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Programme Alimentaire Mondial  
Programa Mundial de Alimentos  
برنامج الأغذية العالمي

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## Report on global losses for the period from 1 January to 31 December 2023

### Executive summary

In 2023, WFP handled 4.6 million metric tonnes (mt) of food,<sup>1</sup> providing high-quality food assistance to more than 150 million people. Through its robust and responsive humanitarian supply chains, WFP was able to anticipate needs and to adapt and deliver assistance with integrity, while endeavouring to maintain and strengthen controls. Losses in 2023 were higher than in previous years, however, primarily as a result of challenging operational environments in countries such as the Sudan and other events beyond WFP's control.

Overall, of the 4.6 million mt of food handled in 2023, 66,974 mt (1.5 percent) was lost, compared to 29,918 mt (0.48 percent) of the 6.3 million mt of food handled in 2022.

Pre-delivery losses in 2023 amounted to 12,698 mt, or 0.3 percent of the total volume, and were valued at USD 11.1 million, while transport-related losses – valued at USD 4 million – accounted for 36 percent of the pre-delivery losses.

Total post-delivery losses in 2023 amounted to 54,276 mt, or 1.2 percent of the total, with a value of USD 38.4 million. Seventeen countries had above-threshold post-delivery losses totalling 49,980 mt, valued at USD 34.3 million,<sup>2</sup> with the Sudan accounting for 79 percent of those losses. Loss during civil strife accounted for 73 percent of total post-delivery losses.

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<sup>1</sup> The word *handled* refers here to the transport of food by WFP for distribution to the people that it serves. The amount of food handled in the post-delivery-loss context for a given country is the sum of the opening stock, the food purchased in the country and all food coming into the country from outside.

<sup>2</sup> The term “above-threshold post-delivery losses” refers to losses that exceed WFP thresholds for country-level post-delivery losses of a single food type, valued either at USD 20,000 or more and accounting for at least 2 percent of the volume handled, or at USD 100,000 or more.

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#### Focal point:

Ms B. Ka  
Director  
Supply Chain and Delivery Division  
email: [betty.ka@wfp.org](mailto:betty.ka@wfp.org)

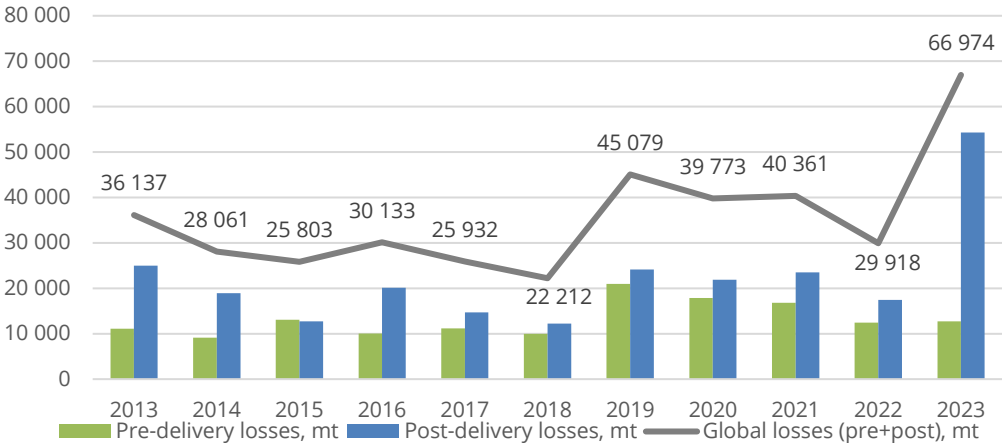
### Introduction

1. This report provides an overview of global losses of food in 2023 – both pre- and post-delivery – and measures to prevent or mitigate such losses going forward. The annex to the report presents details of country-specific losses and identifies the countries where losses exceeded WFP’s reporting thresholds.
2. Pre-delivery losses are those that occur before legal title to food has passed to a government, usually at the first delivery point in the recipient country.
3. Post-delivery losses are those that occur after food has arrived in a recipient country and before it is distributed to people in need.
4. Within the legal framework in which WFP operates, legal title of food commodities normally passes to the recipient country’s government at the point of first entry into the country, although WFP retains physical possession of the commodities far beyond the time at which legal title has been transferred.
5. The report does not cover unintended uses of food after distribution to beneficiaries, such as sharing, sale, theft and other post-distribution diversions, which are captured and addressed through WFP’s monitoring and escalation mechanisms.
6. All pre- and post-delivery losses are covered by the WFP self-insurance scheme from the moment that WFP takes possession of food commodities through to their physical handover to a cooperating partner, to the people that it serves or to the recipient government.

### Characteristics of global losses in 2023

7. Global food losses are presented here by volume (mt), by value (United States dollars – USD) and in comparison to previous years.
8. Significant losses due to complex operating environments and events beyond WFP’s control led to global losses of 66,974 mt in 2023, an increase in comparison to an average of 30,000 mt in recent years (see figure 1 and annex II for details).

**Figure 1: Global food losses by volume, 2013–2023**



9. The value of global losses in 2023 was USD 49.4 million, compared to USD 26.1 million in 2022 and USD 25 million in 2021.

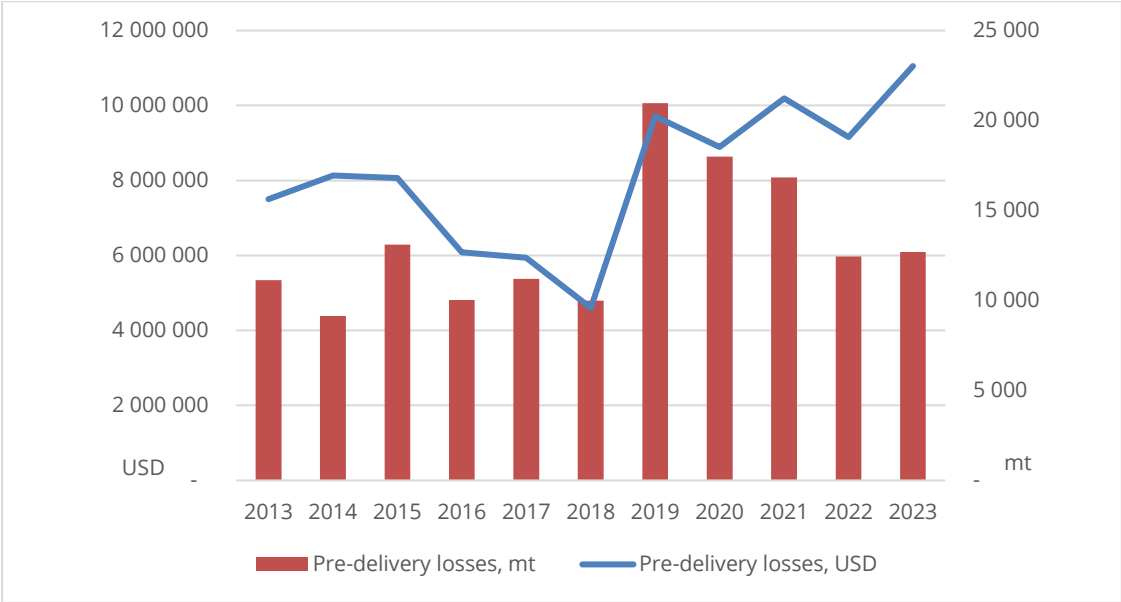
10. As to the commodities concerned, the most significant losses were recorded for sorghum and millet, wheat flour, rice, lentils and vegetable oil, amounting to a combined total of 55,933 mt, valued at USD 36.1 million, and accounting for 84 percent of the global losses by volume (see table 1).

