANNEX I

## Above-threshold losses, by country

1. This annex presents post-delivery losses that exceed WFP's thresholds for country-level post-delivery losses of single food types: valued at USD 20,000 or more and accounting for at least 2 percent of the tonnage handled; and valued at USD 100,000 or more. In 2017, such losses amounted to 9,079 mt from 23 projects in 18 countries (see figure A1).

**Figure A1: Operations in countries with above-threshold post-delivery losses  
(mt and percentage of food handled)**



## Afghanistan

2. Decades of conflict have put supply chain routes at risk of attack by the anti-government elements that are present in large areas of the country. Transport diversion and theft by anti-government elements during transportation from WFP warehouses to cooperating partners' warehouses resulted in above-threshold losses of 281 mt of wheat flour from a total of 30,818 mt handled. These losses comprised 174 mt of wheat flour for the Herat field office, 41 mt each for the Mazar and Kabul field offices and 25 mt for the Faizabad field office.
3. WFP has established an access team panel in each area office, with members from the supply chain, programme and security units. The objective of the panels is to review the safety of routes and advise the area office head of possible dispatches and alternative routes when the main routes are insecure.

4. The access teams' guidance to cooperating partners was key to conducting safe deliveries and reducing diversions. Enhancing communications with cooperating partners, community elders and government agencies and involving security teams in facilitating access to areas that are potentially at high risk are some of the planned actions for avoiding such losses in 2018.
5. Enhanced security measures were put in place, including coordination with provincial police who can provide route intelligence and respond quickly in the event of any interruption in the movement of the convoy. A standard operating procedure was developed in this regard as a tool to use during preparations for convoy assembly and dispatch towards final delivery points.
6. In accordance with the recommendation of the country office compliance committee, endorsed by the country director or officer in charge, for each of the post-delivery losses mentioned in previous paragraphs, full or partial cost recovery from transporters is being sought where appropriate, with exemptions granted in cases of *force majeure*.

### **Burkina Faso**

7. Mandatory testing for the quality control of imported food commodities indicated that levels of peroxides in 128 mt of vegetable oil were higher than those permitted under the Government's 2013 regulations. This constituted the only above-threshold post-delivery loss in Burkina Faso in 2017.
8. The oil was dispatched from the Global Commodity Management Facility (GCMF) warehouse in Lomé and received in WFP warehouses in Burkina Faso between October 2015 and March 2016. A second round of tests conducted by Eurofins Scientific in France on samples from the same batches confirmed the results of the tests conducted by Burkina Faso's national public health laboratory, and the oil was declared unfit for human consumption.
9. The country office has informed the procurement unit at headquarters and the GCMF about local regulations on the maximum levels of peroxide allowed in Burkina Faso. For future consignments of vegetable oil, the country office will systematically request phytosanitary certificates before any dispatch from port and, if necessary, will carry out additional laboratory analysis to ensure that the level of peroxide is within the range allowed in the country. It has been agreed with WFP's port operation officers that no oil should be dispatched to Burkina Faso without the assent of the country office.

### **Burundi**

10. In 2016, WFP procured large quantities of beans locally from traders and cooperatives. The consignments erroneously passed inspection by Baltic Control, the superintendent engaged by the country office. Within three months of arrival at WFP warehouses, however, the beans showed signs of rotting resulting from poor drying before bagging. WFP applied a reconstitution and drying process to the damaged lots, recovering most of the tonnage, although the 94 mt that was lost represented an above-threshold loss. WFP has stopped working with Baltic Control and engaged another inspection company (Intertek) via a regional long-term agreement for all testing and approval of food received by WFP in Burundi.
11. An above-threshold loss of 56 mt of maize meal resulting from infestation also occurred. The maize originated from a regional procurement of maize grain for the protracted relief and recovery operation. The grain was then milled and pre-positioned in refugee camps prior to distribution. After the planned distributions had been carried out, the remaining maize meal was stored at the camp in case it could be used to supplement future distributions, but was later returned to WFP warehouses. During analysis, the returned maize meal was found to be infested and to have deteriorated in quality. It was deemed unfit for human or animal

consumption and was consequently recommended for destruction. To mitigate such losses in future, WFP has improved storage practices in the camps, including by installing and repairing the warehouses of the cooperating partner. In addition, food returns from final delivery points are now discouraged, which means that only the quantities required for planned distributions are pre-positioned.

### **Central African Republic**

12. WFP incurred above-threshold post-delivery losses of 202 mt of maize meal, 402 mt of rice and 36 mt of beans in the Central African Republic in 2017. The main reasons for the losses were civil strife and inadequate transport. Food was diverted by armed groups and stolen by hungry local populations who were able to take advantage of the use of old trucks moving slowly on poor-quality roads, particularly during the rainy season.
13. WFP has taken various measures to mitigate such losses in future, including organizing mandatory military escorts for trucks travelling to insecure destinations. WFP will advocate at a high level with the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic for increased coordination between humanitarian and military entities and greater provision of security escorts for food convoys across the country. As the breakdown of a truck considerably increases the risks of theft and direct attack on a convoy, WFP has also enhanced the inspections that trucks undergo before loading to ensure that they are fit to join the convoy. Mandatory equipping of trucks with active (high-frequency radio) and passive (global positioning system) tracking systems, pre-positioning of food to minimize deliveries by road in the rainy season, increased storage space in field offices and at hotspots – locations with security concerns and high numbers of displaced people requiring food assistance – subject to security conditions, the presence of military personnel at each distribution site and continued development of cooperating partners' capacities are other measures being taken to mitigate such losses in future.

### **Chad**

14. In 2017, Chad incurred above-threshold losses of 17 mt of beans, 43 mt and 20 mt of Plumpy'Doz in two separate operations, 247 mt of sorghum and 184 mt of corn-soya blend. The main reasons for the losses were the poor quality of locally provided pulses, incorrect packaging by the manufacturer and inadequate monitoring of best-before dates.
15. The beans, which were part of a local contribution donated by the Ministry of Foreign Affairs in March 2015, became degraded and infested during the period when school canteens were closed. Laboratory testing confirmed that 17 mt were unfit for human consumption.
16. The loss of 43 mt of Plumpy'Doz registered in 2017 represented the cumulative tonnage of spoiled batches for protracted relief and recovery operation 200713 since 2014. The additional loss of 20 mt of Plumpy'Doz that was registered in 2017 reflected the loss of a batch received in mid-2014 for project 200727. The Plumpy'Doz was received in Chad in open packaging.
17. The loss of 247 mt of sorghum registered in 2017 was the result of a technical issue related to paying a local supplier at an increased rate during the period covered by a contract. With the help of the procurement and legal units at headquarters, it was decided to consider the tonnage as having been received at the original rate and to declare the deficit as a loss.
18. The 184 mt of corn-soya blend recorded as an above-threshold loss in 2017 was part of a GCMF shipment that arrived in the country just after its best-before date.
19. The country office informed the regional bureau and relevant units at headquarters of all significant losses. The use of LESS improved commodity monitoring. Various other measures were taken, such as including best-before dates in daily stock reports; global reporting on

the best-before dates of WFP's food stocks; analyses of stock rotations, with alerts to the relevant sub-office and the country office programme unit when rotation rates seem to be too low; visits to sub-offices to carry out inventories; regular analysis of gaps and surpluses in stocks; refresher training of logistics staff; and regular meetings of the supply chain working group.

20. All transport losses have been deducted from transporters' invoices. To avoid the high risk of unsafe food making its way back on to public markets, the country office destroys spoiled commodities rather than selling them for any purpose.

### **Congo**

21. Within the framework of regional Central African Republic emergency operation 200799, the country office made a regional purchase of 100 mt of beans in Douala. The beans arrived in the country at the end of August 2016, but immediate delivery was interrupted because of security-related issues along the railway line between Pointe Noire and Brazzaville.
22. On resumption of railway traffic in mid-December 2016, 50 mt of beans were dispatched to Brazzaville in a wagon. The destruction of three railway bridges due to security incidents in the Pool region, however, meant that the wagon did not reach Brazzaville and eventually returned to the warehouse at the port. The beans were found to be damaged by water infiltration in parts of the wagon, and some of the load was infested. After fumigation, reconditioning and rebagging to salvage the sound beans, 27.4 mt was found to be damaged and, following laboratory testing, was deemed unfit for human or animal consumption.
23. WFP took various measures to minimize such losses in future, including by using road transport from Pointe Noire to Brazzaville when security conditions in the Pool region allow. This also has the advantage of reducing lead times. Logistics staff are receiving enhanced training in LESS to improve their knowledge of the system and ensure that losses are correctly categorized. A logistics capacity assessment has been carried out with a view to identifying other possible delivery corridors in the country in order to maximize efficiency in delivery.

