



**World Food  
Programme**

**Executive Board  
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# **ADMINISTRATIVE AND MANAGERIAL MATTERS**

**Agenda item 12**

*For information\**

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## **REPORT ON POST-DELIVERY LOSSES FOR THE PERIOD 1 JANUARY–31 DECEMBER 2014**



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## NOTE TO THE EXECUTIVE BOARD

### **This document is submitted to the Executive Board for information.**

The Secretariat invites members of the Board who may have questions of a technical nature with regard to this document to contact the focal points indicated below, preferably well in advance of the Board's meeting.

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## EXECUTIVE SUMMARY

To achieve the ultimate goal of a world with Zero Hunger, WFP and its partners have to implement programmes and reach beneficiaries in very difficult and unstable conditions. This requires that WFP continuously review and improve its operating processes and systems, including its supply chain, which distributed 3.2 million mt of food in 76 countries in 2014.

WFP aims to achieve zero losses; all losses are registered and reviewed, and lessons are used to prevent and mitigate future losses. In 2014, 0.49 percent – 18,921 mt – of total food handled was lost after receipt in a country and before beneficiaries received it. This is the lowest post-delivery loss in tonnage terms since 2010. The post-delivery losses were worth USD 15.6 million, or 0.61 percent of the USD 2.6 billion total value of food handled.

Post-delivery losses sustained in 2014 resulted mainly from security issues or occurred during storage. Measures for mitigating commodity losses included sharing best practices among countries, developing local standard operating procedures and using transport escorts. Standard tools for planning demand at the global level are being developed to improve the match between demand and supply, reducing the risk that food passes its best-before date before being distributed. Food safety and quality have been enhanced through work with suppliers on extending the shelf-lives of nutritious foods, by improving packaging, and by enhancing quality control through engagement with inspection companies.

WFP has well-established processes and systems for commodity management, and is developing platforms for learning, sharing and innovation for its staff and partners. An integrated approach to the supply chain is promoted to facilitate WFP's implementation of fast and cost-efficient responses to needs while keeping losses low, even in rough and insecure environments.

## INTRODUCTION

1. This report quantifies and defines post-delivery losses in 2014 and outlines the measures taken by WFP to prevent or reduce losses in the future.
2. WFP aims to have zero losses. Its supply chain, support systems and control mechanisms are geared towards this goal.
3. Section 1 of this report quantifies 2014 post-delivery losses in terms of United States dollars and metric tons, compares them with losses in past years, explores the causes of losses, and identifies countries where post-delivery losses exceeded WFP's reporting thresholds.<sup>1</sup> The report does not cover pre-delivery losses or any unintended uses of food after it has been distributed to beneficiaries.<sup>2</sup>
4. Section 2 looks at WFP's measures and systems for preventing and reducing post-delivery losses and improving loss management.
5. The annexes provide more detailed information on country-specific post-delivery losses and updates on last year's report.

## SECTION 1 – CHARACTERISTICS OF 2014 POST-DELIVERY LOSSES

6. In 2014, post-delivery losses in metric tons and United States dollars were lower than in 2013 – both in absolute terms and as percentages of total handled<sup>3</sup>.

**Figure 1: Post-delivery losses, 2014**



7. Total post-delivery losses amounted to 18,921 mt or 0.49 percent of the total food handled (Figure 1). This is less than the 0.66 percent of 2013 and is the lowest post-delivery loss in tonnage terms since 2010 and as percentage of total handled since 2011.
8. Post-delivery losses in value declined from USD 18.7 million in 2013 to USD 15.6 million in 2014, or from 0.74 percent of total food handled to 0.61 percent<sup>4</sup>.

<sup>1</sup> WFP reports on losses in: i) countries where losses of a single food type amount to at least 2 percent of the total tonnage of that food handled in the country and have an absolute value of at least USD 20,000; and ii) countries where losses of a single food type have an absolute value of more than USD 100,000.

<sup>2</sup> Pre-delivery losses 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 WFP takes appropriate measures to address them.

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

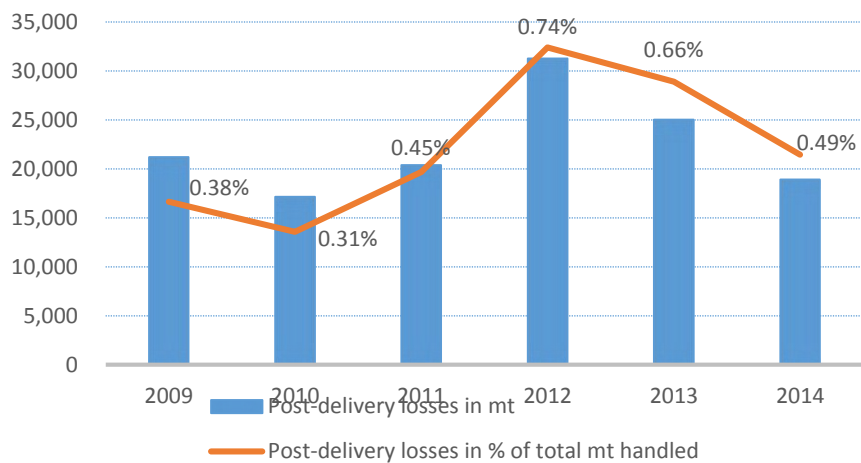
<sup>4</sup> In the WFP Information Network and Global System (WINGS), food commodities are valued according to moving average prices, an inventory valuation method in which the cost of each item is determined from the

9. The 2014 reduction in post-delivery losses is illustrated in Figure 2 in metric tons and as a percentage of total (see Annex VIII). 2014 post-delivery losses are below the average for the last five years.



**Figure 2: Post-delivery losses 2009–2014**

10. The decline in value of post-delivery losses was less than the decline in tonnage because higher-cost commodities such as Plumpy'Sup and high-energy biscuits (HEBs) accounted for a larger share of the total. The average value of commodities lost increased from 747 USD/mt in 2013 to 823 USD/mt in 2014.



11. In 2014, 839 mt of Plumpy'Sup and 548 mt of HEBs represented 23 percent of the total value of post-delivery losses, but only 7 percent of the total tonnage. Most of the Plumpy'Sup loss was because of potential contamination by bacteria in 2012, which resulted in 19,000 mt being put on hold for testing. Some of the 3,400 mt tested further in 2013, expired while awaiting authorities' clearance for redistribution.
12. The introduction of specialized nutritious foods (SNFs) has motivated WFP's increased attention to the supply chain requirements for this type of product. Guidelines on the management of SNFs were developed in 2013, and training was piloted in 2014 with roll-out starting in October (see section 2 for more details).

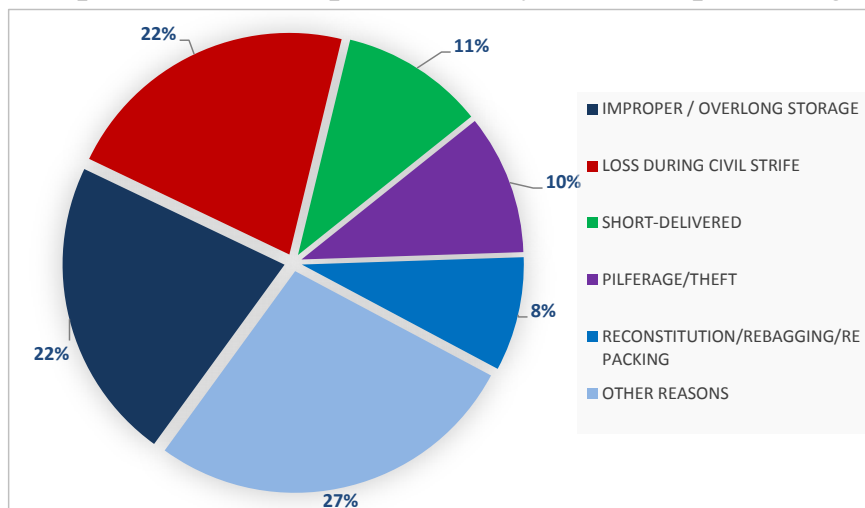
### Main Reasons for Post-Delivery Losses

13. In 2014, 73 percent or 13,799 mt of post-delivery losses had five main causes (Figure 3):
- improper/overlong storage – 4,251 mt;
  - civil strife and conflict – 4,083 mt;

weighted average of the costs of similar items at the beginning of and during the period. The losses in this report are valued at moving average prices at the end of 2013.

- iii) short deliveries<sup>5</sup> – 1,972 mt;
- iv) pilferage/theft – 1,923 mt; and
- v) reconstitution/rebagging – 1,569 mt.

**Figure 3: Top five causes of post-delivery losses as percentages of total**



14. Other reasons (Figure 3) accounted for the remaining 27 percent and included poor handling for 1,383 mt; deterioration of food commodities for 985 mt, mainly attributable to problems at origin; and deterioration of packaging material for 572 mt.
15. Improper/overlong storage, short deliveries and pilferage/theft are historically among the five most important post-delivery loss factors. Post-delivery losses due to civil strife and conflict have increased recently as WFP engages more in countries affected by conflict.
16. In 2014, post-delivery losses attributed to civil strife and pilferage/theft (6,006 mt) accounted for 32 percent of total post-delivery losses and 0.15 percent of total food handled. This represents an increase in absolute and percentage terms since 2013. In 2014, 13 countries reported post-delivery losses related to civil strife.
17. Post-delivery losses that were indirectly attributable to poor security resulted in losses during storage or transport. For example, poor security made some areas of Iraq inaccessible in 2014; food that expired before access was regained was registered as overlong storage losses. In the Central African Republic, Iraq, Pakistan, South Sudan and the Sudan, some transport-related post-delivery losses were because of the hijacking of trucks.
18. WFP develops country- and region-specific standard operating procedures (SOPs) for dealing with local security issues. In the Central African Republic, South Sudan and the Sudan, WFP works with United Nations peacekeeping missions providing armed escorts.
19. Improper/overlong storage resulting in impaired food safety or expiry of food caused 22 percent of total post-delivery losses in 2014 (4,251 mt) or 0.11 percent of the total tonnage handled. Despite being the largest category of post-delivery losses in 2014, these losses were significantly lower than the 7,136 mt of 2013.
20. Improper storage can occur when a shock affects warehouse capacity, as happened in the Congo when the roof of a WFP warehouse was damaged by an explosion in a civil weapons depot. WFP had to restack food in the remaining space in the warehouse, and some

<sup>5</sup> Short deliveries are food losses incurred during inland transport within the recipient country; their value is usually recovered from the transporters' invoices.

cartons of vegetable oil suffered damage; spare warehouse capacity was providing shelter for people affected by the explosion. In cooperation with the Government, WFP has pre-positioned additional mobile storage units to mitigate the effects of similar situations.