TABLE 1: THE COMMODITIES FOR WHICH LOSSES WERE HIGHEST, 2023				
Commodity	Losses (mt)	Value (USD)	USD per mt	Losses as a percentage of total losses by volume
Sorghum/millet	39 028	16 963 870	435	58
Wheat flour	5 648	4 318 338	765	8
Rice	3 825	2 283 371	597	6
Lentils	3 738	4 342 866	1 162	6
Vegetable oil	3 694	8 193 868	2 218	6
<b>Total</b>	<b>55 933</b>	<b>36 102 313</b>		<b>84</b>

**Characteristics of pre-delivery losses in 2023**

- 11. Pre-delivery losses in 2023 are presented by volume, by value and in comparison to previous years.
- 12. In 2023, pre-delivery losses amounted to 12,698 mt and were valued at USD 11,053,229 million – the fifth largest amount by volume and the largest by value in the period 2013–2023.

**Figure 2: Pre-delivery losses by volume and value, 2013–2023**



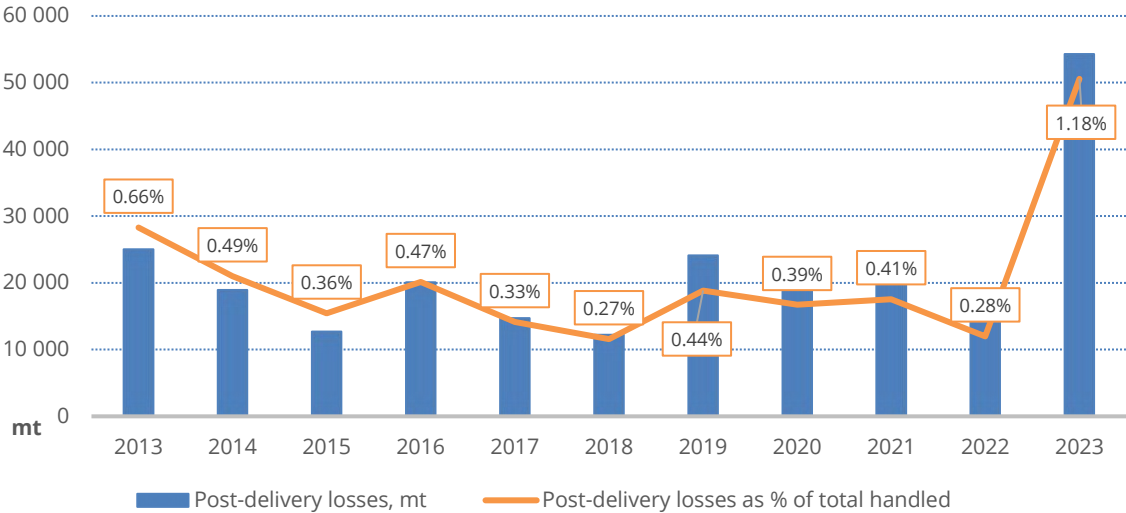
13. Three commodities accounted for 56.5 percent of the pre-delivery losses by value: lipid-based nutrient supplements for 25.4 percent, with losses of 994 mt valued at USD 2.8 million; wheat flour for 18.6 percent, with losses of 1,823 mt valued at USD 2.1 million; and sorghum and millet for 12.5 percent, with losses of 2,826 mt valued at USD 1.4 million.

14. Inadequate transport was the main cause of pre-delivery losses by value, with losses of 4,963 mt worth USD 4 million (36 percent of all pre-delivery losses by value), followed by deterioration due mainly to problems at origin, which caused another 1,028 mt of losses, worth USD 2.8 million (25.2 percent of all such losses by value).

### Characteristics of post-delivery losses in 2023

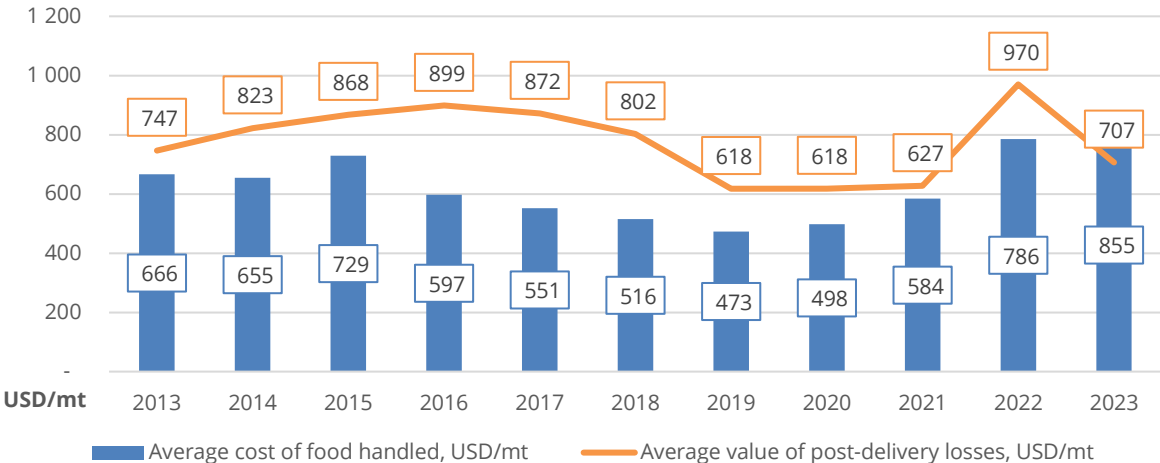
- 15. Post-delivery losses are presented by volume, by value and in comparison to previous years.
- 16. The figures for post-delivery losses by volume in 2023 were the highest in the period 2013–2023, both in absolute terms (54,276 mt) and as a percentage of the total 4.6 million mt handled (1.18 percent), an increase from the 17,474 mt of such losses – 0.28 percent of the 6.3 million mt handled – in 2022 (see figure 3 and annex IX).