### **Egypt**

24. Complying with the decision of the Egyptian Prime Minister to suspend all school meal operations in response to the alleged poisoning of 3,600 schoolchildren by school meals in 11 governorates, WFP decided to halt its school meal programmes and communicated the decision to donors. The decision resulted in 286 mt of date bars remaining undelivered or not distributed and eventually ending up as above-threshold losses.
25. WFP immediately assembled an emergency task force to determine whether its date bars were connected to the alleged poisoning. It soon became clear that they were not, as none of the incidents in governorates where WFP operates coincided with distributions of WFP date bars and none of the products that were reported as alleged causes of the food poisoning, such as cheese and sesame bars, were distributed by WFP. The task force also analysed the possible impact on WFP operations and ways of minimizing losses. For various reasons, ranging from transportation-related issues to a very high reputational risk for WFP and its donors, the options considered were found to be unfeasible and the full quantity of unused date bars was donated to the Ministry of Agriculture for use as animal feed, with the involvement of a third party inspection company. All transactions were reconciled and recorded in a timely manner in the corporate system.

### **Ethiopia**

26. Post-delivery losses of 69 mt of sugar were linked to the poor condition of the sugar, which was reported when a total of 83 mt of heat-melted, agglomerated, non-free flowing sugar

arrived in Ethiopia via Djibouti port. After consultation with the national sugar corporation, the country office proceeded with drying and verifying the safety of part of the cargo in an attempt to mitigate the loss. This allowed 14 mt of sugar to be salvaged and distributed. Because the sugar corporation's mechanical drying facilities were not available for completing the reconditioning of the WFP cargo, and the solar drying method proved inadequate for rendering the product acceptable – the sugar returned to its caked stage after rebagging during trials – the remaining 69 mt could not be salvaged. The health authorities characterized the cargo as unfit human or animal consumption and it was destroyed.

27. WFP also incurred a 42 mt loss of internationally procured high-energy biscuits resulting from inadequate shelf-life for WFP's specifications. Consumers in refugee camps complained and rejected the biscuits because of their taste and odour, even though they still had eight to ten months of shelf-life according to their packaging. Investigations by WFP's food quality team revealed that other country offices had faced similar problems. The defective biscuits were sold as animal feed to mitigate financial losses. To prevent similar cases in future, WFP has modified its product specifications in line with the high-energy biscuits' actual shelf-life, which was determined by an independent stability study to be 12 months instead of the previously printed 24 months. To reduce product delivery and storage lead times, the country office is planning local procurement of biscuits for use in future operations for refugees.

## Haiti

28. In 2017, above-threshold post-delivery losses of beans, maize meal, rice, bulgur wheat, corn-soya blend, high-energy biscuits, Plumpy'Sup and vegetable oil amounted to 1,009 mt. A significant portion of the losses registered in 2017 was the result of the disposal in the last quarter of 2017 of 540 mt of various stocks that had been declared spoiled in 2014, 2015 and 2016.
29. The spoiled stocks could not be disposed of in 2015 and 2016 because of a combination of factors related to the sensitive political situation and the emergency response to Hurricane Matthew. During the presidential electoral cycle, which started in 2015 and ended in January 2017 after several postponements, there was a risk that the disposal of large quantities of food could be politicized and attract adverse media coverage. The emergency response to Hurricane Matthew – the main focus of WFP's operations in Haiti at the time – also delayed disposal. The disposal of large stocks of food immediately after a shock, when many people in much of the country were acutely food-insecure, was not feasible. Care was taken to ensure that the spoiled commodities were not stored in contact with other commodities, so there was no risk of contamination.
30. Of the 540 mt spoiled in 2015 and 2016, 113 mt was high-energy biscuits that had a manufacturing defect and became rancid before attaining their specified shelf-life of 24 months. This issue also arose in other countries, prompting WFP to reduce the specified shelf-life of high-energy biscuits from 24 to 12 months. In addition, 267 mt of beans in a consignment from Ethiopia, which was received in Haiti in early 2014, also showed quality issues and were wet and foul-smelling. Testing by the United Kingdom's Natural Resources Institute indicated that the beans could not be recovered or reconstituted.
31. Factors that account for the high level of losses during the reporting year include looting during transport along delivery corridors for the emergency response to Hurricane Matthew and short landings of commodities at the port, which may indicate theft although the container seals were intact – the Haitian national police and WFP's Office of Inspections and Investigations are investigating the case. Heavy rains in the month following Hurricane Matthew, coupled with the lack of a warehouse in Jérémie, resulted in some of the food having to remain in trucks and being damaged. In addition, during the emergency

response, stocks transported by the WFP-chartered landing craft Princess Sam Asia were damaged by sea water or rain.

32. During the Hurricane Matthew emergency response, to curb the level of losses due to looting during transport, WFP worked with the United Nations Stabilization Mission in Haiti and the Haitian national police, which provided escorts to WFP or cooperating partner trucks carrying food. WFP also included a "security premium" in transport contracts to enable transporters to make adequate security arrangements, and installed global positioning system capabilities in its fleet of trucks to enable tracking. Deliveries and distributions of assistance to communities located along delivery corridors reduced the risk of tension and resentment building up in such communities and resulting in them hampering transport operations. Distribution by sea using a landing craft, or by air with United States military helicopters, reduced the quantities of food moved by road in Grande'Anse and South departments, thereby reducing the risk of theft. The commodity insurance freight value of the commodities lost to theft during transport was recovered from transporters' invoices.
33. As well as working with the police to identify the perpetrators of food diversions, WFP also created a blacklist of transport companies involved in diversions. A thorough assessment of the transport market carried out between April and June 2017 provided the country office with a new shortlist of professional transport companies with proper security arrangements.
34. In collaboration with the risk mitigation unit and the regional bureau, the country office carried out training in warehouse management and LESS for WFP and cooperating partner staff and reviewed port operations with a view to designing supply chain systems that mitigate the risk of losses due to short landed food in containers and allow the identification of liable parties.

## **Jordan**

35. In 2017, 35 mt of dates – part of an in-kind donation of 800 mt from Saudi Arabia – 12 mt of Halawa and 25 mt of sugar were lost because of infestation resulting from prolonged storage and failure to meet the specifications of the Jordanian Food and Drug Administration. The commodities were stored at the Al Karamah warehouse for distribution to Syrian beneficiaries stranded at the northeastern border between Jordan and the Syrian Arab Republic. Because of security concerns, the Jordanian armed forces suspended the food aid operation in August 2016. A few months later, the armed forces informed WFP that the operation would resume later and under new conditions, and that WFP would no longer be allowed to carry out distributions. The prolonged storage resulted in infestation, with the commodities being deemed unfit for human consumption.
36. A policy of keeping only minimum stocks in warehouses, increased inspection and sampling of commodities and regular rodent control visits to warehouses have all been introduced in order to ensure that infestation is detected early and losses are mitigated. WFP has also increased controls on transport from Saudi Arabia to Amman by asking the transporter to provide temperature-controlled trucks with two temperature loggers to ensure the required temperature for transporting dates. Increased testing of commodities prior to dispatch to Jordan, hiring of a food technologist, enhanced coordination with the programme team and stronger controls on food inspection companies, along with a new quality and quantity inspection contract with a reputable company, will all mitigate future post-delivery losses.

## **Libya**

37. In 2017, the Libya country office incurred above-threshold losses of 151 mt of chickpeas, 354 mt of rations and 31 mt of vegetable oil.

38. The chickpeas were already infested when they arrived in Libya at the warehouse of the cooperating partner (Kafaa Development Foundation) and had to be destroyed under the supervision of local authorities (the Food and Drug Control Center) and the transporter contracted for transport in the eastern corridor (Wadi El Henewa). Stipulating that the chickpeas supplied to WFP must have a sufficiently long shelf-life, obtaining more accurate reports from superintendents and taking proactive measures to ensure that food is not held for long periods by customs authorities at borders are some of the actions being taken to mitigate such losses in the future.
39. Under pressure from internally displaced persons, a cooperating partner, the Libyan Humanitarian Relief Agency, distributed 300 mt of rations and 28 mt of vegetable oil without WFP's authorization. As the distribution was not included in the distribution plan agreed by WFP, the country office, in consultation with the regional bureau and the Legal Office at headquarters, decided to post these quantities as food losses. The country office also decided to stop working with the partner.