21. In 2014, post-delivery losses because of poor handling resulted mainly from inadequate infrastructure in many countries, substandard conditions in partners' warehouses, and gaps in partners' capacity. Post-delivery losses related to improper storage or handling can be reduced by training WFP staff and partners in best practices and ensuring that the supply chain incorporate processes that are appropriate for sensitive commodities such as SNFs.
22. Overlong storage accounted for some of the larger post-delivery losses in 2014 because of changes in national regulations and mismatches between demand and supply. In Yemen, delayed distributions and a change in government regulations for nutritious food resulted in the expiry of Plumpy'Sup, registered as an overlong storage loss. To mitigate the risk of overlong storage, WFP is enhancing its supply chain management to facilitate rapid adaptation when local regulations change; improved demand planning at the global level to close the gap between local demand and supply (see section 2); and investments in food quality research have helped increase the shelf-life of some SNFs to 24 months. These measures add flexibility to the supply chain and allow longer storage.
23. Post-delivery losses related to transport – short deliveries – in 2014 were 79 percent lower than in 2013, down from 9,237 mt to 1,972 mt. They accounted for 10 percent of total post-delivery losses or 0.05 percent of total food handled. This significant reduction was in large part the result of progress made in the Syrian Arab Republic, where an increase in the number of warehouses helped reduce transport distances between hubs, minimizing security incidents on roads. Pilferage at check-points has been reduced by sealing all trucks, and the country office works with service providers on handling food in ways that minimize damage during transport.
24. WFP includes provisions for recovering post-delivery losses in its contracts with service providers and recovered USD 2.4 million in 2014. Proper selection and regular performance review of service providers are crucial for minimizing transport and other service provider losses.<sup>6</sup>
25. In 2014, rebagging and reconstitution resulted in 8 percent – 1,569 mt of total post-delivery losses, or 0.04 percent of total food handled. Most of these losses occurred during rebagging in Pakistan (see Annex I paragraph 31).

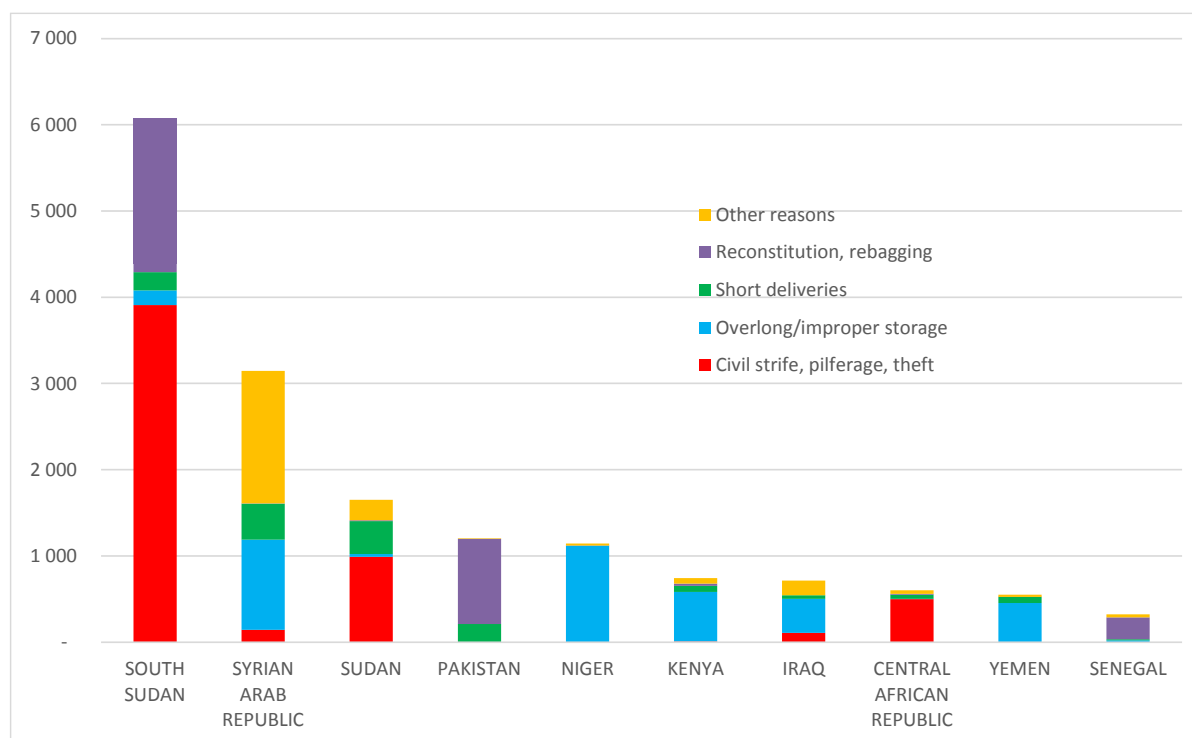
### **Post-Delivery Losses by Country**

26. In 2014, WFP's ten biggest operations in terms of volume of food handled were in the Syrian Arab Republic, Ethiopia, the Sudan, Pakistan, South Sudan, Kenya, Yemen, Mali, Malawi and Somalia. Together these countries accounted for 2.5 million mt – 63 percent – of the food handled by WFP in 2014.

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<sup>6</sup> Poorly performing service providers receive a warning or are removed from the shortlist. Performance indicators for transporters include the amounts lost in transit.

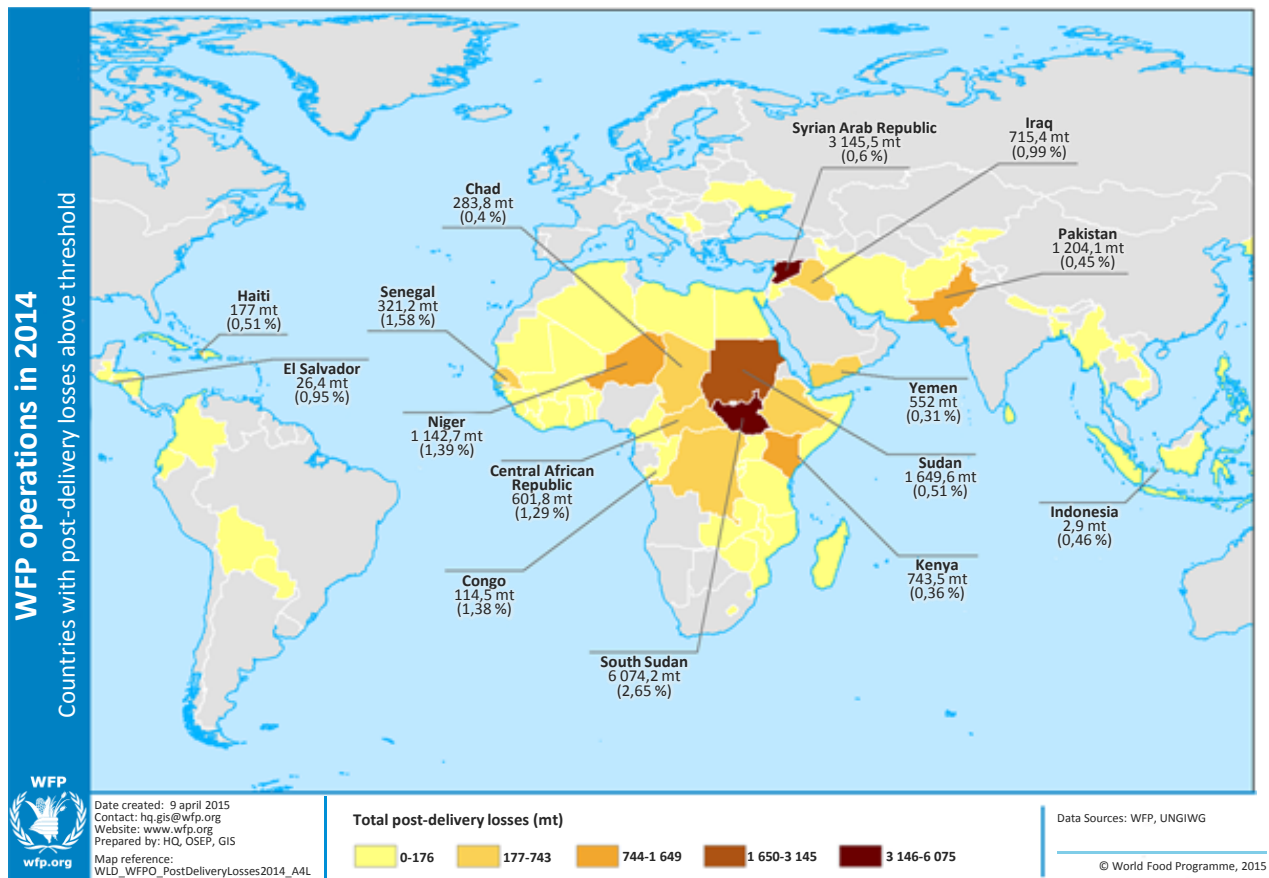
**Figure 4: The ten countries with the highest post-delivery losses and the five main causes, 2014 (mt)**



27. The ten country operations with the largest post-delivery losses in 2014 accounted for 85 percent – 16,150 mt – of WFP’s post-delivery losses in 2014 (Figure 4). Six of these countries are among those with the largest operations, and seven have post-delivery losses related to security issues.
28. In the Central African Republic, South Sudan, the Sudan and the Syrian Arab Republic, the insecure environment was the main cause of post-delivery losses. Security issues also contributed to post-delivery losses in the Iraq, Pakistan and Yemen.
29. Iraq, Kenya and Yemen sustained post-delivery losses of processed food and specialized nutritious foods. In Kenya, Plumpy’Sup expired while awaiting clearance for redistribution. In Iraq and Yemen, changes in national regulations led to losses of food not meeting the new requirements. These losses demonstrate the challenges of introducing SFNs and processed foods in new environments, complying with national regulations and handling the products appropriately along the supply chain.
30. In the Niger, a large post-delivery loss occurred when 1,077 mt of maize was confirmed unfit for human consumption because of high aflatoxin levels. The country office will be fully reimbursed for this loss. In Pakistan, 988 mt of blended fortified food was lost during rebagging; a company with mechanized rebagging machinery and good strict hygiene standards has been contracted for future rebagging (see Annex 1). In Senegal, a loss during transformation of rice purchased from smallholder farmers was expected, as reflected in the purchase price.