**Figure 3: Post-delivery losses by volume, 2013–2023**



- 17. The total value of post-delivery losses in 2023 was USD 38.4 million, compared to USD 17 million in 2022, USD 14.8 million in 2021 and USD 13.5 million in 2020.
- 18. The average cost of the food handled was USD 855/mt, compared to USD 786/mt in 2022, and the average value of post-delivery losses was USD 707/mt, compared to USD 970/mt in 2022 (see figure 4).

**Figure 4: Average cost of food handled and average value of post-delivery losses, 2013–2023**



## Main reasons for post-delivery losses in 2023

19. Ninety-one percent of the post-delivery losses in 2023 (49,954 mt) were attributable to five main causes: loss during civil strife, problems related to reconstitution, rebagging or repacking, inadequate transport, improper or overlong storage and pilferage or theft (see figure 5). Detailed figures for post-delivery losses are provided in annex V.

**Figure 5: The five main reasons for post-delivery losses, 2023**

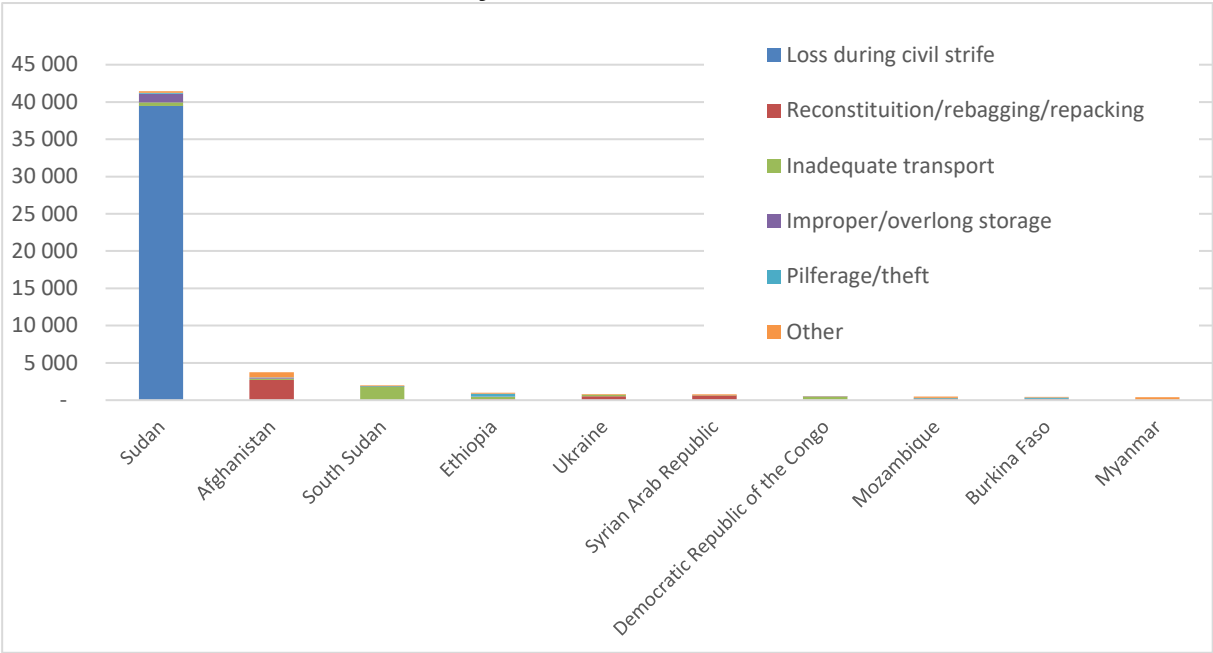
Loss during civil strife	Reconstitution/ rebagging/ repacking	Inadequate transport	Improper/overlong storage	Pilferage/theft
<ul style="list-style-type: none"> <li>• 39,474 mt</li> <li>• 0.86% of total food handled</li> <li>• 73% of total post-delivery losses</li> </ul>	<ul style="list-style-type: none"> <li>• 4,262 mt</li> <li>• 0.09% of total food handled</li> <li>• 8% of total post-delivery losses</li> </ul>	<ul style="list-style-type: none"> <li>• 3,468 mt</li> <li>• 0.08% of total food handled</li> <li>• 6% of total post-delivery losses</li> </ul>	<ul style="list-style-type: none"> <li>• 1,479 mt</li> <li>• 0.03% of total food handled</li> <li>• 3% of total post-delivery losses</li> </ul>	<ul style="list-style-type: none"> <li>• 1,063 mt</li> <li>• 0.02% of total food handled</li> <li>• 2% of total post-delivery losses</li> </ul>

20. Loss during civil strife resulted in post-delivery losses of 39,473 mt, which is 73 percent of all such losses and 0.86 percent of the total food handled.
21. Reconstitution, rebagging or repacking problems resulted in post-delivery losses of 4,262 mt, which is 8 percent of all such losses and 0.09 percent of the total handled.
22. Inadequate transport resulted in post-delivery losses of 3,468 mt, which is 6 percent of all such losses and 0.08 percent of the total handled. The most significant transport-related losses by volume were attributable to factors such as damage to – and the sinking of – river boats and inadequate road infrastructure in challenging operating environments.
23. Improper or overlong storage resulted in post-delivery losses of 1,479 mt, which is 3 percent of all such losses and 0.03 percent of the total food handled.
24. Pilferage or theft led to post-delivery losses of 1,063 mt, which is 2 percent of all such losses and 0.02 percent of the total handled.