### Myanmar

40. In 2017, the country office in Myanmar incurred above-threshold losses of 100.5 mt of high-energy biscuits. WFP's total losses in the country amounted to 408 mt – 82 percent of which occurred while the food was with cooperating partners and 18 percent with WFP. The main reason for the losses was the crisis and civil strife that affected Rakhine State in mid-2017.
41. On 25 August 2017, armed groups attacked government security posts in Maungdaw and Buthidaung. This led to major outbreaks of violence in northern Rakhine State and an extremely volatile security situation, with local authorities often losing control of certain areas. As a result, 671,000 Rohingya people, more than half the population of northern Rakhine State, left for Bangladesh.
42. Cooperating partner warehouses in northern Rakhine State are supplied monthly by WFP in order to avoid having large quantities of food in an area where the security situation is volatile. Following the events in late August, however, two cooperating partners (*Action for Green Earth* and *Action Contre la Faim*) and one government counterpart (the Ministry for Education) had no access to their warehouses for several months. WFP's continuous advocacy with the Government for regaining access to operational areas was unsuccessful until November 2017, by which time some warehouses had been looted or burned and none of the food they contained could be recovered. In total, 303 mt of mixed commodities valued at USD 207,000 was lost from partners' warehouses in the Maungdaw area because of civil strife.
43. To reduce the risk of such losses in the future, WFP is refining its "just-in-time" strategy for supplying food to northern Rakhine State, making sure that a minimum quantity of food is available at all times in areas at risk of civil strife. This work includes exploring new supply routes, such as transporting food by sea from Yangon directly to Maungdaw. WFP has also strengthened its collaboration with the local government, which is kept informed of all food deliveries and is investigating the options for replacing distributions of in-kind food with cash-based transfers where markets are functioning and accessible, while paying careful attention to the protection of affected communities.

### South Sudan

44. The operational context in South Sudan is extremely challenging. Conflict, theft related to civil unrest, and access difficulties, especially in the rainy season, are among the factors that contribute to the challenges faced by WFP in the country.



45. In 2017, WFP incurred above-threshold losses amounting to 501 mt of sorghum, 211 mt of Supercereal Plus, 100 mt of vegetable oil and 37 mt of high-energy biscuits.
46. Most of the sorghum loss resulted from looting related to civil unrest: 229 mt was stolen while in WFP custody at Amook, Kapoeta and Bentiu, and part of the remaining 272 mt was stolen while in cooperating partners' custody in Lunyaker. In Mathiang, the lost sorghum was initially (in July 2017) reported as stolen, but when WFP returned to the area six months later, the cargo was spotted on the ground, although it was later found to have been burnt by fires in the surrounding vegetation. Short deliveries and losses related to handling contributed a very small portion of the above-threshold losses of sorghum. WFP's loss mitigation strategy included a convoy management system that included deploying convoy leaders on high-risk routes and obtaining commitment letters from local authorities guaranteeing that they would safeguard WFP warehouses and food.
47. The above-threshold losses of Supercereal Plus and part of the vegetable oil losses resulted from looting during the civil unrest. Looting occurred between Juba and Terekeka in South Sudan, on Uganda-bound trucks on their way to Aweil. The losses were captured in the system after obtaining supporting police reports. As a loss mitigation strategy, the country office took measures that included setting up a convoy management system and obtaining commitment letters from local government officials at all levels – from the Boma and Payam to the commissioner and governor. The value of the vegetable oil lost because of short delivery was deducted from the transporter's invoices.
48. The losses of high-energy biscuits resulted from spoilage during storage – before the printed expiry date – due to adverse weather conditions. The biscuits were confirmed unfit for human or animal consumption and were disposed of by the Juba and Malakal sub-offices after obtaining approval from the country director and the insurance unit at headquarters. To avoid such losses in the future, it was agreed that prolonged storage of such sensitive commodities should be avoided, regardless of their expiry dates. Regular tests to monitor conditions, and the loan of unused commodities to operations in other countries through commodity exchanges (instead of keeping commodities until they expire) should be considered as part of a loss mitigation strategy. The regional bureau advised suppliers to shorten the shelf-life printed on packaging and to utilize stocks one year prior to their expiry dates. Other country offices, including Ethiopia, reported similar problems with high-energy biscuits and their specified shelf-life.

### **Sri Lanka**

49. As part of its responsibilities and contribution to WFP's programmes in Sri Lanka, the Government manages all food storage, handling, transport and delivery at all levels. In March 2016, the Government donated 3,014 mt of rice with an expiry date of 31 March 2017 for the school meals programme. Although most of this rice had been distributed and utilized by the end of March 2017, 58 mt was lost because of a combination of expiration, infestation and reconstitution.
50. WFP provided training in warehouse management and food storage and handling to the staff of government warehouses and the people responsible for food management at the school level. WFP will continue to strengthen the capacity of government cooperating partners to ensure minimal losses in future through further training and increased emphasis on internal control mechanisms and commodity quality checks.

### **The Sudan**

51. In 2015, 516 mt of Supercereal valued at USD 318,372 was rejected by the authorities as not conforming to the country's food quality standards. The cargo was purchased from the supplier *Mersin Un Sanayi ve Ticaret Anonim Şirketi* and arrived in the country in January 2015. Although the cargo was cleared by Bureau Veritas, an internationally accredited inspection

company – which is also accredited by the Sudan Government – it was rejected because of the Sudan's zero tolerance for genetically modified products and ordered to be re-exported in April 2015. The country office contacted neighbouring countries – Kenya, Somalia, South Sudan and Uganda – to explore the option of providing the commodities as a loan, but did not meet with success because of the short shelf-life specified on the incorrectly marked bags and in documentation provided by the supplier. Attempts to find internal salvage buyers were also unsuccessful. Eventually, headquarters authorized the country office to destroy the commodity.

52. To forestall the recurrence of such incidents in future, the country office engaged with the local authorities to set up procedures for WFP to notify the Sudan's National Biosafety Council of international purchases and provide adequate documentation, including certification issued or endorsed by the national biosafety authorities in the country of origin confirming that any commodities entering the Sudan do not contain genetically modified organisms. In addition, the procurement unit at headquarters suspended the supplier for poor performance.

### **Syrian Arab Republic**

53. The conflict-related crisis in the Syrian Arab Republic makes WFP's operating conditions very difficult. In 2017, WFP incurred above-threshold losses of 294 mt of rice, 699 mt of date bars, 113 mt of lentils and 328 mt of rations.
54. Of the date bars, 694 mt were declared unfit for human consumption and recalled from distribution centres in 2017. Headquarters was consulted and gave permission for the commodities to be destroyed. As a mitigation measure to avoid such losses in future, WFP terminated the contract with the supplier, Bisco Miser.
55. The above-threshold losses of rice were mainly due to transportation issues, losses during the reconstitution process and problems resulting from the deterioration of commodities at origin.
56. Of the above-threshold losses of rations, 150 mt were due to the hijacking of an inter-agency convoy in the Homs governorate and 45 mt to mortar bombardment of the warehouses (temporary storage structures) of the cooperating partner, Aga Khan Hama. Another 76 mt were lost because of overlong storage at the warehouse of a cooperating partner, Aurantis. The field-level agreement with Aurantis was terminated to avoid the risk of losses related to overlong storage in future, and the remaining, useable stock in the warehouse was transferred to Afak, another cooperating partner.
57. The above-threshold losses of 113 mt of lentils resulted from a combination of handling, sampling, transportation and storage issues and problems at origin and during the reconstitution process.
58. Transportation is a core element of WFP's supply chain in the Syrian operation. Overall, transport-related losses of commodities in 2017 amounted to 505 mt. WFP recovered USD 181,760 from contracted transporters for losses that were not the result of *force majeure*.
59. Losses that occurred while commodities were in the custody of cooperating partners amounted to 204 mt. WFP recovered USD 25,490 from the cooperating partners for losses not attributable to *force majeure*, such as mortar bombardment-related damage.
60. During receipt of any food commodity at Syrian ports, the customs authorities follow their regular sampling procedure by withdrawing a certain quantity of the commodity for testing. When required, commodity samples are also withdrawn at WFP-managed warehouses for inspection and testing to ensure that the commodities conform to standards and

regulations. In 2017, 78 mt of commodities were reported as losses due to sampling withdrawals at WFP-managed warehouses and Syrian ports.