## Map: WFP operations and countries with above-threshold post-delivery losses, 2014



31. Yemen and the Syrian Arab Republic had post-delivery losses resulting from expiry or damage of food at partners' warehouses. Frequent monitoring visits to the partners' warehouses and provision of on-site guidance are improving food quality management in both countries. In the Syrian Arab Republic, 350 staff members of WFP and partners were trained in warehouse management in 2014.
32. Fifteen countries had above-threshold post-delivery losses in 2014 (see Annex I). WFP's operations in 2014 are shown on the map, which shows the quantities of post-delivery losses in all countries and as percentages of total food handled for the 15 countries with above-threshold post-delivery losses.



## Summary of Characteristics of Post-Delivery Losses in 2014

33. Post-delivery losses in 2014 can be summarized as follows:

- They decreased in volume and value, in both absolute and percentage terms compared with 2013. The 0.49 percent overall post-delivery loss rate was below the average of the last five years.
- Post-delivery losses of Plumpy'Sup and HEBs contributed notably to the values of post-delivery losses, representing 7 percent of the volume, but 23 percent of the value.
- Security issues contributed significantly to post-delivery losses, accounting directly for 32 percent of total post-delivery losses, and indirectly for more. Six of the ten countries with the highest post-delivery losses in 2014 were facing in-country conflict; post-delivery losses were a direct result of insecurity in four of these countries.

## SECTION 2 – WFP MEASURES FOR PREVENTING AND MITIGATING LOSSES

34. This section describes WFP initiatives for preventing and mitigating post-delivery losses during 2014. These initiatives complement best practices that are already incorporated in manuals, procedures and control mechanisms throughout WFP.

35. As part of WFP's Fit for Purpose reorganization initiative, emphasis in 2014 was on adapting the supply chain to WFP's needs. This section introduces the concept of "supply chain excellence" for WFP, outlining how initiatives in different parts of the supply chain help to prevent and mitigate post-delivery losses.

### WFP's Integrated Supply Chain

36. In 2014, the WFP global supply chain facilitated the distribution of 3.2 million mt of food, coordinated an average of 5,000 trucks, 30 ships and tens of aircrafts every day, and managed a global network of 650 warehouses.

37. To achieve excellence in its supply chain, WFP is developing its capacity for integrated supply chain management, particularly its capabilities in supply chain planning. These enhancements support WFP's shift from a "reactive" to a "plan-based" supply chain approach that takes advantage of advance financing tools.

#### Box 1: Supply chain excellence at WFP

To achieve excellence the WFP supply chain must be:

*responsive* – adapting rapidly to new requirements, particularly in sudden-onset disasters, and planning ahead to minimize response times;

*reliable* – delivering predictably and in accordance with the specific needs of food assistance programmes in different countries;

*cost-efficient* – delivering efficiently and maximizing donors' value for money; and

*agile* – switching flexibly between delivering food to beneficiaries and transferring cash/vouchers to enable beneficiaries to purchase food in local markets.

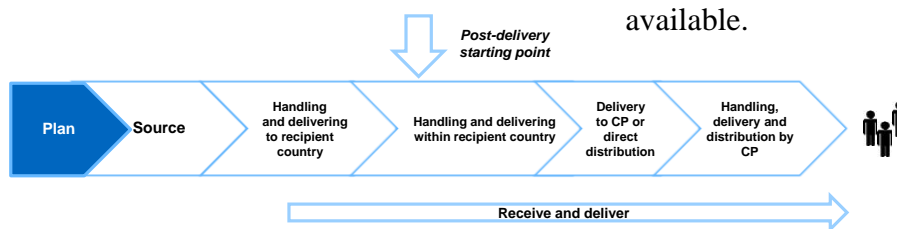
38. WFP focuses on ensuring cross-functional coordination as well as vertical integration from country offices to Headquarters. In every Level 3 emergency since 2012, a supply chain management working group has been established, bringing together decision-makers from country offices, regional bureaux and Headquarters. A supply chain “dashboard” is used to ensure end-to-end visibility in complex operations and to generate evidence to inform decision-making. This integrated approach helps WFP maximize the use of available funding, optimize sourcing and delivery networks, reduce lead times, and minimize post-delivery losses.
39. The following sections describe WFP initiatives in global demand and supply planning, food safety and quality measures, food supply tracking through the Logistics Execution Support System (LESS), warehouse management, and regional and country level initiatives.

#### Box 2: Supply Chain Award

WFP’s excellence in supply chain management was recognized in 2014 when it received the European Supply Chain Excellence Award. Industry and academic experts award the prize to companies and organizations that demonstrate achievements and innovations in their supply chains.

### Planning WFP’s Supply Chain

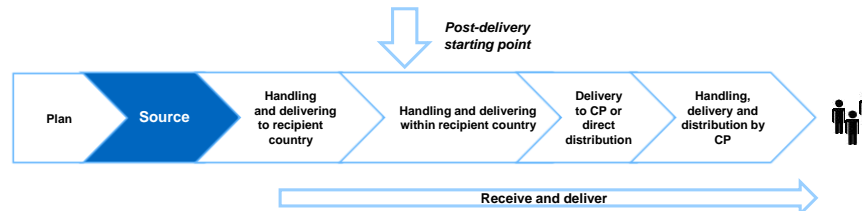
40. Planning of the WFP supply chain starts with programme planning – the amounts and types of food required, the locations where it is needed, and what is feasible with the funds available.



41. The objective is to ensure that the right amount of the right food is available at the right time and place. The working capital financing facility makes it easier for WFP to employ a plan-based approach to its supply chain.
42. WFP is developing standard planning processes and tools for country offices. A pipeline management tool has been implemented at all country offices since January 2014. The mainstreaming of the tool will provide a platform for accurate and consistent capture of information on operation requirements and funding, helping to improve decision-making and the consistency of communications with internal and external stakeholders.
43. The pipeline management tool enables country offices to track the implementation of projects and adjust plans according to funding, security or logistics constraints. This ability allows country offices to foresee their requirements more accurately, mitigating the risks of prolonged storage of food in-country.
44. A standardized pipeline is also essential for forecasting global demand. A SAP-based “advanced planner optimizer” tool has been rolled out for forecasting demand and planning replenishments of the global commodity management facility (GCMF – formerly known as the forward purchase facility). Regular reviews of aggregated pipeline reports trigger replenishments of the GCMF regional and subregional corridors when thresholds are reached.

## Sourcing for WFP Operations

45. Processes for sourcing and procuring food contribute to preventing post-delivery losses. WFP's shift from food aid to food assistance has increased the focus on nutrition and the range of tools for addressing hunger. Ensuring food safety and quality management throughout the supply chain is a main concern at the sourcing phase, especially for SNFs,

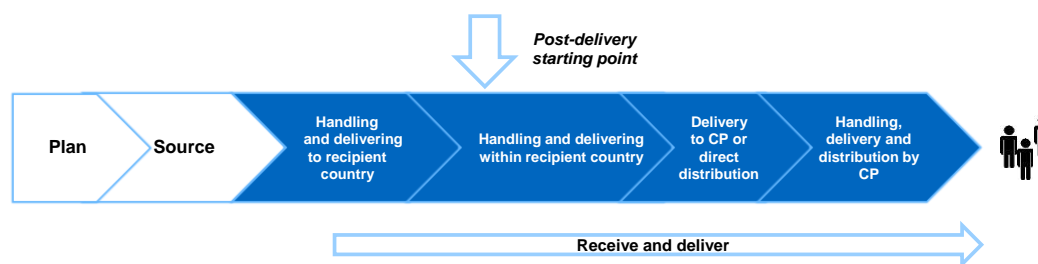


which require appropriate handling.

46. In 2014, WFP work on food safety and quality focused on assessing and auditing suppliers, incorporating best practices from the food industry, and continuing to enhance management of SNFs.
47. As part of this work, food technologists intensified assessments of suppliers of complex processed and SNFs – wheat flour, vegetable oil, pasta, milk, HEBs, date bars, canned food, rations and SNFs; in 2014, 67 manufacturers were audited. Assessment and audit findings support decision-making by the Vendor Management Committee and provide manufacturers with guidance on implementing good industry practices.
48. With technical and financial support from private-sector partners, WFP incorporated best practices from the food industry into its processes:
- *Shelf-life.* Following studies of product stability, WFP engaged with international producers to increase the shelf-life of lipid-based nutritious supplements to 18–24 months.
  - *Compliance.* In 2014, WFP conducted 25 spot checks to verify products' compliance. These checks reveal any deviations in quality or nutritional value after food enters WFP's supply chain.
  - *Specifications:* Harsh environments and other challenges to the supply chain require WFP continuously to review product packaging specifications. The packaging for 25-kg bags of SuperCereal was improved in 2014, and better packaging for ready-to-use supplementary foods is being developed.
  - *Inspection:* A new scope of work for inspection companies is being rolled out, detailing requirements for raw commodities, processed foods and family food parcels. The new scope will improve reporting and enhance WFP's engagement with inspection companies.
49. To support the increased use of SNFs, WFP delivered training-of-trainers courses for nutrition, programme, procurement and logistics staff at regional bureaux. The training complements *Managing the Supply Chain of Specialized Nutritious Foods*, co-authored with other United Nations agencies, non-governmental organizations (NGOs) and academic institutions.

## Receiving and Delivering Food

50. The final phases of the supply chain – from receipt and delivery in the recipient country to final distribution to beneficiaries – are where the results of efforts in the previous phases are seen. Integrated supply chain management, which bases planning and sourcing on the capacities of local delivery and distribution networks, can reduce post-delivery losses.
51. Oversight tools are essential in supporting country offices as they manage changing environments. In 2014, WFP strengthened its food supply management by rolling out LESS and reviewing its warehouse management.