## Post-delivery losses by country

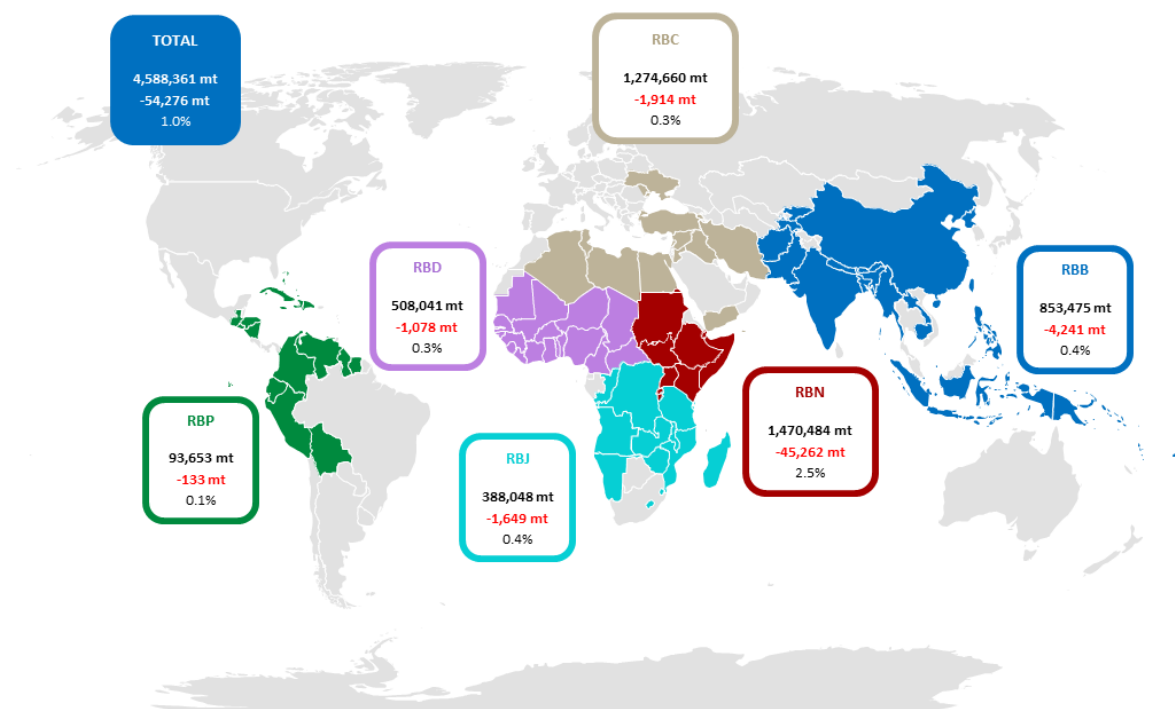
25. Ten WFP country operations accounted for 51,534 mt – or 95 percent – of total post-delivery losses in 2023 (see figure 6).
26. WFP operations in 17 countries experienced above-threshold post-delivery losses amounting to 49,980 mt (see annex I). The Sudan accounted for 79 percent of the losses (41,445 mt), 95.2 percent of which (39,463 mt) was attributable to loss during civil strife.

**Figure 6: The ten countries with the highest post-delivery losses in 2023, by cause of loss (mt)**



- 27. Of the 17 countries where WFP operations experienced above-threshold post-delivery losses, the majority were in the Eastern Africa region, with five countries accounting for 88.1 percent of all such losses. Three countries in the Asia and the Pacific region accounted for 7.4 percent of losses, four in the Southern Africa region accounted for 1.5 percent, three in the Western Africa region accounted for 0.3 percent and two in the Middle East, Northern Africa and Eastern Europe region accounted for 2.6 percent of the above-threshold post-delivery losses.
- 28. Figure 7 provides an overview of regional bureau operations in terms of volumes of food handled (figures in black) and post-delivery losses (figures in red), with the latter expressed as a percentage of the former.

**Figure 7: WFP operations by region – total food handled (mt) and post-delivery losses (mt and as a percentage of total food handled)**



*Note:* The boundaries and names shown – and the designations used – on this map do not imply official endorsement or acceptance by the United Nations. Dotted lines represent approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed by the parties. The final boundary between the republics of the Sudan and South Sudan has yet to be determined.

*Abbreviations:* RBB = Regional Bureau for Asia and the Pacific; RBC = Regional Bureau for the Middle East, Northern Africa and Eastern Europe; RBD = Regional Bureau for Western Africa; RBJ: Regional Bureau for Southern Africa; RBN = Regional Bureau for Eastern Africa; RBP = Regional Bureau for Latin America and the Caribbean.

## Measures for preventing and mitigating the risk of losses

### Food procurement, safety and quality

29. WFP is committed to reducing food losses across all its operations, which requires it to maintain robust processes for procuring and consistently ensuring the safety and quality of food, with monitoring at all levels and numerous commodity- and context-specific measures.
30. For deliveries of wheat flour procured then delivered to WFP by rail, for example, WFP's headquarters-based Food Procurement Unit requires superintendents to increase the level of scrutiny in inspecting wagons and to immediately reject any wagons showing any sign of damage.
31. To ensure that all new suppliers produce specialized nutritious foods in compliance with WFP specifications and standards, the Food Procurement Unit has continued to conduct "onboarding meetings" to explain all aspects of contract execution and quality requirements to them. For the initial production of any of those foods, inspection companies have continued to maintain a round-the-clock presence to increase their quality – and, hence, minimize the risk of rejection and loss due to food safety or quality-related incidents – through smaller-scale, more frequent, sampling.
32. In 2023, leakages from lipid-based nutrient supplement sachets have been significantly reduced through more stringent protocols for inspections by the Food Procurement Unit during their production. Furthermore, the Food Safety and Quality Unit has been working

- with suppliers to ensure that packaging materials and production controls for lipid-based nutrient supplements continue to meet the required specifications and standards.
33. To prevent and mitigate the risk of losses in the case of goods such as canned foods, inspection companies now have an updated “scope of work” for monitoring their production. In addition, the Food Safety and Quality Unit has developed specific guidance to facilitate accurate classification of defects, quick decision-making and the selection of appropriate actions in terms of the product and supplier. A dedicated food safety officer was assigned to Türkiye in 2023 to supervise potentially high-risk suppliers of canned foods.
  34. Over the course of the year, WFP upgraded its food safety and quality system with additional technical requirements and audit checklists for commodity suppliers, strengthened specifications for inspection companies and food quality training for procurement, goods and services and food safety and quality unit staff at headquarters, which has served to improve accountability and enhance awareness of performance issues among food suppliers and inspection companies.
  35. To help to identify suppliers that meet WFP’s food quality standards, the Food Safety and Quality Unit at headquarters has continued to update its specifications database to include newly identified risks and ensure greater flexibility. Some context-specific food specifications, based on regional market conditions, are being adopted, including for yellow split peas for Afghanistan and canned food for Gaza.
  36. WFP has also improved its food safety and quality assurance digital platforms with a new platform for digitalizing inspection reports, laboratory testing, food compliance testing, food and packaging specifications and supplier audit management. The enhanced quantity and quality of data has allowed for the improvement of existing dashboards and the creation of trend and early-warning reports to support decision-making, incident management and loss mitigation.