61. Losses due to poor transport conditions and handling by the transporter were minimized by instructing transporters to carefully and regularly check the condition of their trucks, which were subject to further inspection by WFP staff prior to loading at warehouses. Additional mitigation measures, such as loading inspections, cargo loading controls, the use of tarpaulins and attention to axle loads, were reinforced at loading points.

### **Timor-Leste**

62. WFP incurred 12.8 mt of above-threshold losses of Plumpy'Sup in 2017. Almost all of these losses consisted of 10.9 mt of stocks stored at the Dili/Colmera warehouse and 1.7 mt stored at the Oe-Cusse warehouse. Late arrival in the country and a short shelf-life contributed to the expiry. Proposed measures for using the stocks in a blanket feeding programme in Oe-Cusse municipality or reallocating them – prior to their expiry – to the emergency response to El Niño in the east of the country did not gain the necessary approval from the Ministry of Health in time.
63. The stocks from the Dili/Colmera warehouse were disposed of by burying, with the permission of the Ministry of Health, the police and the Ministry of Environment. The stocks from the Oe-Cusse warehouse were sold as animal feed in the municipality.
64. WFP provided officials of the Ministry of Health's nutrition department at the central and municipal levels with training in food handling and storage and in minimizing warehouse discrepancies. WFP also hired a food technologist to ensure that locally produced Supercereal met quality and safety standards and to streamline food programming in order to ensure better quantification of needs, optimization of lead times for arrivals and longer shelf-life for Plumpy'Sup.

### **Yemen**

65. The large amounts of food – 787,224 mt – handled in extremely difficult conditions caused by the ongoing conflict in Yemen help explain the high above-threshold losses of 2,347 mt of food in 2017. These losses comprised 696 mt of vegetable oil, 1,347 mt of wheat flour and 304 mt of canned fish.
66. In late 2016, WFP operations in Yemen received two consignments of vegetable oil totalling 1,746 mt, which were transhipped through Berbera port. Based on tests conducted by the Yemen Standardization, Metrology and Quality Control Organization, the entire amount was initially rejected because of unacceptably high peroxide levels. As the two consignments had various expiry dates, however, the country office requested confirmatory testing of samples taken from batches with different expiry dates. The reason for this request was that the samples taken earlier were not representative of the whole quantity and did not reflect the different expiry dates. Based on the confirmatory tests, 681 mt of oil was rejected and, following consultation with headquarters, sold to a buyer for USD 99,000. The remaining 15 mt of the loss was rejected because of a combination of “system rounding” (arising from the conversion of the quantities of oil contained in small tins into metric tons), recording oversight by the superintendent, short landing and transport losses, with costs recovered from service providers' invoices.
67. Of the 1,347 mt of wheat flour lost, 965 mt was rejected because of infestation and a high percentage of bran; USD 391,302 was deducted from suppliers' invoices.
68. Another 269 mt of wheat flour was lost to pilferage or theft. In November 2017, the cooperating partner reported that armed men had taken 269 mt of wheat flour from its final delivery point in Qataba (Ad-Dhale Governorate), and provided documents detailing the incident. The WFP Aden office contacted local authorities and notified the Ministry of

Planning and International Cooperation of the incident. Food dispatches to this location were suspended for two months until the culprits were apprehended by local authorities and the matter was sent to court. The lost food was not recovered. The cooperating partner was not found negligent, however, as the incident occurred at night and security guards were overpowered by the armed men. Distributions to beneficiaries in the area resumed after security assurances were received from the deputy governor.

69. Another 10 mt loss of wheat flour, which was incorrectly recorded as resulting from poor handling, was the result of looting from the cooperating partner's warehouse in Harad (Hajjah Governorate) in August 2017. WFP staff in Hodeida were at the location undertaking a monitoring mission when this incident occurred and the country office conducted a detailed review and documented it. Again, there was no negligence on the part of the cooperating partner, and therefore no payments were deducted from its invoices. Distributions to beneficiaries in the area resumed only after security assurances were obtained from the governor's office and local authorities.
70. The 304 mt of canned fish that was lost was part of a humanitarian shipment of food and non-food items donated by the Iranian Red Crescent Society for WFP to deliver to the Yemen Red Crescent Society. As the transport vessel could not obtain clearance to berth at Hodeida port, WFP received the shipment in Djibouti for delivery to Yemen on its chartered vessels.
71. WFP brought the cargo to Yemen and assisted the Yemen Red Crescent Society in distributing the food items. The shipment of canned fish, however, did not comply with the standards of the Yemen Standardization, Metrology and Quality Control Organization, leaving WFP with no choice but to re-export the entire shipment or dispose of it. This loss was therefore beyond WFP's control.
72. Noting that most of the food that was rejected or subject to quality issues was received through the GCMF hub in Berbera, the country office informed the GCMF and headquarters with a view to fostering proper handling and storage in Berbera. The country office is currently working on building the capacity of the Yemen Standardization, Metrology and Quality Control Organization by providing upgraded equipment for laboratory analysis and related training.

**ANNEX II****Post-delivery losses from verification of previous reports****2015 report*****Eritrea***

1. Of the food delivered by WFP to the Government of Eritrea in 2005, 64,538 mt with an estimated 2005 value of USD 31 million remains unaccounted for. WFP reports this food as advance stock but has not received distribution reports from the Government and is hence unable to determine whether the food has been distributed to the intended beneficiaries. WFP intends to recover the value of any food not utilized in accordance with Eritrea's contractual obligations, and will continue to seek a solution to this issue.

**2016 losses under verification*****Syrian Arab Republic***

2. Non-reconciled inventory differences totalling 2,653 mt of various commodities in the Homs warehouse were investigated because they were eliminated from the system as a result of a data entry error in LESS in 2016. The error is explained below under "2017 losses under verification".

**2017 losses under verification*****Syrian Arab Republic***

3. Along with the inventory differences of 2,653 mt of various commodities in 2016 (see above), another 1,231 mt of non-reconciled inventory differences of commodities in the Homs warehouse in 2017 were also investigated because they too had been eliminated from the system because of a data entry in LESS.
4. The findings of the investigation indicated that in both years a combination of lack of knowledge, lack of staff and improper data entry were the main contributory factors behind the error, which was primarily a failure to ensure that stock movements were correctly entered in the corporate reporting system.
5. After consulting the regional bureau and headquarters, the country office prepared a note for the record in May 2017 for review by the commodity accounting team at headquarters. The ongoing review is also examining ways of better reflecting commodity movements in LESS. To prevent such data entry errors in future, the country office provided refresher training in LESS for all logistics assistants and storekeepers in all locations in the country, issued guidelines on loss posting to all users of LESS in the country office and introduced loss monitoring.

## ANNEX III

| <b>2017 POST-DELIVERY LOSS REPORT</b>                                       |                    |                          |
|---|--------------------|--------------------------|
| <b>Reason for Loss</b>  | <b>Value (USD)</b> | <b>% of total losses</b> |
| Attack by termites  | 36 927             | 0.29                     |
| Broken during loading   | 34 305             | 0.27                     |
| Deterioration of food commodities mainly attributable to problems at origin | 3 645 409          | 28.39                    |
| Deterioration of packaging materials  | 161 953            | 1.26                     |
| Flooding and other natural disasters  | 23 976             | 0.19                     |
| Improper/overlong storage   | 3 026 499          | 23.57                    |
| Inadequate transport  | 1 853 991          | 14.44                    |
| Infestation   | 125 858            | 0.98                     |
| Loss due to fire  | 46 248             | 0.36                     |
| Loss due to overscooping  | 38 207             | 0.30                     |
| Loss due to sampling food analysis  | 68 003             | 0.53                     |
| Loss during civil strife  | 408 867            | 3.18                     |
| Pilferage/theft   | 1 135 129          | 8.84                     |
| Poor handling   | 452 649            | 3.52                     |
| Processing/transformation of commodity                                      | 57 284             | 0.45                     |
| Reconstitution/rebagging/repacking  | 1 330 932          | 10.36                    |
| Short-delivered   | 10 743             | 0.08                     |
| Unauthorized distribution   | 347 129            | 2.70                     |
| Variance in weight  | 5 816              | 0.05                     |
| Wet bags  | 3 447              | 0.03                     |
| Wet by gasoil   | 9 856              | 0.08                     |
| Wet by oil  | 1 640              | 0.01                     |
| Wet by water  | 16 634             | 0.13                     |
| <b>Grand total</b>  | <b>12 841 501</b>  |                          |