52. Global roll-out of LESS began in October 2014 in Afghanistan and Pakistan and is due for completion by the end of 2016. Box 3 describes how LESS prevents losses.

53. Warehouse management is vital for minimizing post-delivery losses. A significant share of post-delivery losses occurs because of improper or overlong storage – 22 percent or 4,251 mt in 2014. On 31 December 2014, WFP had 646,171 mt stored in its 650 warehouses in 76 countries.

54. WFP welcomed an external performance audit of its warehouse practices in 2014. The audit emphasized the need for continued adherence to WFP warehouse management guidelines to ensure the quality of stored food. WFP will update its global guidance, including by providing an overview of rules, regulations and best practices and clarifying the oversight roles and responsibilities of country offices, regional bureaux and Headquarters.

### Box 3: LESS – five ways of preventing and mitigating losses

- i) Identifying food at risk of loss through overlong storage. In LESS, the best-before date is visible throughout the supply chain, allowing prioritization of food movements and use.
- ii) Mitigating loss through immediate loss recognition. Pre- and post-delivery losses can be seen immediately, with detailed information on the condition of consignments, allowing immediate initiation of actions for loss mitigation.
- iii) Preventing and mitigating post-delivery losses to damage. Detailed information on food stocks informs decisions on follow-up actions such as fumigation and reconstitution when food damage occurs.
- iv) Managing incidents involving food quality. LESS facilitates product recall by tracking exactly where and in which warehouse, or even truck, a specific production lot from a particular vendor is located.
- v) Mitigating post-delivery losses. LESS improves transparency and accountability by identifying segregation of duties, individual accountabilities and audit trails. Its detailed information also enables higher-quality analyses.

55. WFP continuously trains staff and partners in best practices for warehouse management. In 2014, more than 100 WFP staff members were trained through the WFP learning management system, with many more being trained at country offices and with partners (Box 4).

**Box 4: Warehouse training in Somalia**

Despite security issues and high and humid temperatures, post-delivery losses in Somalia are low. In Somalia and elsewhere WFP works with its partners on training storekeepers. Logistics assistants and food aid monitors carry out quarterly joint inspections of partners' stores, provide basic on-the-job training in cleanliness, ventilation, documentation and rodent control, and suggest ways of improving storage conditions. Since 2013, approximately 300 storekeepers have been trained and continue to receive guidance.

## Post-Delivery Loss Prevention and Mitigation Initiatives at Country Offices and Regional Bureaux

56. WFP's recent organizational changes have increased the roles and responsibilities of the regional bureaux in supporting and providing oversight to country offices. In 2014, to mitigate post-delivery losses, the regional bureaux focused on:

- supply chain planning at the country and regional levels;
- integration of the supply chain through regional-level supply chain working groups (SCWGs);
- oversight – identification of food commodities at risk; and
- capacity development.

57. Regional bureaux assist country offices with demand and supply planning, and facilitate coherence by standardizing country office planning. Since decentralization, the regional bureaux are more closely involved in assisting country offices in project planning and review. This facilitates prudent programming that balances project requirements, in particular beneficiaries' needs, with available resources and commodity requirements, and helps avoid the accumulation of residual stocks, reducing the risk of post-delivery losses.

58. To help mainstream integrated supply chain planning, regional bureaux are establishing SCWGs made up of managers from all areas of WFP.

59. Regional bureaux mitigate post-delivery losses by carrying out oversight missions; following up on audit recommendations; sharing reports on food age, food stocks at risk and unconfirmed receipts;<sup>7</sup> and issuing early warnings of food at risk. Best practices are shared, and regional bureaux monitor country offices' implementation of them. The Nairobi Regional Bureau emphasized fire and safety issues in 2014.

**Box 5: Examples of integrated supply chain practices**

In Dakar, regional supply plans optimize forward purchasing and reduce storage along the supply chain.

In Johannesburg, the SCWG meets at least once a month to review resourcing, pipeline and operational issues in the region.

<sup>7</sup> Unconfirmed receipts are stocks that have been in transit for a long time.

60. Regional bureaux and country offices organize training for partners and WFP staff and provide technical support. In Dakar, a Food Technologists Unit provides country offices with capacity building in food quality control and processing to mitigate losses. In Nairobi, WFP staff have participated in training-of-trainers on handling SNFs, so they can provide guidance to country offices on loss mitigation.

**Box 6: Strengthening national capacities in Latin America**

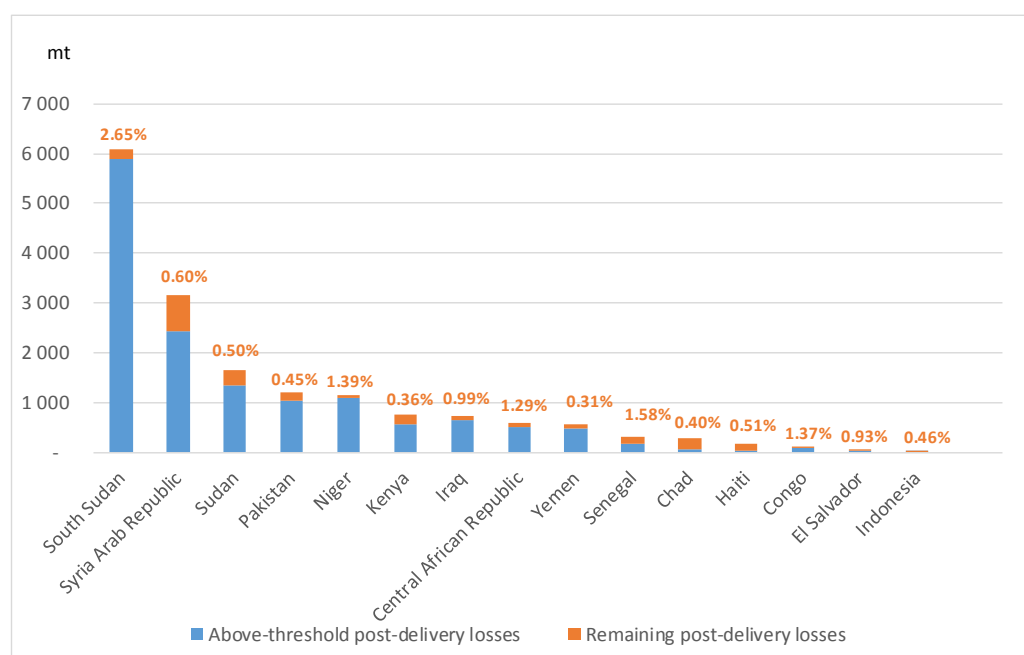
In the Latin America and the Caribbean region, WFP's main focus is on enhancing national-level logistics capacities, particularly of National Disaster Management Authorities (NDMAs). In 2014, eight NDMAs from the region participated in training in Panama, including warehouse and commodity management. Country-level training in warehouse and commodity management for NDMAs and WFP staff was held in five countries to support partners' emergency preparedness and response, including managing relief materials with minimal losses.

## ANNEX I

## ABOVE-THRESHOLD LOSSES, BY COUNTRY

1. This section presents post-delivery losses that exceed WFP's thresholds in: i) countries registering post-delivery losses of a single food type that account for at least 2 percent of the total tonnage of that food handled and that have an absolute value of at least USD 20,000; and ii) countries registering post-delivery losses of a single food type that have an absolute value greater than USD 100,000. The post-delivery loss value and volume are recorded for each country, along with the main reasons for the losses and the prevention and mitigation actions taken by the country in question. The countries are listed in alphabetical order.
2. In 2014, 24 projects in 15 countries recorded single post-delivery losses in excess of thresholds, accounting for 75 percent of the 18,921 mt total post-delivery losses recorded by WFP (Figure 1).

**Figure 1: Countries with above-threshold post-delivery losses, in mt and as % of total food handled (mt)**



*Note:* The distinction between above-threshold post-delivery losses and remaining post-delivery losses is not visible for El Salvador and Indonesia. Please see the narrative for details on those countries.

3. Annex IV provides post-delivery loss values aggregated by region. Annex V provides information per food commodity. Annex VI provides information on total post-delivery losses for each country in 2014. Details of larger post-delivery losses are provided in Annex VII; the factors, circumstances and mitigation measures outlined in the following paragraphs refer to above-threshold post-delivery losses.

### Central African Republic

4. Total post-delivery losses were 601.8 mt for a value of USD 557,723. This represents 1.29 percent of total food handled and 1.32 percent of the total value. Above-threshold post-delivery losses totalled 494.8 mt valued at USD 452,694.



5. The main reason for the post-delivery losses was theft. Trucks were attacked by armed groups during transport, and all or part of the food was stolen.
6. To mitigate future losses, WFP requested the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA) to provide weekly escorts for WFP transport.

## **Chad**

7. Total post-delivery losses were 283.8 mt for a value of USD 453,293. This represents 0.40 percent of total food handled and 0.60 percent of the total value. Above-threshold post-delivery losses totalled 55.0 mt of Plumpy'Sup valued at USD 216,281.
8. The main reason for the loss of Plumpy'Sup was damage to the packaging during transport within Chad. The country's poor road infrastructure puts a strain on transportation, particularly during the rainy season. Careful packing and solid packaging are required to minimize transport damage. Post-delivery transport losses were recovered in full from the transporters.
9. To mitigate future losses, WFP is: i) banning the use of flatbed trucks for transporting cargo in cartons; and ii) providing sub-offices with lists of transporters with sufficient knowledge of local road networks and limitations to avoid risky routes. WFP is strengthening the packaging of sensitive food products so they can sustain harsh transport conditions.

## **The Congo**

10. Total post-delivery losses were 114.5 mt for a value of USD 67,707. This represents 1.37 percent of total food handled and 1.33 percent of the total value. Above-threshold post-delivery losses totalled 91.4 mt valued at USD 53,563.
11. The main reason for post-delivery losses was limited storage capacity after WFP's warehouse was seriously damaged in an explosion in 2012 when a civil weapons depot caught fire causing severe human and material damage in Brazzaville.
12. As an immediate mitigation action, food was restacked in the remaining space in the warehouse. Buildings still standing were used by the Government to provide shelter and other services to the people affected, and WFP used a temporary storage structure until the warehouse was rehabilitated. However, 91.35 mt of cereals and vegetable oil were lost because of poor stacking and water infiltration through the roof damaged in the explosion. As a mitigating measure, a temporary storage structure has been pre-positioned at the WFP office compound, and WFP has assisted the Government in establishing two additional structures for use when needed.