### **Tracking and tracing**

37. The Logistics Execution Support System (LESS) “last mile” application is a mobile solution developed to address the longstanding issue of the confirmation of delays in the receipt of goods for deliveries to cooperating partners. The global rollout of the application, centrally managed at headquarters by the Supply Chain Division, has progressed year on year since its inception. By the end of 2023, it was being used to improve the confirmation of receipt procedures, reduce lead times, increase accountability and digitalize key processes in 41 country offices, including 15 of the 18 reporting above-threshold losses over the course of the year, when it was implemented in the Central African Republic (in November 2023), Madagascar and the Niger (in March) and Ukraine (in July). Rollout in the remaining three countries is either forthcoming (in Lesotho) or considered not currently applicable in view of the nature of in-country operations (Kenya and Sri Lanka).
38. Several regional bureaux undertook dedicated LESS training in 2023 to increase adherence to best practices, with the Regional Bureau for Latin America and the Caribbean, for instance, providing LESS refresher training for storekeepers in the Dominican Republic, Haiti, Nicaragua and the Bolivarian Republic of Venezuela. Other WFP operations managed to reduce the data difference between LESS and the country office tool for managing (programme operations) effectively (COMET) to 1 percent of total data points and to increase the regional data reliability score to 85 percent.
39. Meanwhile, vehicle tracking devices were used to inform WFP of the movement of trucks along pre-determined routes and to enable the identification of possible diversions or delays, and the bag markings used in some operations have enabled WFP to trace bags back to the transporter or the cooperating partner to which they were delivered.



40. To further enhance WFP's track-and-trace capabilities in the longer term, the Supply Chain Operations Division launched the initial discovery phase of a track-and-trace project in 2023, identifying and researching local initiatives and best practices with the support of the critical corporate initiative on "Monitoring, identity management and traceability" approved by the Executive Board, at its second regular session, in November 2023.

#### **Capacity-building, regional initiatives and the WFP global reassurance project**

41. In 2023, the regional bureaux and headquarters supported country offices in minimizing losses in a variety of ways, such as – in addition to the examples outlined above – through compliance missions, operational enhancements and training. Compliance missions were carried out in all six regions, with the Regional Bureau for Asia and the Pacific, for instance, undertaking such missions within the framework of its operations in Afghanistan, Bangladesh and Myanmar, among others.
42. Integrated and automated planning and optimization tools, such as PRISMA and Optimus, were used to scan a range of data sources and systems to support WFP's evidence-based decision-making.
43. WFP has also remained committed to sustaining and replenishing its strategic grain reserve through the purchase and delivery of Ukrainian wheat to country offices. As part of that initiative, a milling and logistics contract established by the Field Support Unit at headquarters with two service providers in Türkiye in 2022 has yielded benefits in terms of improving accuracy and minimizing handling and transport-related losses, and more than 370,000 mt of wheat has since been milled and shipped to the Afghanistan, State of Palestine, Sudan, Syrian Arab Republic and Yemen country offices, among others. Those operations benefited in 2023 from a new mechanism to more accurately measure the quantities of wheat supplied to WFP-contracted mills, and steps were taken to prevent losses of wheat flour during onward transport from Türkiye by strengthening and upholding the principles governing the safe carriage of cargo.
44. The operational corridor to Afghanistan via Pakistan was strengthened in 2023 to ensure that standards were met following the scale-up of operations in Afghanistan in previous years by enhancing transporter contract oversight and performance management through more frequent performance management meetings with transporters, more extensive supervision and more significant penalties for inadequate performance. The enhanced oversight and performance management was achieved with a tool that recorded every transaction and made it possible to identify the parties responsible for a given delay.
45. As stipulated in WFP's transport and logistics services manual, monthly physical inventories continued to be required across all operations throughout 2023. To provide further assurance, WFP initiated additional one-off physical inventory checks by a third party in the 31 high-risk operations, forming part of its global assurance project. The first was completed in Ethiopia in November 2023.
46. Warehouse infrastructure was upgraded across all WFP operations with, among other things, the expansion of video surveillance in Afghanistan, Bangladesh, Myanmar and Pakistan and improvements to field storage conditions in Madagascar.
47. Meanwhile, training on contracting was provided in all six regional bureaux throughout the year; training on warehouse and technical risk management was strengthened; and WFP initiated a review aimed at updating its corporate warehouse management handbook and further enhancing the guidance on warehouse management practices and risk mitigation actions across all its operations. The update is expected to take effect in 2024.

## ANNEX I

**Above-threshold losses, by country**

1. This annex describes the post-delivery losses exceeding WFP thresholds for country-level post-delivery losses of a single food type, valued either at USD 20,000 or more, and accounting for at least 2 percent of the volume handled, or at USD 100,000 or more. In 2023, such losses amounted to 49,980 mt (see table A1).

<b>Country</b>	<b>Above-threshold post-delivery losses (mt)</b>
Sudan	41 235
Afghanistan	3 401
South Sudan	1 881
Ukraine	692
Syrian Arab Republic	624
Ethiopia	584
Democratic Republic of the Congo	315
Mozambique	292
Burundi	287
Myanmar	271
Lesotho	123
Burkina Faso	111
Pakistan	54
Madagascar	41
Central African Republic	33
Kenya	24
Niger	12

**Afghanistan**

2. The Afghanistan country office reported above-threshold losses of 3,401 mt in 2023, owing to the inclusion of 2,156 mt of losses incurred in 2022 but not recorded in LESS in that year as the relevant verification and inspection reports had still to be finalized.
3. Losses had occurred for multiple reasons, including a rapid scale-up of emergency response operations; limited WFP staffing capacity in the early stages of the scale-up; operational challenges in the northern and southern corridors; underperforming local inspection companies; quality issues with suppliers; transport-related incidents; and poor handling at

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<sup>1</sup> All figures in the table are rounded.

WFP warehouses. The value of the losses attributable to service providers – transporters and warehouse operators – were recovered from their invoices.

4. In the case of damaged wheat flour, most (2,104 mt, lost in 2022) was found to have retained some commercial value as animal feed and, once the necessary approvals had been obtained from WFP headquarters and the requisite insurance arrangements been put in place, in accordance with WFP's non-medical insurance manual, it was sold as such to buyers in a salvage sale. A similar exercise is under way to sell a further 1,241 mt lost in 2023.
5. To minimize future food loss and maximize quality assurance, the country office has introduced several measures to mitigate the risks and address third-party quality standards by, among other things, strengthening procurement contracts with suppliers and millers to include clauses giving WFP the option of having products that do not meet its specifications replaced; closely monitoring the performance of existing inspection companies; and providing continued capacity-building support in meeting its standards. To improve the controls to safeguard WFP assets, the country office has also strengthened food receipt and storage inspection procedures at WFP warehouses; improved food handling protocols for corridor operations; enforced existing standard corporate procedures for transport and warehousing; and introduced new standard operating procedures for cooperating partners on physical inventories, "delivered-at-place" deliveries and warehouse management.
6. Lastly, the country office has enhanced the tools for monitoring and reporting on WFP stocks at all locations and developed two dashboards for food in transit to keep track of transport or warehouse-related incidents, enabling more systematic follow-up to recover the losses from service providers, when applicable. The next steps are to improve performance monitoring for WFP-contracted service providers, such as transporters, suppliers, millers and warehouse service providers; increase the technical training for warehouse staff at area offices and cooperating partners; and conduct frequent oversight and compliance missions, among other assessments.