## ANNEX IV

| 2017 QUANTITIES AND VALUES OF LOSSES BY REGION |                    |                    |                               |                      |                   |                      |                      |                   |
|--|--------------------|--------------------|-------------------------------|----------------------|-------------------|----------------------|----------------------|-------------------|
| Region   | 2017 opening stock |                    | Received in recipient country |                      | Total handled*    |                      | Post-delivery losses |                   |
|  | Quantity net (mt)  | Value (USD)        | Quantity net (mt)             | Value (USD)          | Quantity net (mt) | Value (USD)          | Quantity net (mt)    | Value (USD)       |
| <b>RBB</b>                                     | 47 830             | 29 383 539         | 231 885                       | 135 094 552          | 279 780           | 164 478 091          | 915                  | 594 672           |
| <b>RBC</b>                                     | 141 232            | 101 051 038        | 1 551 856                     | 708 717 053          | 1 693 088         | 809 768 091          | 6 591                | 7 144 648         |
| <b>RBD</b>                                     | 65 599             | 51 301 478         | 470 917                       | 335 907 287          | 536 516           | 387 208 765          | 2 351                | 1 790 344         |
| <b>RBJ</b>                                     | 101 793            | 59 027 552         | 451 472                       | 237 599 831          | 553 265           | 296 627 383          | 946                  | 533 047           |
| <b>RBN</b>                                     | 183 288            | 103 947 677        | 1 145 854                     | 647 511 550          | 1 329 142         | 751 459 227          | 2 789                | 1 934 012         |
| <b>RBP</b>                                     | 24 119             | 18 388 366         | 41 733                        | 30 407 190           | 65 852            | 48 795 556           | 1 141                | 844 777           |
| <b>Grand total</b>                             | <b>563 861</b>     | <b>363 099 650</b> | <b>3 893 717</b>              | <b>2 095 237 464</b> | <b>4 457 644</b>  | <b>2 458 337 114</b> | <b>14 733</b>        | <b>12 841 501</b> |
| Percentage of total handled                    |                    |                    |                               |                      |                   |                      | 0.33                 | 0.52              |

\* Opening stocks in the recipient country plus commodities received in the recipient country.

RBB Bangkok Regional Bureau (Asia and the Pacific)

RBC Cairo Regional Bureau (Middle East, North Africa, Eastern Europe and Central Asia)

RBD Dakar Regional Bureau (West Africa)

RBJ Johannesburg Regional Bureau (Southern Africa)

RBN Nairobi Regional Bureau (East and Central Africa)

RBP Panama Regional Bureau (Latin America and the Caribbean)

## ANNEX V

| LOSSES BY COMMODITY |                                 |                      |                            |                                      |
|---------------------|---------------------------------|----------------------|----------------------------|--------------------------------------|
| Commodity code      | Commodity                       | Total handled* (USD) | Post-delivery losses (USD) | Losses in USD as % of total handled* |
| BEVJUI              | Juice                           | 57 602               | -                          | 0.00                                 |
| BEVMNW              | Mineral water                   | 5 452                | -                          | 0.00                                 |
| CERBAR              | Barley                          | 1 155 039            | 2 392                      | 0.21                                 |
| CERBHW              | Buckwheat                       | 111 234              | -                          | 0.00                                 |
| CERBRE              | Bread                           | 3 871 374            | -                          | 0.00                                 |
| CERCSF              | Corn sorghum flour              | 2                    | 2                          | 100.00                               |
| CERMAZ              | Maize                           | 183 591 741          | 229 834                    | 0.13                                 |
| CERMMF              | Soya-fortified maize meal       | 268                  | 268                        | 100.00                               |
| CERMML              | Maize meal                      | 65 321 533           | 263 572                    | 0.40                                 |
| CERPAS              | Pasta                           | 555 072              | 1 629                      | 0.29                                 |
| CERRIC              | Rice                            | 190 495 400          | 789 689                    | 0.41                                 |
| CERSOR              | Sorghum/millet                  | 314 364 566          | 745 879                    | 0.24                                 |
| CERWBG              | Bulgur wheat                    | 27 333 556           | 92 596                     | 0.34                                 |
| CERWHE              | Wheat                           | 193 653 616          | 39 891                     | 0.02                                 |
| CERWHF              | Wheat flour                     | 121 732 179          | 738 552                    | 0.61                                 |
| DAICHE              | Cheese                          | 12 555               | -                          | 0.00                                 |
| DAIDSP              | Plain dried skimmed milk        | 9 200 334            | 12 475                     | 0.14                                 |
| DAIDWM              | Dried whole milk                | 264 117              | 4                          | 0.00                                 |
| DAIUHT              | UHT milk                        | 3 376 133            | 7 897                      | 0.23                                 |
| FRUDFR              | Dried fruits                    | 6 892 901            | 56 888                     | 0.83                                 |
| FSHCFI              | Canned fish                     | 12 481 789           | 1 637 658                  | 13.12                                |
| MEACHK              | Canned chicken                  | 1 456 424            | -                          | 0.00                                 |
| MEAMEA              | Canned meat                     | 770 111              | 26                         | 0.00                                 |
| MIXBIS              | Biscuits                        | 920 210              | -                          | 0.00                                 |
| MIXCSB              | Corn-soya blend                 | 303 095 717          | 1 269 085                  | 0.42                                 |
| MIXCSM              | Corn-soya milk                  | 45 846               | -                          | 0.00                                 |
| MIXHEB              | High-energy biscuits            | 22 567 168           | 2 046 131                  | 9.07                                 |
| MIXLNS              | Lipid-based nutrient supplement | 12 178 374           | 528                        | 0.00                                 |
| MIXRSF              | Ready-to-use supplementary food | 168 035 600          | 537 199                    | 0.32                                 |
| MIXRTF              | Ready-to-use therapeutic food   | 3 804 505            | 641                        | 0.02                                 |
| MIXWSB              | Wheat-soya blend                | 23 528 462           | 167 366                    | 0.71                                 |
| MSCCRA              | Crackers                        | 9 772                | -                          | 0.00                                 |



| <b>LOSSES BY COMMODITY</b> |                       |                                 |                                       |   |
|----------------------------|-----------------------|---------------------------------|---------------------------------------|---|
| <b>Commodity code</b>      | <b>Commodity</b>      | <b>Total handled*<br/>(USD)</b> | <b>Post-delivery losses<br/>(USD)</b> | <b>Losses in USD as<br/>% of total handled*</b> |
| MSCHAL                     | Halawa                | 57 063                          | 44 538                                | 78.05   |
| MSCMNP                     | Micronutrient powder  | 2 004 146                       | 15 038                                | 0.75  |
| MSCMNT                     | Micronutrient tablets | 278 659                         | 80                                    | 0.03  |
| MSCNUT                     | Nuts                  | 144 987                         | 1 125                                 | 0.78  |
| MSCSAL                     | Iodized salt          | 4 698 896                       | 17 157                                | 0.37  |
| MSCSUG                     | Sugar                 | 32 490 900                      | 116 749                               | 0.36  |
| MSCTOM                     | Processed tomato      | 12 532                          | -                                     | 0.00  |
| MSCYEA                     | Yeast                 | 677 853                         | 1 148                                 | 0.17  |
| OIOLV                      | Olive oil             | 154 069                         | 10                                    | 0.01  |
| OILVEG                     | Vegetable oil         | 300 993 236                     | 1 583 854                             | 0.53  |
| PPFRTN                     | Rations               | 53 057 926                      | 686 356                               | 1.29  |
| PULBEA                     | Beans                 | 108 667 084                     | 598 867                               | 0.55  |
| PULCKP                     | Chickpeas             | 23 796 261                      | 581 895                               | 2.45  |
| PULCPU                     | Canned pulses         | 1 054 323                       | 18                                    | 0.00  |
| PULCVE                     | Canned vegetables     | 112 257                         | -                                     | 0.00  |
| PULLEN                     | Lentils               | 69 803 078                      | 179 065                               | 0.26  |
| PULPEA                     | Peas                  | 53 881 466                      | 85 290                                | 0.16  |
| PULSLN                     | Split lentils         | 6 678 104                       | 5 785                                 | 0.09  |
| PULSPE                     | Split peas            | 128 736 909                     | 284 291                               | 0.22  |
| PULTSP                     | Textured soy protein  | 143 039                         | 36                                    | 0.03  |
| TUBCAF                     | Cassava flour         | 5 674                           | -                                     | 0.00  |
| <b>Total</b>               |                       | <b>2 458 337 114</b>            | <b>12 841 501</b>                     | <b>0.52</b>                                     |

\* Total handled = opening stocks plus food received in the recipient country.