## **El Salvador**

13. Total post-delivery losses were 26.4 mt for a value of USD 31,189. This represents 0.93 percent of total food handled and 1.53 percent of the total value. Above-threshold post-delivery losses totalled 23.0 mt valued at USD 26,125.
14. The main reason for the post-delivery losses was deterioration of HEB packaging. The HEBs were produced in March 2012 and delivered in May 2012 with an expiry date of May 2014. In October 2013, the country office noticed signs of infestation during a routine check. The external boxes were sealed but the internal packaging was not sealed properly, allowing oxygen and moisture to enter. Analysis established that the HEBs were unfit for

human consumption; HEBs remaining at partners' warehouses were recalled and all unfit HEBs were destroyed.

15. To mitigate future losses, the country office has introduced systematic sampling and analysis of products stored in WFP's warehouse, sending samples to the laboratory every three months for testing of quality, temperature and condition.

## Haiti

16. Total post-delivery losses were 177.0 mt for a value of USD 181,165. This represents 0.51 percent of total food handled and 0.70 percent of the total value. Above-threshold post-delivery losses totalled 36.9 mt of HEBs valued at USD 53,602.
17. The main reasons for the above-threshold loss were lower than expected use of the commodities and poor storage conditions at a partner's warehouse, which led to the infestation and loss of HEBs.
18. To mitigate future losses, WFP worked with the partner to improve warehousing conditions, including through training and awareness raising on food management and reporting standards.

## Indonesia

19. Total post-delivery losses were 2.9 mt with a value of USD 36,780. This represents 0.46 percent of total food handled and 4.13 percent of the total value. Above-threshold post-delivery losses totalled 1.4 mt of micronutrient powder (MNP) valued at USD 35,540.
20. The main reason for the post-delivery loss was delays in confirmation of the contribution funding the MNP, which affected its production and delivery. The MNP arrived during the school holidays and – because of its short shelf-life – expired before it could be distributed when school resumed.
21. To mitigate future losses, the country office has enhanced its pipeline management, and Headquarters has worked with suppliers to increase the shelf-life of MNP to two years.

## Iraq

22. Total post-delivery losses were 715.4 mt with a value of USD 810,986. This represents 0.99 percent of total food handled and 1.38 percent of the total value. Above-threshold post-delivery losses totalled 657.4 mt valued at USD 776,502.
23. The main reasons for the losses were expiry of HEBs, security and access issues:
  - 467 mt of HEBs were disposed of when complications arose from WFP amending product labelling to align with Iraqi import regulations. For commercially traded biscuits, regulations in Iraq stipulate that the product: i) has a shelf life of nine months; and ii) must arrive in country within three months of production. HEBs are manufactured to WFP specifications, are nutritionally enriched and have a shelf life of 24 months. However, to comply with Iraqi requirements, WFP instructed the supplier to indicate a 9-month shelf-life on the HEB package. The HEBs were delivered to Jordan. Difficulties in obtaining the necessary import documentation from Iraqi authorities, along with security constraints, delayed their import into Iraq until less than six months remained of the shelf life printed on the packages. Customs officials at the border refused to allow trucks carrying the HEBs to enter Iraq.

- To prevent a substantial loss, efforts were made to re-direct the HEBs to other WFP operations, but the printed shelf-life rendered this impossible. Because the HEBs were of sound quality as confirmed by laboratory tests and had been manufactured with a 24-month shelf life, it was decided to re-label them to reflect their actual shelf. Iraqi authorities agreed in principle to accept the relabelled HEBs, but the relabeling operation attracted media attention and misinterpretation of the operation represented a serious reputational risk for WFP. To mitigate any further damage, it was decided to destroy the HEBs. The Office of Inspections and Investigations conducted a formal review of the incident and WFP took note of the potential risks related to short expiry dates and relabeling. Updated corporate instructions were issued on 24 January 2014 as “Guidance on Labelling and ‘Best Before’ Dates for Pre-Packaged Foods”.
  - Most of the post-delivery losses caused by security issues resulted from trucks being stopped and the food used for unauthorized distributions.
  - WFP had 115 mt of rations in a warehouse that became inaccessible because of conflict in 2014. The rations expired before access was regained.
24. The country office is taking measures to avoid similar situations in the future:
- All security incidents are investigated, and negligent transporters are held accountable. WFP obtains updated information on the security situation from the United Nations Department of Safety and Security.
  - Staff involved in procuring food for Iraq are kept up to date on national requirements for food safety.
  - Changes in regulations are monitored.
  - WFP continues to explore possibilities for local and regional purchases, to minimize lead times.

## Kenya

25. Total post-delivery losses were 743.5 mt with a value of USD 1,926,004. This represents 0.36 percent of total food handled and 1.66 percent of the total value. Above-threshold post-delivery losses totalled 564.7 mt of Plumpy’Sup valued at USD 1,815,791.
26. The above-threshold loss resulted from Plumpy’Sup being subjected to additional testing to verify potential bacteria contamination in 2012 and 2013. The 3,400 mt concerned – including Plumpy’Sup procured for Kenya – tested negative and was released in May 2013, by which time it had reached its best-before date.
27. To mitigate the loss, as soon as distribution was authorized, Plumpy’Sup that could be used was distributed to meet immediate requirements in Kenya and elsewhere in the region. However, 564.7 mt expired because Kenya’s Ministry of Health delayed its approval of the test results. To mitigate similar losses in the future, WFP is:
- building relationships with suppliers to strengthen quality assurance along the value chain; and
  - improving the traceability system within WFP.

## The Niger

28. Total post-delivery losses were 1,142.7 mt for a value of USD 645,526. This represents 1.39 percent of total food handled and 0.76 percent of the total value. Above-threshold post-delivery losses totalled 1,085 mt of maize valued at USD 583,149.
29. In March 2014, the Niger country office purchased 4,389.6 mt of maize from the global commodity management facility (GCMF) in Burkina Faso. Of this, 1,077 mt showed a high level of aflatoxins originating from before the sale and rendering the maize unfit for human consumption, as confirmed by external laboratory results.
30. The mitigating measures were:
  - disposal of the maize – through destruction;
  - the country office’s request for full recovery of the value, as the loss resulted from inferior quality; and
  - enhancement of the Food Specialist Unit at the Regional Bureau, which assesses food suppliers and monitors GCFM food stocks.

## Pakistan

31. Total post-delivery losses were 1,204.1 mt for a value of USD 939,382. This represents 0.45 percent of total food handled and 0.62 percent of the total value. Above-threshold post-delivery losses totalled 1,022.8 mt valued at USD 824,370.
32. There were two main reasons for the losses:
  - 987.8 mt of blended fortified food was lost when it was rebagged from 25-kg to 2.5-kg bags to improve distribution and facilitate carrying by beneficiaries. However, manual sealing allowed air to enter some bags, resulting in the food becoming rancid.
  - 25 mt was lost through theft when a truck was hijacked in Khyber Pakhtunkhwa Province. WFP recovered the value from the transporter.
33. WFP has taken mitigating measures to prevent future losses:
  - WFP has developed a stringent quality assurance and hygiene protocol for rebagging at its Karachi warehouse and has outsourced the process to a company with mechanized rebagging machinery and strict hygiene conditions. Food is repacked only on demand, and is left in its original package as long as possible to help maintain its original best-before date.
  - To mitigate theft during transport, transporters are advised to be more vigilant and aware of security problems in Khyber Pakhtunkhwa Province, avoiding night travel in single trucks.

## Senegal

34. Total post-delivery losses were 321.2 mt for a value of USD 268,911, including 147.7 mt of rice that was lost during normal milling and cleaning. When this rice is excluded, post-delivery losses totalled 173.5 mt valued at USD 200,852. The 321.2 mt registered losses represent 1.58 percent of total food handled and 1.58 percent of the total value. Above-threshold post-delivery losses totalled 183.6 mt valued at USD 186,708.

35. The main reasons for losses were overlong storage of Plumpy'Sup and removal of rice husks through milling:
- Overlong storage led to expiry or damage because of inadequate packaging, and resulted from long delivery lead times combined with delays in distribution. Food was reconstituted to mitigate losses where possible.
  - WFP procured 457 mt of paddy rice from smallholder farmers for milling, with an anticipated extraction rate of 65–70 percent reflected in the purchase price. Accordingly, the quantity of rice was reduced by 147.7 mt.
36. To mitigate future losses, WFP is working with the partner concerned to improve the implementation of activities and distribution plans and avoid delays. Stock inventories now highlight best-before dates and food quality assessments to avoid expiry and damage of food.

### South Sudan

37. Total post-delivery losses were 6,074.2 mt for a value of USD 4,486,470. This represents 2.65 percent of total food handled and 2.89 percent of the total value. Above-threshold post-delivery losses totalled 5,868 mt valued at USD 4,340,565.
38. There were three main reasons for post-delivery losses:
- Looting during civil strife included 1,924 mt taken from warehouses in Malakal and Bor. Partners lost an additional 1,903 mt.
  - 272 mt was lost during in-country transport because of poor roads and weather conditions.
  - 80 mt was stolen from the warehouses of partners and WFP.
39. As prevention and mitigation measures, the country office took the following actions:
- To reduce looting, food is pre-positioned at fewer sites, which are selected based on risk analysis. WFP has requested the Government's assistance in protecting humanitarian assets, and support from the United Nations Mission in South Sudan (UNMISS).
  - Transport losses were charged in full to the transporters responsible for them.
  - When theft/pilferage resulted from negligence, the security companies hired were charged for the losses and alternative security companies were identified. A partner involved in losses to overscooping and pilferage has accepted full responsibility and is working with WFP on developing mechanisms for mitigating such losses in the future. The Partnerships Team at the country office is establishing an incident database to inform negotiations of new field-level agreements with partners.

### The Sudan

40. Total post-delivery losses were 1,649.6 mt for a value of USD 790,645. This represents 0.51 percent of total food handled and 0.53 percent of the total food value. Above-threshold post-delivery losses totalled 1,329.9 mt valued at USD 508,630.
41. There were two main reasons for these post-delivery losses:
- Trucks transporting food were hijacked and the food stolen.
  - Food lost through hijacking and theft when contracted transporters drove without escort were reported as short deliveries and is the responsibility of the company concerned.