### **Burkina Faso**

7. The Burkina Faso country office incurred above-threshold losses of 111 mt in 2023.
8. The office has been operating in a fragile, increasingly complex, security context since 2018 and the ongoing crisis significantly affected its logistics operations in 2023, leading to challenges in accessing key areas and requiring the use of convoys for major routes. Seventy percent of the reported losses (37 mt of vegetable oil and 40 mt of beans) occurred in transit when convoys including commercial trucks carrying WFP food were attacked by armed groups and the trucks were looted; the country office has requested the carriers to reimburse the value of the looted goods. A further 24 percent of the losses (27 mt of vegetable oil) were attributed to best-before dates being reached as a result of delays due to access problems and challenges encountered after the coup d'état of October 2022, which had led to the suspension of cargo flights and introduction of restrictive measures for food transport by road. The remaining 6 percent (6 mt of various goods) of the losses were attributed to transport issues and reconditioning at warehouses.
9. To minimize future losses, security, humanitarian access and supply chain teams have introduced additional measures while using convoys of private carriers, such as the strengthening of coordination between the military, civil society and the Government of Burkina Faso, carrying out systematic risk analysis and ensuring that only trucks in good mechanical condition – and equipped with proper troubleshooting equipment – are accepted. Further, an "exchange workshop" was convened with carriers to identify the risks in respect of in-country land transport and to jointly define mitigating measures.

**Burundi**

10. The Burundi country office incurred above-threshold losses of 287 mt in 2023.
11. Following an adjustment to regulatory policies that stopped the importation of grain and flour in 2021, the country office had opted to purchase local maize grain from the *Agence Nationale de Gestion du Stock Stratégique Alimentaire* (the national agency for the management of the strategic food reserve) and stored it at WFP warehouses in Gitega and Ngozi. On 15 August 2022, 366 mt of the grain was transferred to a locally contracted miller for the production of fortified and degermed maize meal. In view of the moisture levels and organic impurities in the grain, the country office agreed an 80 percent extraction rate with the miller to produce the meal, which was then transferred to the Ngozi warehouse for onward distribution. Discovering caking and mould on the bags, the country office tasked an inspection company to examine the meal and determine whether it was safe for human consumption. It was found to be lacking in moisture, with unacceptably high levels of fat, yeast and mould. The meal was therefore deemed unfit for human consumption and – in the absence of other feasible options, including salvage – incinerated at WFP facilities.
12. To mitigate the risk of further losses, the country office has introduced enhanced supply and storage processes that prevent the storage of maize meal in warehouses for longer than one month, and the office is currently seeking to improve grain and flour quality by strengthening the handling, processing and storage capacity of local suppliers.

**Central African Republic**

13. The Central African Republic country office incurred an above-threshold loss of 33 mt in 2023.
14. The country office had purchased 1,063 mt of white beans (*niebe*) from smallholder farmers for general food distribution, school feeding programmes and food-for-assets activities. In accordance with the free carrier Incoterms rules under which the purchase had taken place, and following a “food quality and quantity” inspection by a company with a long-term agreement with WFP, the produce was loaded onto WFP trucks at the supplier’s warehouse and most of it was distributed as planned. School feeding programmes and food-for-assets activities, however, have slower consumption rates and the quality of their stocks deteriorated over time. The 33 mt loss was reported after the office had those stocks sieved, winnowed and reconditioned to isolate defective stock.
15. The country office carried out missions with teams from across WFP, holding discussions with smallholder farmers’ unions and inspecting warehouses to determine the causes of stock deterioration. Smallholder farmers were found to be in need of additional capacity-strengthening support and avenues were explored to improve measures to preserve the quality of food stocks. Capacity-strengthening activities included on-the-job training on the proper cleaning of stocks, highlighting the types of impurities to target and the appropriate equipment to use. The training also served to raise awareness of the maximum impurity levels tolerated under WFP specifications, as well as the types of container to use to conserve – and preserve the quality of – food stocks while they are waiting to be sold.

## Democratic Republic of the Congo

16. The Democratic Republic of the Congo country office reported above-threshold losses of 315 mt in 2023: 176 mt due to transport challenges caused by poor road infrastructure, bad weather conditions and poor handling of commodities during transportation; 92 mt to two major cases of looting in March and April 2023; 27 mt to the poor quality of locally procured food and storage issues; and 18 mt to long lead times and subsequent customs clearance delays at the Kinshasa container terminal, leading to commodities expiring before distribution. The remaining 2 mt was carry-over unreported losses from the period 2021–2022, incurred during the coronavirus disease 2019 and the resultant congestion and closure of Matadi seaport.
17. As part of a series of mitigation measures, the country office organized a one-week LESS refresher training course for more than 80 WFP logistics staff in mid-2023; regular sessions were held with transporters to strengthen their contractual responsibilities; and the office's Food Safety and Quality Unit provided capacity-strengthening support to the national government superintendent with responsibility for laboratory analysis and the certification of imports. Other corrective actions included reviewing and adjusting internal transport routes to reduce lead times; selecting food items with a longer shelf life to accommodate extensive transit times; cancelling contracts with underperforming transporters; closing completely one of the import corridors from which cases of expiry of best-before-use dates were frequent; and increasing coordination with the headquarters shipping team and donors. The country office also engaged an operations officer to support coordination with the Programme Unit in matters of food procurement, particularly for nutrition and school feeding commodities.

## Ethiopia

18. The Ethiopia country office incurred above-threshold losses of 584 mt in 2023.
19. Most of the losses occurred during the transport of goods overland from the port (pre-delivery) or inland from hubs to final delivery points (post-delivery) and were attributed to damage caused by poor weather conditions or to looting and theft. The cost of all cargo lost during transport was recovered from the transporters. To help to mitigate the risk of looting, the office used convoys on major routes, particularly the roads reported as unsafe.
20. Losses were also attributed to prolonged periods in storage in warehouses, many in regions experiencing very high temperatures, after country office operations were put on pause. By the time operations resumed,<sup>2</sup> some undelivered goods had passed their best-before date and could no longer be distributed.
21. Measures to prevent warehouse losses included stock rotation, restacking and fumigation, together with additional training in warehouse and commodity management for cooperating partner storekeepers.

## Kenya

22. The Kenya country office reported a consolidated above-threshold loss of 24 mt of maize in 2023.
23. The majority of the loss (23 mt) was attributed to a discharge and loading operation at the port of Mombasa the previous year. On 18 November 2022, the clearing agent was issued with a letter of instruction for customs clearance concerning the *MV African Merlin*, a vessel carrying 10,001 mt of maize bound for Kenya, which was due to dock on 21 November. During discharge and loading on the quayside, 23 mt of maize was loaded, as part of a

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<sup>2</sup> WFP Ethiopia operations for refugees that were put on pause. Distributions resumed in October 2023, while distributions for general relief resumed in November 2023.