## ANNEX VI

| QUANTITIES AND VALUES BY RECIPIENT COUNTRY |                                       |                  |                    |                      |                |                                      |
|--|---------------------------------------|------------------|--------------------|----------------------|----------------|--------------------------------------|
| Region                                     | Recipient country                     | Total handled*   |                    | Post-delivery losses |                | Losses in USD as % of total handled* |
|  |                                       | Net (mt)         | (USD)              | Net (mt)             | (USD)          |                                      |
| <b>RBB</b>                                 | Afghanistan                           | 71 986.8         | 39 741 112         | 349.2                | 139 755        | 0.35                                 |
|  | Bangladesh                            | 32 217.9         | 17 780 400         | 7.0                  | 4 787          | 0.03                                 |
|  | Bhutan                                | 1 202.2          | 509 208            | 7.3                  | 2 982          | 0.59                                 |
|  | Cambodia                              | 9 181.5          | 6 815 544          | 27.5                 | 13 674         | 0.20                                 |
|  | Democratic People's Republic of Korea | 18 987.2         | 12 154 513         | 0.0                  | 14             | 0.00                                 |
|  | India                                 | 30.0             | 76 250             | -                    | 0              | 0.00                                 |
|  | Lao People's Democratic Republic      | 7 617.9          | 8 019 590          | 5.2                  | 3 497          | 0.04                                 |
|  | Myanmar                               | 47 769.0         | 21 903 818         | 408.4                | 256 310        | 1.17                                 |
|  | Nepal                                 | 11 171.3         | 7 955 897          | 29.0                 | 105 299        | 1.32                                 |
|  | Pakistan                              | 73 643.2         | 43 657 179         | 5.8                  | 2 998          | 0.01                                 |
|  | Philippines                           | 4 538.4          | 3 154 227          | 0.1                  | 63             | 0.00                                 |
|  | Sri Lanka                             | 1 037.5          | 2 052 969          | 59.8                 | 26 458         | 1.29                                 |
|  | Timor-Leste                           | 397.3            | 657 384            | 15.6                 | 38 834         | 5.91                                 |
| <b>RBB total</b>                           |                                       | <b>279 780.3</b> | <b>164 478 091</b> | <b>914.8</b>         | <b>594 672</b> | <b>0.36</b>                          |
| <b>RBC</b>                                 | Algeria                               | 30 670.7         | 13 917 197         | 53.7                 | 32 287         | 0.23                                 |
|  | Armenia                               | 2 954.8          | 1 623 738          | -                    | 0              | 0.00                                 |
|  | Egypt                                 | 15 949.8         | 11 405 731         | 301.1                | 483 038        | 4.24                                 |
|  | Iran (Islamic Republic of)            | 5 963.8          | 3 354 996          | 15.2                 | 12 051         | 0.36                                 |
|  | Iraq                                  | 148 009.1        | 86 240 471         | 147.2                | 125 818        | 0.15                                 |
|  | Jordan                                | 13 195.6         | 9 837 289          | 113.8                | 162 550        | 1.65                                 |
|  | Kyrgyzstan                            | 9 946.2          | 6 209 269          | 0.0                  | 75             | 0.00                                 |
|  | Lebanon                               | 545.4            | 725 897            | -                    | 0              | 0.00                                 |
|  | Libya                                 | 5 176.9          | 4 178 739          | 535.6                | 812 140        | 19.44                                |
|  | State of Palestine                    | 34 282.7         | 17 621 335         | 24.7                 | 31 526         | 0.18                                 |
|  | Sudan                                 | 186 519.1        | 70 304 352         | 869.8                | 494 008        | 0.70                                 |
|  | Syrian Arab Republic                  | 441 220.4        | 276 387 950        | 1 922.2              | 2 035 682      | 0.74                                 |
|  | Tajikistan                            | 8 423.6          | 5 542 063          | 7.2                  | 6 701          | 0.12                                 |

| QUANTITIES AND VALUES BY RECIPIENT COUNTRY |                                  |                    |                    |                      |                  |                                      |
|--|----------------------------------|--------------------|--------------------|----------------------|------------------|--------------------------------------|
| Region                                     | Recipient country                | Total handled*     |                    | Post-delivery losses |                  | Losses in USD as % of total handled* |
|  |                                  | Net (mt)           | (USD)              | Net (mt)             | (USD)            |                                      |
|  | Ukraine                          | 3 005.3            | 3 315 217          | -                    | 0                | 0.00                                 |
|  | Yemen                            | 787 224.4          | 299 103 848        | 2 600.3              | 2 948 773        | 0.99                                 |
| <b>RBC total</b>                           |                                  | <b>1 693 087.9</b> | <b>809 768 091</b> | <b>6 590.8</b>       | <b>7 144 648</b> | <b>0.88</b>                          |
| <b>RBD</b>                                 | Benin                            | 7 395.8            | 3 746 043          | 28.5                 | 11 055           | 0.30                                 |
|  | Burkina Faso                     | 7 716.3            | 7 385 810          | 153.5                | 143 518          | 1.94                                 |
|  | Cameroon                         | 54 078.5           | 27 573 782         | 66.3                 | 46 867           | 0.17                                 |
|  | Central African Republic         | 30 536.8           | 26 924 253         | 781.1                | 513 677          | 1.91                                 |
|  | Chad                             | 64 924.0           | 46 927 087         | 861.3                | 749 601          | 1.60                                 |
|  | Côte d'Ivoire                    | 10 596.7           | 6 720 842          | 41.9                 | 22 723           | 0.34                                 |
|  | Gambia                           | 4 103.3            | 3 538 718          | 0.4                  | 269              | 0.01                                 |
|  | Guinea                           | 9 095.7            | 5 847 205          | 19.2                 | 11 514           | 0.20                                 |
|  | Guinea-Bissau                    | 8 179.2            | 7 506 580          | 5.3                  | 4 210            | 0.06                                 |
|  | Liberia                          | 9 189.9            | 5 390 679          | 18.7                 | 12 036           | 0.22                                 |
|  | Mali                             | 25 903.2           | 18 459 045         | 39.5                 | 33 689           | 0.18                                 |
|  | Mauritania                       | 6 698.1            | 4 338 811          | 32.5                 | 21 044           | 0.49                                 |
|  | Niger                            | 82 943.6           | 62 274 875         | 24.6                 | 22 263           | 0.04                                 |
|  | Nigeria                          | 205 297.1          | 153 958 902        | 208.5                | 154 411          | 0.10                                 |
|  | Sao Tome and Principe            | 3.6                | 2 833              | -                    | 0                | 0.00                                 |
|  | Senegal                          | 400.4              | 1 058 685          | 0.4                  | 333              | 0.03                                 |
|  | Sierra Leone                     | 9 454.1            | 5 554 615          | 69.0                 | 43 134           | 0.78                                 |
| <b>RBD total</b>                           |                                  | <b>536 516.1</b>   | <b>387 208 765</b> | <b>2 350.6</b>       | <b>1 790 344</b> | <b>0.46</b>                          |
| <b>RBJ</b>                                 | Angola                           | 3 829.9            | 2 468 214          | 2.7                  | 2 342            | 0.09                                 |
|  | Congo                            | 4 269.0            | 2 649 721          | 86.3                 | 57 630           | 2.17                                 |
|  | Democratic Republic of the Congo | 51 062.6           | 47 650 774         | 51.2                 | 48 401           | 0.10                                 |
|  | Eswatini                         | 7 537.0            | 4 748 607          | 21.2                 | 10 431           | 0.22                                 |
|  | Lesotho                          | 13 164.3           | 6 487 965          | 18.5                 | 9 447            | 0.15                                 |
|  | Madagascar                       | 39 291.7           | 25 034 598         | 59.8                 | 31 753           | 0.13                                 |
|  | Malawi                           | 252 009.3          | 115 860 348        | 467.0                | 232 884          | 0.20                                 |
|  | Mozambique                       | 62 704.0           | 31 731 973         | 161.8                | 99 470           | 0.31                                 |