42. The country office carried out measures to reduce future losses:
- SOPs were developed and sent to all commercial transporters detailing their responsibilities in mitigating losses that result from hijacking and theft, and emphasizing the need for armed escorts.
  - A meeting was held with all commercial transporters to clarify issues regarding the use of escorts and responsibilities for lost cargo.
  - Revised SOPs were developed by the African Union-United Nations Hybrid Operation in Darfur (UNAMID), with an enhanced escort system. Weekly schedules and clear procedures on the movements of WFP's fleet and commercial transporters are shared.

### **Syrian Arab Republic**

43. Total post-delivery losses were 3,145.5 mt for a value of USD 2,208,798. However, 327.9 mt of this total is being verified and is not expected to be a loss. The 3,145.5 mt represents 0.60 percent of total food handled and 0.62 percent of the total value. Above-threshold post-delivery losses totalled 2,427.5 mt valued at USD 1,773,311.
44. There were four main reasons for post-delivery losses:
- Some losses resulted from poor storage and handling and inexperienced staff at partners' facilities.
  - A fire broke out at WFP's warehouse in Tartous.
  - Short deliveries resulted from losses during transportation.
  - Factors causing storage problems included security issues, a dispute concerning the overland importation of fresh produce, and frequent stoppages of transport across the Syrian–Lebanese border in the second and third quarters of 2013. These increased reliance on the port of Tartous, causing delays when imported cargoes became too great for custom authorities to process. Security and access constraints in northeast Syria delayed dispatches from Tartous, as did the partner's reluctance to receive low-gluten wheat flour. The resulting overlong storage caused the food to deteriorate until it was unfit for human consumption.
45. Measures were employed to mitigate future losses:
- To improve handling, frequent assessments and checks are carried out at partners' warehouses, and guidance is provided during the monitoring process. To enhance logistics capacity, training courses were conducted at all sub-offices in:
    - ◇ warehouse management for 116 WFP and 121 partner staff members;
    - ◇ pest management for 36 WFP and 65 partner staff members; and
    - ◇ warehouse inspection for 12 WFP staff members.
  - To avoid future outbreaks of fire at the warehouse:
    - ◇ a fire alarm system has been installed and can detect even very small fires;
    - ◇ security guards are contracted to provide full-time presence at the warehouse, including 24-hour monitoring of security cameras;
    - ◇ a controlled access point managed by security guards prevents hazardous materials from entering the warehouse; and
    - ◇ staff have been trained on evacuating the warehouse and using fire extinguishers.



- To reduce transport losses and short deliveries: i) consignments are sealed to prevent unauthorized sampling/pilferage during transit; and ii) transporters are contractually obliged to notify WFP of any delay in delivering to partners' warehouses, to ensure that rapid unloading of cargoes can be arranged. WFP holds transporters liable for losses that occur during transport.
- To prevent improper or overlong storage, the country office coordinates with WFP's Shipping Service and the Procurement Division on delaying or diverting shipments when there is disruption at destination ports.

## Yemen

46. Total post-delivery losses were 552.0 mt for a value of USD 629,863. This represents 0.31 percent of total food handled and 0.54 percent of the total value. Above-threshold post-delivery losses totalled 469.3 mt valued at USD 574,000.
47. There were three main reasons for post-delivery losses:
- Under national regulations issued in 2013, nutritious food must arrive at distribution points at least 60 days before its best-before date. Partners returned stock that did not meet this requirement.
  - Partners returned expired commodities that had not been used because of lower than expected consumption linked to security challenges.
  - Wheat was subjected to prolonged storage and infestation at a partner's warehouse. The food was moved to a more conducive warehouse and the bags were reconditioned in line with national standards.
48. The following actions were taken to mitigate future losses:
- The country office coordinated with WFP's Procurement Division at Headquarters to ensure that food production conforms to Yemen's national specifications. WFP's guidance on supply management emphasizes the importance of aligning deliveries with the best-before dates of food, and prioritizing products for distribution according to their expiry dates.
  - Regular visits to partners' warehouses, improved planning of deliveries and distributions and better food quality management – including commodity age reports – are reducing post-delivery losses caused by overlong storage.
  - To improve partners' management of food quality, WFP carries out monthly food inspections at warehouses and provides on-site guidance.



## ANNEX II

## POST-DELIVERY LOSSES UNDER VERIFICATION

### Post-Delivery Losses under Verification from the 2013 Report

1. *Eritrea.* 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 so is 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 compliance with Eritrea's contractual obligations, and will continue to seek a solution.
2. *Afghanistan.* In the 2013 post-delivery loss report, Afghanistan had approximately 9,000 mt of food under verification; these investigations have been concluded. The losses were not officially acknowledged by the partners concerned, so were not recorded in Standard Project Reports for 2012.
3. In 2012, 9,116 mt of food was lost because of diversions following food distributions in seven provinces – particularly Kunar (3,948 mt), Nuristan (3,021 mt) and Paktika (1,159 mt), but also Badghis, Ghazni, Hirat and Jawzjan.
4. **Kunar:** In January 2012, community members and contracted transporters informed WFP's country office compliance unit that food had been diverted to markets and beneficiaries had not received their rations.

An independent investigator hired by WFP found that food had been diverted by government officials and sold in local markets, and that food was also misused and diverted by Department of Education officials who exaggerated the numbers of students present in schools.

WFP lodged a formal complaint to the Governor and stopped all food dispatches to Kunar.

5. **Nuristan:** In January 2012, community members informed the country office compliance unit that beneficiaries were not receiving their food rations, that food was being diverted to other districts within the province and that food was diverted to be sold in local markets.

An independent investigator hired by WFP found that food was being diverted from three distribution centres in Nuristan to markets in Kunar, Laghman and Jalalabad. No WFP food was reaching targeted beneficiaries – it was all being diverted by partners, government officials and community elders.

WFP notified the Governor of Nuristan, lodged a formal complaint and ceased food dispatches to Nuristan.

6. **Paktika:** In January 2012, community elders involved in identifying beneficiaries contacted the country office compliance unit to report that assistance for disaster relief was not being received by intended beneficiaries. Separately, the United States Agency for International Development was also informed that the partner ANDMA was diverting food.

An independent investigator hired by WFP found that none of the beneficiaries had received food in the previous two months.

WFP stopped all food dispatches to Paktika at that time, notifying the Provincial Governor and ANDMA at the central and regional levels and requesting corrective action. WFP informed ANDMA that it is responsible for reimbursing the value of the food lost.

7. These diversions were reported via the beneficiary hotline and the investigations involved extensive work by the country office compliance unit. WFP reported the cases to the Government's High Office of Oversight and Anti-Corruption for legal investigation.
8. Mitigating measures for reducing food diversions included:
  - WFP strengthened partner's control mechanisms, mainly during project implementation, and access to "no-go" locations has been improved through external monitors.
  - an outreach campaign using radio and print to inform beneficiaries of WFP's distribution principles, their own entitlements, and facilities for reporting grievances, including the beneficiary hotline;
  - printing of the hotline number on all bags and cartons and on posters at distribution sites informing beneficiaries of their entitlements;
  - inclusion of more NGOs as partners;
  - photographing of all consignments to provide evidence for investigations of food diversions; and
  - engagement with local police in investigating cases and apprehending guilty individuals; in 2013, the Government decreed that non-entitled individuals in possession of WFP food were subject to arrest, with the police confiscating the food.

These measures have resulted in increased use of the hotline, from 294 calls in 2012 to 473 in 2014; more investigations, from 11 cases in 2012 to 90 in 2014; and lower diversions, of 64 mt in 2014.

9. *Iraq*. In 2013, post-delivery losses of 640 mt of HEBs were under verification. In 2014, 353 mt was recorded as a post-delivery loss; the remaining 288 mt is in inaccessible locations and still under verification but expected to be a post-delivery loss. Paragraphs 22–24 in Annex I provide more details.
10. *Syrian Arab Republic*. In 2013, 412 mt was under verification pending confirmation or receipt by partners. Of this, 107 mt was confirmed as a loss, and 305 mt is still being verified.

### **Post-Delivery Losses under Verification in 2014**

11. *The Central African Republic*: At the end of 2014, 261.1 mt was under verification of suspected theft. Trucks transporting food were attacked by armed groups and all or part of the food was stolen. WFP is verifying the losses with the transporters and will register them in 2015, following final confirmation.
12. *Iraq*: Details in paragraph 9 of this Annex.
13. *Sudan*: At the end of 2014, 32.5 mt was under verification. Of this, 16.5 mt is an in-kind contribution of vegetable oil that had an earlier expiry date than expected. This oil could not be distributed before it expired, and is awaiting destruction. WFP is discussing the case with the donor. The remaining post-delivery losses under verification occurred during looting from contracted transporters. These losses have been settled with the transporters and will be registered in 2015.
14. *Syrian Arab Republic*: At the end of 2014, 327.9 mt was under verification, in addition to the 412 mt mentioned in paragraph 10 of this Annex.

15. *Yemen*: At the end of 2014, 3,608 mt was under verification. This was a potential loss of fava beans, which were distributed for the first time in Yemen in March–April 2014 as part of the emergency ration. Distribution was halted after reports of people having an allergic reaction to the beans. In 2015, a commercial buyer agreed to purchase the remaining beans, but then declined to collect them because of the lack of a market. WFP is resolving this breach of contract with the buyer and will provide an update in the 2015 post-delivery loss report.