WFP consignment for resilience and livelihood activities, onto a truck heading to the extended delivery point in Lodwar. However, the truck was later discovered not to have a valid contract to carry the load from Mombasa to Lodwar nor had it been pre-approved by the Kenya country office, as per standard procedure; it exited the port without a WFP waybill, as there were no outbound delivery details in LESS to be able to generate one. In the subsequent reconciliation with the WFP-appointed superintendent and the clearing agent, it emerged that the truck was missing and no valid transporter could be traced; further checks by the country office confirmed that the cargo had not been delivered to Lodwar, as indicated in the clearing agent's delivery note and release order documents.

24. To mitigate the loss, the country office requested full recovery of the missing 23 mt of maize on 25 January 2023, immediately suspended allocations of further shipments to the clearing agent and placed a six-month moratorium on the vendor's participation in WFP tendering processes (from 1 May to 31 October 2023). The office reviewed the performance improvement plan submitted by the agent on 29 September 2023 to determine whether it had put in place measures to improve its performance following the loss. The country office also organized training courses for WFP-contracted service providers handling cargo in Mombasa on issues related to anti-fraud and anti-corruption (AFAC) awareness. Furthermore, waybills are no longer issued remotely through superintendents and there will be WFP staff present on the ground during loading and unloading operations inside the port of Mombasa and Nairobi, as this is where the greatest risk lies.
25. The remaining 1 mt of losses reported in 2023 were attributed to various transport-related issues involving eight trucks of maize transported from Mombasa and Nairobi to extended delivery points around the country between January and May 2023. The value of those losses has been fully recovered from the transporter invoices and the country office held an awareness-raising meeting with all WFP-contracted transporters in February 2023, with follow-up actions to emphasize the importance of careful management of WFP food.

### **Lesotho**

26. The Lesotho country office incurred above-threshold losses of 123 mt due to overlong storage in 2023.
27. The office had procured 550 mt of maize meal from a pre-identified supplier in May 2022 for distribution in the fourth quarter of that year and the first quarter of 2023. An annual audit within the framework of WFP's food quality and safety assurance programme found shortcomings in the supplier's performance, however, and the country office revoked its contract. Given the time it took to identify a replacement, the distribution due for the fourth quarter of 2022 was carried over to the first quarter of 2023. That led to delays in the arrival of the maize meal and some of the meal started to deteriorate as it approached its best-before date. The country office, in cooperation with the Ministry of Education and in coordination with the Ministry of Health, attempted to find a supplier capable of analysing the meal but recovery proved challenging. Of the 550 mt procured, 427 mt was given to schools but the remaining 123 mt was deemed unfit for human consumption and destroyed at the direction of the Ministry of Health.
28. To prevent and mitigate the risk of future losses, the country office will continue to inform activity managers about commodities approaching expiry dates or giving rise to quality concerns, as well as stock levels and best-before dates, while promoting a proactive approach to identifying problems using information from various sources, such as physical inventory reports. In addition, refresher training will be provided to government warehouse workers in areas such as facility maintenance. Lastly, the country office will update the current memorandum of understanding with the Government and, in cooperation with the Regional Bureau for Southern Africa, strive to provide greater clarity on standard operating procedures for warehouses.

## Madagascar

29. The Madagascar country office incurred above-threshold losses of 41 mt in 2023.
30. At WFP warehouses, 4 mt of the losses were attributed to reconstitution and 1 mt to theft; 2 mt were lost in transit between warehouses; and 0.3 mt were lost to termite infestation due to poor warehousing infrastructure in the town of Amboasary. At cooperating partner storage locations, 33 mt of losses were attributed to transport issues and 3 mt to theft. For all transport-related losses and the losses at cooperating partner storage locations, the costs were recovered from the service providers' invoices. As to those attributed to theft from WFP warehouses, the country office has referred the matter to the Inspector General and Oversight Office.
31. As part of loss mitigation measures, the country office held two training sessions on warehouse management in 2023, including training for staff who regularly travel to the field. Warehouse infrastructure was improved by renovating and reconstructing concrete bases and lockable fabric buildings. The country office also installed video surveillance in some warehouses and hired staff to implement the LESS last-mile app, which will ensure timely confirmation of receipt by cooperating partners. Furthermore, a staff review was conducted to strengthen management at sub-offices. The country office issued a new call for expressions of interest for field-level agreements, with a robust performance-based selection process. Lastly, the country office is recruiting food safety and quality staff to monitor and resolve incidents as required.

## Mozambique

32. The Mozambique country office reported 292 mt of above-threshold losses due mainly to transport issues.
33. For more than 10 years, the country office has outsourced warehouse management services at the Nacala cargo hub. Through a LESS/COMET reconciliation exercise, the country office became aware that deliveries dispatched from Nacala warehouses in 2020 and 2021 had been reported as having remained in transit to the cooperating partner for a very long period of time. Further, the warehouse service provider's invoices for storage and handling charges between June and September 2021 did not tally with the data in LESS. That had led to an extensive reconciliation exercise in early 2022. Of the 263 mt of stocks declared missing, 45 mt were declared as warehouse losses and recovered from the service provider's invoices, while the rest (218 mt) were attributed to transport losses, as the transporters had contested the delivery notes. The issue is currently being investigated by the WFP Inspector General and Oversight Office.
34. The country office, as part of its wider preventive and corrective mitigation measures, has responded by implementing additional controls: mandatory LESS-generated work orders for warehouse operations; use of signed transporter credentials for confirming the deployment of trucks; submission of the list of trucks loading or offloading to the warehouse service provider for their readiness and access control; truck registration at gates; joint physical inventories; and weekly reconciliation exercises with the service provider and the LESS team.
35. Separately, 29 mt of rice were reported as transport losses in 2023, as the goods had become wet in transit to a cooperating partner. The value of that loss was recovered from transporter invoices and WFP, as a mitigating measure, has been working to strengthen the capacity of warehouse staff, service providers and cooperating partners in food safety and quality procedures and salvage operations.