| QUANTITIES AND VALUES BY RECIPIENT COUNTRY |                                |                    |                      |                      |                   |                                      |
|--|--------------------------------|--------------------|----------------------|----------------------|-------------------|--------------------------------------|
| Region                                     | Recipient country              | Total handled*     |                      | Post-delivery losses |                   | Losses in USD as % of total handled* |
|  |                                | Net (mt)           | (USD)                | Net (mt)             | (USD)             |                                      |
|  | United Republic of Tanzania    | 57 707.4           | 29 693 943           | 40.7                 | 21 844            | 0.07                                 |
|  | Zambia                         | 8 343.2            | 3 154 086            | 1.7                  | 610               | 0.02                                 |
|  | Zimbabwe                       | 53 346.6           | 27 147 154           | 35.1                 | 18 235            | 0.07                                 |
| <b>RBJ total</b>                           |                                | <b>553 265.0</b>   | <b>296 627 383</b>   | <b>946.0</b>         | <b>533 047</b>    | <b>0.18</b>                          |
| <b>RBN</b>                                 | Burundi                        | 31 940.9           | 24 700 890           | 225.6                | 138 651           | 0.56                                 |
|  | Djibouti                       | 8 679.4            | 4 812 304            | 90.3                 | 52 021            | 1.08                                 |
|  | Ethiopia                       | 534 411.7          | 249 775 944          | 536.2                | 332 161           | 0.13                                 |
|  | Kenya                          | 122 877.9          | 69 754 748           | 189.7                | 104 666           | 0.15                                 |
|  | Rwanda                         | 22 109.6           | 11 483 992           | 19.3                 | 20 176            | 0.18                                 |
|  | Somalia                        | 112 307.3          | 86 704 376           | 114.2                | 117 841           | 0.14                                 |
|  | South Sudan                    | 294 789.4          | 190 854 955          | 1 348.0              | 1 042 243         | 0.55                                 |
|  | Uganda                         | 202 026.3          | 113 372 017          | 266.1                | 126 254           | 0.11                                 |
| <b>RBN total</b>                           |                                | <b>1 329 142.5</b> | <b>751 459 227</b>   | <b>2 789.4</b>       | <b>1 934 012</b>  | <b>0.26</b>                          |
| <b>RBP</b>                                 | Plurinational State of Bolivia | 825.1              | 635 599              | 0.0                  | 13                | 0.00                                 |
|  | Colombia                       | 2 333.5            | 2 061 092            | 1.0                  | 1 026             | 0.05                                 |
|  | Cuba                           | 7 132.2            | 5 667 131            | 0.2                  | 152               | 0.00                                 |
|  | Dominican Republic             | 466.0              | 384 586              | -                    | 0                 | 0.00                                 |
|  | Ecuador                        | 0.9                | 761                  | -                    | 0                 | 0.00                                 |
|  | El Salvador                    | 0.0                | 8                    | 0.0                  | 3                 | 35.56                                |
|  | Guatemala                      | 3 378.1            | 2 472 870            | 0.1                  | 157               | 0.01                                 |
|  | Haiti                          | 30 942.6           | 19 558 231           | 1 132.0              | 837 943           | 4.28                                 |
|  | Honduras                       | 13 670.8           | 11 185 515           | 7.2                  | 4 564             | 0.04                                 |
|  | Nicaragua                      | 7 051.4            | 6 734 803            | 0.6                  | 918               | 0.01                                 |
|  | Paraguay                       | 51.4               | 94 960               | -                    | 0                 | 0.00                                 |
| <b>RBP total</b>                           |                                | <b>65 852.0</b>    | <b>48 795 556</b>    | <b>1 141.1</b>       | <b>844 777</b>    | <b>1.73</b>                          |
| <b>Grand total</b>                         |                                | <b>4 457 643.8</b> | <b>2 458 337 114</b> | <b>14 732.8</b>      | <b>12 841 501</b> | <b>0.52</b>                          |

\* Total handled = opening stocks in the recipient country plus food received in the recipient country.

## ANNEX VII

| COMMODITIES WITH POST-DELIVERY LOSSES<br>GREATER THAN 2% IN TONNAGE AND VALUE OVER USD 20,000 OR VALUE GREATER THAN USD 100,000 |                      |               |         |           |                               |                            |                                    |                                  |   |
|---|----------------------|---------------|---------|-----------|-------------------------------|----------------------------|------------------------------------|----------------------------------|---|
| Region  | Country              | WBS element   | Project | Commodity | Total handled*<br>net<br>(mt) | Total<br>handled*<br>(USD) | % post-delivery<br>losses net (mt) | Post-delivery<br>losses<br>(USD) | Losses in mt<br>as % of total<br>handled* |
| RBB   | Afghanistan          | 200447.F.1    | 200447  | CERWHF    | 30 817.604                    | 11 178 907.92              | 281                                | 102 037.55                       | 0.91                                      |
| RBB   | Myanmar              | 200299.F.1    | 200299  | MIXHEB    | 3 394.945                     | 3 593 191.79               | 100.5                              | 108 546                          | 2.96                                      |
| RBB   | Sri Lanka            | 200866.F.1.C2 | 200866  | CERRIC    | 57.574                        | 24 194.33                  | 58                                 | 24 194.33                        | 100.00                                    |
| RBB   | Timor-Leste          | 200770.F.1    | 200770  | MIXRSF    | 83.454                        | 233 707.53                 | 12.8                               | 35 045                           | 15.39                                     |
| RBC   | Egypt                | 200238.F.1.C2 | 200238  | MIXHEB    | 3 888.109                     | 5 668 939.77               | 286                                | 471 144.01                       | 7.34                                      |
| RBC   | Jordan               | 200987.F.1.JO | 200987  | FRUDFR    | 800.000                       | 1 136 619.55               | 35.4                               | 50 235                           | 4.42                                      |
| RBC   | Jordan               | 200987.F.1.JO | 200987  | MSCHAL    | 14.821                        | 57 063.15                  | 12                                 | 44 537.84                        | 77.67                                     |
| RBC   | Jordan               | 200987.F.1.JO | 200987  | MSCSUG    | 42.564                        | 50 249.78                  | 24.7                               | 29 122                           | 57.96                                     |
| RBC   | Libya                | 200925.F.1    | 200925  | OILVEG    | 391.091                       | 520 909.71                 | 31                                 | 35 805.03                        | 7.95                                      |
| RBC   | Libya                | 200925.F.1    | 200925  | PPFRTN    | 4 323.127                     | 2 841 014.39               | 353.9                              | 256 632                          | 8.19                                      |
| RBC   | Libya                | 200925.F.1    | 200925  | PULCKP    | 181.528                       | 623 256.82                 | 151                                | 519 702.60                       | 82.92                                     |
| RBC   | Sudan                | 200808.F.1    | 200808  | MIXCSB    | 3 251.275                     | 2 884 767.38               | 524.8                              | 366 862                          | 16.14                                     |
| RBC   | Syrian Arab Republic | 200988.F.1    | 200988  | CERRIC    | 81 027.056                    | 37 142 822.32              | 294                                | 139 028.47                       | 0.36                                      |
| RBC   | Syrian Arab Republic | 200988.F.1    | 200988  | MIXHEB    | 3 289.122                     | 5 843 936.06               | 699.4                              | 1 159 966                        | 21.26                                     |
| RBC   | Syrian Arab Republic | 200988.F.1    | 200988  | PPFRTN    | 49 474.055                    | 41 508 243.25              | 328                                | 364 633.54                       | 0.66                                      |