**ANNEX III**

<b>LOSSES BY REASON</b>		
	<b>Value (USD)</b>	<b>% of post- delivery losses</b>
Improper/overlong storage	4 722 940	30.35
Loss during civil strife	3 067 975	19.71
Short-delivered	1 298 167	8.34
Pilferage/theft	1 258 042	8.08
Poor handling	1 208 450	7.76
Reconstitution/rebagging/repacking	1 136 577	7.30
Deterioration of food commodities mainly attributable to problems at origin	666 205	4.28
Loss due to fire	617 463	3.97
Deterioration of packaging materials	577 308	3.71
Unauthorized distribution	252 390	1.62
Wet by water	179 406	1.15
Processing/transformation of commodity	125 468	0.81
Variance in weight	103 860	0.67
Infestation	81 165	0.52
Loss due to sampling food analysis	73 510	0.47
Broken during loading	59 626	0.38
Inadequate transport	58 615	0.38
Wet by gas oil	40 459	0.26
Flooding and other natural disasters	33 603	0.22
Attack by termites	1 462	0.01
Wet by oil	497	0.00
Loss due to overscooping	191	0.00
Wet bags	156	0.00

QUANTITIES AND VALUES OF LOSSES BY REGION								
	2014 Opening stock		Received in recipient country		Total handled*		Post-delivery losses	
Region	Quantity net (mt)	Value (USD)	Quantity net (mt)	Value (USD)	Quantity net (mt)	Value (USD)	Quantity net (mt)	Value (USD)
<b>OMB</b>	100 381	68 370 062	503 205	299 790 822	603 587	368 160 884	1 466	1 171 292
<b>OMC</b>	250 973	150 949 458	989 498	643 557 162	1 240 471	794 506 620	6 200	4 544 432
<b>OMD</b>	104 786	103 565 491	401 084	329 445 973	505 871	433 011 463	2 974	2 357 716
<b>OMJ</b>	82 803	57 114 775	263 928	184 900 239	346 731	242 015 014	791	518 152
<b>OMN</b>	206 198	122 082 329	893 521	513 996 698	1 099 719	636 079 027	7 267	6 740 045
<b>OMP</b>	35 700	28,055 574	66 611	51 231 076	102 312	79 286 650	223	231 896
<b>GRAND TOTAL</b>	780 842	530 137 688	3 117 849	2 022 921 970	3 898 691	2 553 059 658	18 921	15 563 533
							0.49%	0.61%

\*Opening stocks in the recipient country + commodities received in the recipient country

OMB Bangkok Regional Bureau (Asia)

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

OMD Dakar Regional Bureau (West Africa)

OMJ Johannesburg Regional Bureau (Southern Africa)

OMN Nairobi Regional Bureau (East and Central Africa)

OMP Panama Regional Bureau (Latin America and the Caribbean)

## ANNEX V

LOSSES BY COMMODITY				
Commodity code	Commodity	Total handled* (USD)	Total post-delivery losses (USD)	Losses in USD as % of total handled*
MIXRSF	Plumpy	117 286 574	2 830 940	2.41
OILVEG	Vegetable oil	286 227 911	2 302 637	0.80
CERSOR	Sorghum	331 226 248	2 277 214	0.69
CERRIC	Rice	321 927 693	1 241 026	0.39
CERMAZ	Maize	188 521 350	998 675	0.53
MIXWSB	Wheat-soya blend	13 107 393	913 557	6.97
MIXCSB	Corn-soya blend	214 901 345	887 094	0.41
PULSPE	Split peas	109 644 932	816 328	0.74
MIXHEB	High-energy biscuits	22 804 044	736 354	3.23
CERWHF	Wheat flour	106 323 445	550 053	0.52
CERWHE	Wheat	286 251 053	405 892	0.14
PULLEN	Lentils	69 027 199	309 029	0.45
CERMML	Maize meal	52 788 144	169 477	0.32
PPFRTN	Rations	78 719 348	162 506	0.21
PULBEA	Beans	83 682 856	155 337	0.19
MSCSUG	Sugar	31 235 394	136 297	0.44
CERWBG	Bulgur wheat	40 960 227	121 748	0.30
CERPAS	Pasta	38 153 319	88 716	0.23
FSHCFI	Canned fish	16 285 770	79 644	0.49
PULCPU	Canned pulses	35 887 735	77 001	0.21
FRUDFR	Dried fruits	7 691 927	74 544	0.97
PULCKP	Chickpeas	25 737 588	66 569	0.26
DAIDSP	Plain dried skim milk	16 999 697	53 941	0.32
MSCSAL	Iodized salt	5 067 318	38 271	0.76
MSCMNP	Micronutrition powder	2 602 606	36 521	1.40
PULPEA	Peas	23 864 358	15 190	0.06
CERBAR	Barley	1 472 129	5 537	0.38
MIXRSB	Rice soya blend	1 774 484	5 016	0.28
OILBUT	Butter oil	2 230	2 230	100.00
MEAMEA	Canned meat	2 409 615	1 579	0.07
MIXBIS	Biscuits	1 057 870	1 465	0.14
MSCYEA	Yeast	1 551 121	681	0.04
MIXFAF	Faffa	3 781 614	509	0.01

<b>LOSSES BY COMMODITY</b>				
<b>Commodity code</b>	<b>Commodity</b>	<b>Total handled* (USD)</b>	<b>Total post-delivery losses (USD)</b>	<b>Losses in USD as % of total handled*</b>
PULSPY	Yellow split peas	12 217	421	3.44
MIXBP5	Bp5 emergency rations	629 018	420	0.07
MIXCSM	Corn-soya milk	8 353	356	4.26
MSCMNT	Micronutrition tablets	505 929	238	0.05
CERBHW	Buckwheat	103 870	224	0.22
DAIUHT	Ultra high temperature milk	3 365 483	189	0.01
PULSLN	Split lentils	102 419	94	0.09
OIOLV	Olive oil	14	14	100.00
BEVCOF	Coffee	2 205 153	-	0.00
CERBRE	Bread	5 184 653	-	0.00
CERQUI	Qui cereals	105 029	-	0.00
DAIDWM	Dried whole milk	1 862 982	-	0.00
<b>TOTAL</b>		<b>2 553 059 658</b>	<b>15 563 533</b>	<b>0.61</b>

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



## ANNEX VI

QUANTITIES AND VALUES OF LOSSES BY RECIPIENT COUNTRY						
Region	Country	Total handled*		Post-delivery losses		Losses in USD as % of total handled*
		(net mt)	(USD)	(net mt)	(USD)	
OMB	Afghanistan	75 626	51 906 941	47.0	34 149	0.07
	Bangladesh	47 116	23 852 941	16.7	13 437	0.06
	Bhutan	2 355	1 267 515	2.4	1 543	0.12
	Cambodia	18 838	15 833 879	29.7	18 711	0.12
	Democratic People's Republic of Korea	37 141	41 359 678	1.1	1 175	0.00
	Indonesia	625	890 459	2.9	36 780	4.13
	Lao People's Democratic Republic	9 042	4 865 264	10.0	13 124	0.27
	Myanmar	65 830	27 833 806	29.3	23 659	0.09
	Nepal	17 636	11 821 466	56.4	49 720	0.42
	Pakistan	265 679	151 559 343	1 204.1	939 382	0.62
	Philippines	52 566	29 125 231	50.0	26 071	0.09
	Sri Lanka	10 830	7 428 852	16.7	13 205	0.18
	Timor-Leste	302	415 507	0.2	338	0.08
<b>OMB Total</b>		<b>603 587</b>	<b>368 160 884</b>	<b>1 466.4</b>	<b>1 171 292</b>	<b>0.32</b>
OMC	Algeria	28 139	21 046 138	83.4	55 249	0.26
	Armenia	2 854	2 408 932	0.3	240	0.01
	Bosnia and Herzegovina	25	38 658	0.0	0	0.00
	Egypt	8 626	6 523 594	1.1	722	0.01
	Iran (Islamic Republic of)	3 753	2 638 938	6.6	4 356	0.17
	Iraq	72 566	58 961 308	715.4	810 986	1.38
	Jordan	15 772	16 250 181	16.1	17 209	0.11
	Kyrgyzstan	4 348	2 786 406	0.2	150	0.01
	Lebanon	4 138	8 269 483	1.7	4 175	0.05
	Libya	226	182 083	0.0	0	0.00
	State of Palestine	64 696	43 589 654	27.0	21 369	0.05
	Serbia and Montenegro	1	1 083	0.0	0	0.00
	Sudan	322 378	148 998 393	1 649.6	790 645	0.53
	Syrian Arab Republic	521 536	356 501 551	3 145.5	2 208 798	0.62
	Tajikistan	12 549	8 025 539	1.0	670	0.01
Ukraine	298	568 351	0.0	0	0.00	
Yemen	178 567	117 716 329	552.0	629 863	0.54	
<b>OMC Total</b>		<b>1 240 471</b>	<b>794 506 620</b>	<b>6 199.8</b>	<b>4 544 432</b>	<b>0.57</b>

QUANTITIES AND VALUES OF LOSSES BY RECIPIENT COUNTRY						
Region	Country	Total handled*		Post-delivery losses		Losses in USD as % of total handled*
		(net mt)	(USD)	(net mt)	(USD)	
OMD	Benin	4 124	2 257 931	3.0	1 456	0.06
	Burkina Faso	15 409	16 027 282	89.9	69 230	0.43
	Cameroon	24 794	16 581 149	75.3	45 102	0.27
	Central.African Republic	46 569	42 285 036	601.8	557 723	1.32
	Chad	70 451	75 930 103	283.8	453 293	0.60
	Côte d'Ivoire	12 574	9 510 678	21.5	17 721	0.19
	Gambia	3 376	2 680 864	19.4	18 852	0.70
	Ghana	9 854	7 187 342	63.6	27 570	0.38
	Guinea	28 780	16 503 804	96.7	57 468	0.35
	Guinea-Bissau	3 382	3 157 886	4.7	2 635	0.08
	Liberia	27 516	19 861 754	28.2	20 085	0.10
	Mali	104 781	82 640 264	117.4	98 649	0.12
	Mauritania	21 300	15 834 849	20.7	19 524	0.12
	The Niger	81 949	84 771 863	1 142.7	645 526	0.76
	Sao Tome and Principe	678	473 140	0.1	78	0.02
	Senegal	20 324	17 293 395	321.2	268 911	1.55
	Sierra Leone	30 009	20 013 885	83.7	53 891	0.27
	Togo	0	241	0.0	0	0.00
<b>OMD Total</b>		<b>505 871</b>	<b>433 011 463</b>	<b>2 973.7</b>	<b>2 357 716</b>	<b>0.54</b>
OMJ	Congo	8 305	5 096 570	114.5	67 707	1.33
	Democratic Republic of the Congo	66 297	59 817 023	280.4	211 460	0.35
	Lesotho	17 893	10 957 064	2.7	2 127	0.02
	Madagascar	25 794	12 209 453	65.0	30 196	0.25
	Malawi	104 554	84 462 442	102.2	93 401	0.11
	Mozambique	15 034	7 878 234	83.9	38 042	0.48
	Swaziland	7 051	4 168 689	21.0	14 259	0.34
	Tanzania, United Republic of	41 473	21 429 598	111.8	54 594	0.25
	Zambia	13 174	6 627 223	1.2	1 305	0.02
	Zimbabwe	47 157	29 368 719	8.1	5 062	0.02
<b>OMJ Total</b>		<b>346 731</b>	<b>242 015 014</b>	<b>790.8</b>	<b>518 152</b>	<b>0.21</b>
OMN	Burundi	22 038	16 842 534	36.4	20 223	0.12
	Djibouti	14 936	7 862 499	22.6	13 310	0.17
	Ethiopia	434 219	216 291 269	283.9	177 445	0.08