| COMMODITIES WITH POST-DELIVERY LOSSES<br>GREATER THAN 2% IN TONNAGE AND VALUE OVER USD 20,000 OR VALUE GREATER THAN USD 100,000 |                          |               |         |           |                               |                            |                                    |                                  |   |
|---|--------------------------|---------------|---------|-----------|-------------------------------|----------------------------|------------------------------------|----------------------------------|---|
| Region  | Country                  | WBS element   | Project | Commodity | Total handled*<br>net<br>(mt) | Total<br>handled*<br>(USD) | % post-delivery<br>losses net (mt) | Post-delivery<br>losses<br>(USD) | Losses in mt<br>as % of total<br>handled* |
| RBC   | Syrian Arab Republic     | 200988.F.1    | 200988  | PULLEN    | 44 428.488                    | 35 771 262.04              | 113.4                              | 101 132                          | 0.26                                      |
| RBC   | Yemen                    | 200890.F.1    | 200890  | OILVEG    | 18 211.473                    | 18 548 229.38              | 696                                | 658 365.02                       | 3.82                                      |
| RBC   | Yemen                    | 201068.F.1    | 201068  | CERWHF    | 42 315.706                    | 14 833 612.78              | 1 347.1                            | 500 621                          | 3.18                                      |
| RBC   | Yemen                    | 201068.F.1    | 201068  | FSHCFI    | 303.582                       | 1 634 864.51               | 304                                | 1 634 864.51                     | 100.00                                    |
| RBD   | Burkina Faso             | 200163.F.1.C1 | 200163  | OILVEG    | 299.359                       | 285 702.84                 | 128.7                              | 123 041                          | 43.01                                     |
| RBD   | Central African Republic | 200799.F.1.CF | 200799  | CERMML    | 5 401.650                     | 4 286 918.20               | 202                                | 135 630.78                       | 3.75                                      |
| RBD   | Central African Republic | 200799.F.1.CF | 200799  | CERRIC    | 12 092.798                    | 9 241 534.97               | 402.3                              | 219 159                          | 3.33                                      |
| RBD   | Central African Republic | 200799.F.1.CF | 200799  | PULBEA    | 1 678.765                     | 1 840 112.73               | 36                                 | 29 783.21                        | 2.13                                      |
| RBD   | Chad                     | 200288.F.1    | 200288  | PULBEA    | 17.134                        | 22 499.87                  | 16.6                               | 21 766                           | 96.74                                     |
| RBD   | Chad                     | 200713.F.1    | 200713  | MIXRSF    | 499.462                       | 1 513 272.57               | 43                                 | 147 060.79                       | 8.57                                      |
| RBD   | Chad                     | 200727.F.1    | 200727  | MIXRSF    | 20.271                        | 81 349.55                  | 20.3                               | 81 350                           | 100.00                                    |
| RBD   | Chad                     | 200777.F.1.TD | 200777  | CERSOR    | 11 619.699                    | 5 151 840.54               | 247                                | 118 474.35                       | 2.13                                      |
| RBD   | Chad                     | 200777.F.1.TD | 200777  | MIXCSB    | 2 156.405                     | 2 075 068.73               | 184.3                              | 122 076                          | 8.55                                      |
| RBJ   | Congo                    | 200799.F.1.CG | 200799  | PULBEA    | 99.950                        | 78 425.57                  | 27                                 | 21 499.36                        | 27.41                                     |
| RBN   | Burundi                  | 200119.F.1.C1 | 200119  | PULBEA    | 3 889.598                     | 2 498 776.30               | 94.5                               | 62 499                           | 2.43                                      |
| RBN   | Burundi                  | 200655.F.1    | 200655  | CERMML    | 2 094.899                     | 1 200 108.10               | 56                                 | 27 729.70                        | 2.65                                      |

| COMMODITIES WITH POST-DELIVERY LOSSES<br>GREATER THAN 2% IN TONNAGE AND VALUE OVER USD 20,000 OR VALUE GREATER THAN USD 100,000 |             |             |         |           |                               |                            |                                    |                                  |   |
|---|-------------|-------------|---------|-----------|-------------------------------|----------------------------|------------------------------------|----------------------------------|---|
| Region  | Country     | WBS element | Project | Commodity | Total handled*<br>net<br>(mt) | Total<br>handled*<br>(USD) | % post-delivery<br>losses net (mt) | Post-delivery<br>losses<br>(USD) | Losses in mt<br>as % of total<br>handled* |
| RBN   | Ethiopia    | 200700.F.1  | 200700  | MIXHEB    | 153.172                       | 302 940.33                 | 42.9                               | 110 024                          | 27.98                                     |
| RBN   | Ethiopia    | 200700.F.1  | 200700  | MSCSUG    | 719.750                       | 431 204.82                 | 69                                 | 36 583.35                        | 9.62                                      |
| RBN   | South Sudan | 200859.F.1  | 200859  | CERSOR    | 155 771.920                   | 69 674 387.13              | 501.0                              | 209 752                          | 0.32                                      |
| RBN   | South Sudan | 200859.F.1  | 200859  | MIXCSB    | 23 733.259                    | 29 369 844.23              | 211                                | 247 850.19                       | 0.89                                      |
| RBN   | South Sudan | 200859.F.1  | 200859  | MIXHEB    | 66.936                        | 63 713.27                  | 37.4                               | 36 311                           | 55.89                                     |
| RBN   | South Sudan | 200859.F.1  | 200859  | OILVEG    | 9 850.052                     | 13 024 344.68              | 100                                | 135 046.40                       | 1.01                                      |
| RBP   | Haiti       | 200150.F.1  | 200150  | PULBEA    | 207.801                       | 186 881.53                 | 28.3                               | 37 933                           | 13.60                                     |
| RBP   | Haiti       | 200618.F.1  | 200618  | CERMML    | 852.480                       | 395 763.88                 | 61                                 | 28 500.24                        | 7.20                                      |
| RBP   | Haiti       | 200618.F.1  | 200618  | CERRIC    | 11 423.792                    | 5 488 930.89               | 318.6                              | 131 535                          | 2.79                                      |
| RBP   | Haiti       | 200618.F.1  | 200618  | CERWBG    | 1 129.852                     | 481 765.33                 | 77                                 | 33 443.82                        | 6.81                                      |
| RBP   | Haiti       | 200618.F.1  | 200618  | MIXCSB    | 2 654.244                     | 2 140 023.67               | 80.5                               | 70 223                           | 3.03                                      |
| RBP   | Haiti       | 200618.F.1  | 200618  | MIXHEB    | 113.957                       | 124 988.97                 | 114                                | 124 986.78                       | 100.00                                    |
| RBP   | Haiti       | 200618.F.1  | 200618  | MIXRSF    | 108.225                       | 336 178.91                 | 8.3                                | 25 606                           | 7.70                                      |
| RBP   | Haiti       | 200618.F.1  | 200618  | OILVEG    | 1 529.561                     | 1 857 876.97               | 53                                 | 70 378.27                        | 3.46                                      |
| RBP   | Haiti       | 200618.F.1  | 200618  | PULBEA    | 537.949                       | 462 920.75                 | 267.8                              | 229 598                          | 49.78                                     |
|   |             |             |         |           |                               |                            |                                    |                                  |   |
|   |             |             |         |           | <b>535 018.51</b>             | <b>336 713 167.78</b>      | <b>9 079.22</b>                    | <b>9 240 312.26</b>              |   |

\* Total handled = opening stocks in the recipient country plus food received in the recipient country.

**ANNEX VIII**

| <b>POST-DELIVERY LOSSES 2007-2017</b> |                                    |                                |  |                                  |                              |   |
|---------------------------------------|------------------------------------|--------------------------------|--|----------------------------------|------------------------------|---|
| <b>Year</b>                           | <b>Total quantity handled (mt)</b> | <b>Quantity of losses (mt)</b> | <b>Losses as % of total mt handled</b> | <b>Total value handled (USD)</b> | <b>Value of losses (USD)</b> | <b>Losses as % of total value handled</b> |
| 2007                                  | 4 166 046                          | 16 724                         | 0.40                                   | 1 607 373 215                    | 7 152 643                    | 0.44                                      |
| 2008                                  | 4 831 067                          | 21 699                         | 0.45                                   | 2 604 005 060                    | 11 388 899                   | 0.44                                      |
| 2009                                  | 5 567 314                          | 21 187                         | 0.38                                   | 2 755 152 374                    | 10 131 966                   | 0.37                                      |
| 2010                                  | 5 508 365                          | 17 128                         | 0.31                                   | 2 915 989 860                    | 10 180 080                   | 0.35                                      |
| 2011                                  | 4 517 972                          | 20 371                         | 0.45                                   | 2 734 427 882                    | 13 217 691                   | 0.48                                      |
| 2012                                  | 4 201 302                          | 31 251                         | 0.74                                   | 2 936 389 248                    | 18 033 222                   | 0.61                                      |
| 2013                                  | 3 770 209                          | 25 016                         | 0.66                                   | 2 511 094 911                    | 18 684 094                   | 0.74                                      |
| 2014                                  | 3 898 691                          | 18 921                         | 0.49                                   | 2 553 059 658                    | 15 563 533                   | 0.61                                      |
| 2015                                  | 3 559 176                          | 12 694                         | 0.36                                   | 2 596 324 005                    | 11 019 934                   | 0.42                                      |
| 2016                                  | 4 234 149                          | 20 109                         | 0.47                                   | 2 527 081 008                    | 18 070 937                   | 0.72                                      |
| 2017                                  | 4 457 644                          | 14 733                         | 0.33                                   | 2 458 337 114                    | 12 841 501                   | 0.52                                      |