QUANTITIES AND VALUES OF LOSSES BY RECIPIENT COUNTRY						
Region	Country	Total handled*		Post-delivery losses		Losses in USD as % of total handled*
		(net mt)	(USD)	(net mt)	(USD)	
	Kenya	207 806	116 279 055	743.5	1 926 004	1.66
	Rwanda	16 860	8 681 304	8.9	4 787	0.06
	Somalia	95 890	69 000 452	55.1	80 082	0.12
	South Sudan	229 471	155 179 424	6 074.2	4 486 470	2.89
	Uganda	78 500	45 942 490	42.6	31 725	0.07
<b>OMN Total</b>		<b>1 099 719</b>	<b>636 079 027</b>	<b>7 267.3</b>	<b>6 740 045</b>	<b>1.06</b>
OMP	Bolivia (Plurinational State of)	3 202	3 913 694	0.2	151	0.00
	Colombia	13 189	11 774 002	14.3	12 362	0.10
	Cuba	515	514 568	0.3	230	0.04
	Dominican Republic	217	400 824	0.1	91	0.02
	Ecuador	632	588 121	1.3	2 249	0.38
	El Salvador	2 788	2 036 244	26.4	31 189	1.53
	Guatemala	13 227	7 407 938	1.8	2 978	0.04
	Haiti	34 727	25 735 404	177.0	181 165	0.70
	Honduras	24 965	19 312 745	1.5	1 303	0.01
	Nicaragua	8 789	7 558 527	0.3	177	0.00
	Paraguay	60	44 584	0.0	0	0.00
<b>OMP Total</b>		<b>102 312</b>	<b>79 286 650</b>	<b>223.3</b>	<b>231 896</b>	<b>0.29</b>
<b>GRAND TOTAL</b>		<b>3 898 691</b>	<b>2 553 059 658</b>	<b>18 921.3</b>	<b>15 563 533</b>	<b>0.61</b>

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

**COMMODITIES WITH POST-DELIVERY LOSSES GREATER THAN 2 PERCENT OF TOTAL TONNAGE  
AND VALUE OVER USD 20,000 OR VALUE GREATER THAN USD 100,000**

Region	Country	Work Breakdown Structure element	Commodity	Total handled* (net mt)	Total handled* (USD)	Post-delivery losses (net mt)	Post-delivery losses (USD)	Losses in mt as % of total handled*
OMB	Indonesia	200245.F.1.C3	MSCMNP	1.407	35 539.64	1.407	35 539.64	100.00
OMB	Pakistan	200250.F.1	MIXWSB	4 935.185	3 977 759.11	1 022.792	824 370.35	20.72
OMC	Iraq	200035.F.1	MIXHEB	976.262	1 878 093.79	82.055	157 854.13	8.41
OMC	Iraq	200645.F.1	MIXHEB	385.460	468 333.90	385.460	468 333.90	100.00
OMC	Iraq	200663.F.1	PPFRTN	522.409	463 622.32	29.484	26 166.17	5.64
OMC	Iraq	200677.F.1	PPFRTN	58 236.235	45 071 351.72	160.410	124 147.72	0.28
OMC	Sudan	200597.F.1	CERSOR	175 792.217	67 233 491.31	1 329.891	508 630.11	0.76
OMC	Syrian Arab Republic	200339.F.1	CERRIC	133 413.413	78 752 603.56	796.723	470 297.62	0.60
OMC	Syrian Arab Republic	200339.F.1	CERWHF	55 082.361	22 902 694.88	780.906	324 692.91	1.42
OMC	Syrian Arab Republic	200339.F.1	FSHCFI	53.931	469 331.83	8.710	75 798.34	16.15
OMC	Syrian Arab Republic	200339.F.1	OILVEG	47 321.095	55 546 920.94	591.026	693 764.05	1.25
OMC	Syrian Arab Republic	200339.F.1	PULLEN	46 217.033	38 571 349.23	250.139	208 758.51	0.54
OMC	Yemen	200305.F.1	FRUDFR	80.909	124 033.53	25.277	38 749.65	31.24
OMC	Yemen	200451.F.1	FRUDFR	9.120	26 454.75	9.120	26 454.75	100.00
OMC	Yemen	200451.F.1	MIXRSF	2 074.195	8 021 676.24	73.024	282 410.71	3.52
OMC	Yemen	200451.F.1	MIXWSB	2 643.459	1 715 234.81	63.115	40 952.80	2.39
OMC	Yemen	200636.F.1	CERWHF	16 772.660	7 398 755.78	280.532	123 748.28	1.67
OMC	Yemen	200636.F.1	MIXRSF	867.046	2 938 774.38	18.199	61 683.87	2.10
OMD	Central African Republic	200650.F.1	CERRIC	24 442.755	19 518 028.72	349.990	279 474.01	1.43
OMD	Central African Republic	200650.F.1	OILVEG	1 559.896	2 014 106.52	55.627	71 824.47	3.57





**COMMODITIES WITH POST-DELIVERY LOSSES GREATER THAN 2 PERCENT OF TOTAL TONNAGE  
AND VALUE OVER USD 20,000 OR VALUE GREATER THAN USD 100,000**

Region	Country	Work Breakdown Structure element	Commodity	Total handled* (net mt)	Total handled* (USD)	Post-delivery losses (net mt)	Post-delivery losses (USD)	Losses in mt as % of total handled*
OMD	Central African Republic	200650.F.1	PULSPE	2 410.495	2 739 840.93	89.207	101 395.35	3.70
OMD	Chad	200289.F.1	MIXRSF	1 513.547	5 951 736.00	55.001	216 280.98	3.63
OMD	The Niger	200583.F.1	CERMAZ	3 523.300	1 893 668.05	1 084.988	583 148.50	30.79
OMD	Senegal	200138.F.1	MIXRSF	661.799	2 189 363.45	35.865	118 648.59	5.42
OMD	Senegal	200249.F.1.C3	CERRIC	3 392.347	1 536 427.88	103.396	46 829.08	3.05
OMD	Senegal	200471.F.1	CERRIC	174.558	83 569.64	44.345	21 230.17	25.40
OMJ	Congo	200144.F.1	CERRIC	1 848.769	828 784.66	69.099	30 976.39	3.74
OMJ	Congo	200144.F.1	OILVEG	228.436	231 880.81	22.251	22 586.55	9.74
OMN	Kenya	200174.F.1	MIXRSF	526.339	1 740 776.76	93.126	307 998.41	17.69
OMN	Kenya	200294.F.1	MIXRSF	1 463.046	4 677 431.21	471.620	1 507 792.72	32.24
OMN	South Sudan	200572.F.1	CERMAZ	1 098.993	672 363.92	63.300	38 726.94	5.76
OMN	South Sudan	200572.F.1	CERSOR	63 155.890	22 085 614.73	2 391.804	836 413.86	3.79
OMN	South Sudan	200572.F.1	CERWHE	1 422.675	1 127 313.44	432.900	343 025.63	30.43
OMN	South Sudan	200572.F.1	MIXCSB	1 557.413	1 400 861.85	157.883	142 012.60	10.14
OMN	South Sudan	200572.F.1	MIXRSF	1 436.399	5 311 458.77	48.543	179 500.36	3.38
OMN	South Sudan	200572.F.1	MSCSUG	17.796	23 713.35	17.796	23 713.35	100.00
OMN	South Sudan	200572.F.1	OILVEG	4 956.944	9 101 097.89	587.156	1 078 036.03	11.85
OMN	South Sudan	200572.F.1	PULSPE	3 422.300	2 748 620.25	490.738	394 136.22	14.34
OMN	South Sudan	200659.F.1	CERSOR	85 789.088	51 727 388.50	1 311.857	790 997.30	1.53
OMN	South Sudan	200659.F.1	MIXCSB	6 304.469	11 655 387.06	145.827	269 597.67	2.31
OMN	South Sudan	200659.F.1	OILVEG	4 657.357	7 421 312.09	82.800	131 938.49	1.78

COMMODITIES WITH POST-DELIVERY LOSSES GREATER THAN 2 PERCENT OF TOTAL TONNAGE AND VALUE OVER USD 20,000 OR VALUE GREATER THAN USD 100,000								
Region	Country	Work Breakdown Structure element	Commodity	Total handled* ( <i>net mt</i> )	Total handled* ( <i>USD</i> )	Post-delivery losses ( <i>net mt</i> )	Post-delivery losses ( <i>USD</i> )	Losses in mt as % of total handled*
OMN	South Sudan	200659.F.1	PULSPE	2 188.000	1 586 562.56	155.100	112 466.11	7.09
OMP	El Salvador	S.0001.1.01.002	MIXHEB	23.033	26 125.18	23.033	26 125.18	100.00
OMP	Haiti	108440.F.1	MIXHEB	115.374	167 578.43	36.904	53 602.32	31.99

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

**ANNEX VIII**

<b>POST-DELIVERY LOSSES 2005–2014</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>
2005	5 077 411	23 677	0.47	1 811 472 229	9 516 413	0.53
2006	4 994 321	24 133	0.48	1 781 348 513	9 540 580	0.54
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

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## ACRONYMS USED IN THE DOCUMENT

GCMF	global commodity management facility (previously forward purchase facility)
HEB	high-energy biscuit
LESS	Logistics Execution Support System
MNP	micronutrient powder
SCWG	supply chain working group
SNF	specialized nutritious food
SOP	standard operating procedure