## Myanmar

36. The Myanmar country office incurred above-threshold losses of 271 mt in 2023.
37. In mid-May 2023, Cyclone Mocha – a category 4 tropical storm with wind speeds of 130 miles per hour – made landfall in the township of Sittwe in Rakhine State, western Myanmar, bringing heavy rainfall, storm surges and strong winds that caused extensive damage to approximately 90 percent of buildings. WFP operates two warehouse facilities in Sittwe, one with five mobile storage units and the other a single concrete building, where 3,388 mt of mixed commodities were being stored before the cyclone struck. The WFP Sittwe sub-office logistics team, on receiving the cyclone alert, took preventive action, relocating goods from the mobile storage units to the concrete building, covering stacks with tarpaulin sheets and securing them to the ground. The tarpaulin covers, however, were not sufficiently strong or well secured to prevent the rice stocks from being damaged by rainwater. The resultant 263 mt of losses were recorded as lost in LESS and, once approved through the proper procedures by the Risk and Insurance Unit, they were disposed of.
38. To minimize future losses due to natural disasters, the country office is working to establish a warehouse with a robust concrete structure and the use of mobile storage units will henceforth be restricted to emergency situations. Based on recent developments in Rakhine State, intense fighting between Myanmar armed forces (de facto government troops) and the Arakan Army in the region has hampered the construction of a concrete structure in Sittwe. According to a market survey, landlords are hesitant to provide warehouse construction services, and existing concrete structures with sufficient facilities are unavailable on the market. The supply chain team is monitoring the situation and work will resume once the situation is conducive.

## The Niger

39. The Niger country office incurred an above-threshold loss of 12 mt in November 2023, when a group of 22 trucks that had remained parked at the Niger border for three months, owing to its closure since the coup d'état in the country in July 2023, had returned to Lomé for unloading and it was discovered that their cargo had been damaged by exposure to adverse weather conditions on the border. Most of the value of the damaged goods has been recovered from the transporters and work is ongoing to gradually recover the rest.

## Pakistan

40. The Pakistan country office incurred above-threshold losses of 53.5 mt of lipid-based nutrition supplements in 2023.
41. A total 46 mt of the supplements were registered as lost but, at the time of writing, verification with the Government of Pakistan remains pending and the work of ascertaining whether that was of actual amount lost or a discrepancy due to inaccurate records is ongoing. Meanwhile, 4.5 mt of the losses were registered as transport-related and, in accordance with the information on the signed waybills, have been recovered from the transporter invoices wherever feasible; a further 3 mt were attributed to a warehouse management issue in Moro in Sindh Province.
42. To reduce the likelihood of future losses, the country office has introduced an enhanced reporting mechanism to keep track of available stocks. The office also undertakes regular monitoring missions to prevent the sale of WFP commodities in the open market and has tasked the logistics team with exploring options to strengthen traceability. Several training sessions have been organized for government partners and cooperating partners to strengthen their compliance with WFP's AFAC policy; additional modules on WFP warehouse management procedures have been developed; and both programme and supply chain staff are being assigned to oversight missions to identify ways for partners to enhance their warehouse management capacity.



## South Sudan

43. The South Sudan country office incurred 1,881 mt of above-threshold losses due to transport-related incidences on land, air and river routes.
44. River-related transport losses (1,453 mt) were attributed to damage to cargo in incidents where commercially chartered boats with loads of over 200 mt suffered cracks, sank or caught fire, and smaller vessels were wrecked by adverse weather, interrupting the flow of freight movements.
45. To mitigate the risk of such losses, a review of river freight operations was initiated and a dedicated senior logistics consultant recruited, and load capacity was reduced by 40 percent. WFP-contracted commercial operators were asked to present their boats for inspection by a specialized contractor. The vessels were registered by engine number, emptied, inspected for structural integrity and subjected to load tests to determine their safe load limit. The Minister of Transport was engaged to assist in longer-term capacity-building and inspection processes and a training programme on basic river safety was launched, with higher-level training for captains to further the professionalization of river operations. River route losses have reduced and the country office's work with the Ministry of Transport will continue as the inspections extend to new vessels and training is tailored to address existing gaps.
46. As to the losses on overland routes, an estimated 344 mt was attributed to poor infrastructure and insecurity. The country office, together with the Security Division at headquarters and in partnership with the Government of South Sudan, has been working to mitigate the risk of land-transport losses by mapping – and appraising transporters of – the security situation across the country's road network.
47. Lastly, 58 mt of food was lost in airdrop operations, largely due to bags splitting open when dropped. To avoid future losses, the country office will ensure that the quality of the bags consistently meets specifications and that the relevant standard operating procedures are enforced and managed by the United Nations Humanitarian Air Service, including through the presence of a drop-zone coordinator on the ground for every airdrop.

## The Sudan

48. The Sudan country office incurred above-threshold losses of 41,235 mt in 2023, primarily due to the outbreak of conflict in April 2023. The majority of the losses (95.2 percent of post-delivery losses) pertained to the looting of sorghum, millet and lentil stocks at WFP warehouses in El Obeid and El Geneina and in transit in El Geneina, Nyala and Ed Daein and were classed as losses during civil strife.
49. The challenges encountered included a lack of sufficient security personnel to prevent looting at the warehouses; the abandonment or theft of trucks carrying WFP food by external actors; the evacuation and/or relocation of staff; and a limited ability to track commodities due to connectivity difficulties. In some instances, WFP teams were able to negotiate the release of stolen trucks and stocks. This allowed for the fumigation and distribution of cargo, where appropriate.
50. Losses were reported throughout the year, with the majority of incidents occurring between May and June. Overall reporting took place in late 2023, when it became possible to examine supporting documentation in a comprehensive reconciliation and assessment exercise.
51. The country office, in collaboration with units at headquarters, took extraordinary measures to enable transporters to recover the cost of looted stocks through insurance recovery claims. Regular procedures for dealing with transport losses had been reinstated by the office by November 2023, but transporters could continue to submit a claim if, among other criteria, the supporting documents were submitted within seven days of the reported incident. Furthermore, the office went to extraordinary lengths to facilitate the processing of the invoices of those that had lost their documentation through a standard operating

procedure that allowed them to submit a reprinted copy, if accompanied by a police report and declaration letter from the transporter.

52. To further strengthen the mitigation measures, and as part of WFP's global assurance project, the Sudan country office is rolling out the LESS last mile application, introducing a ledger tracing system and reinstating the monthly LESS/COMET reconciliation exercises. Warehouse surveillance will be enhanced and monthly physical inventory procedures will continue to be reviewed and updated.

### **Syrian Arab Republic**

53. The Syrian Arab Republic country office reported above-threshold losses of 624 mt in 2023, specifically 523 mt of rice and 101 mt of chickpeas.
54. Regarding the rice, 37 percent of the losses occurred in 2022 but were recorded in the system in 2023 as post-delivery instead of pre-delivery losses. The rest were attributed to repacking, rebagging or reconstitution, variance in weight and the discovery, in several consignments, of rotting or damaged food deemed unfit for human consumption. Other, more minor, losses resulted from food sampling and transport issues.
55. Mitigation measures and remedial action taken by the country office to reduce the frequency and impact of warehouse-related losses included regular quality checks, spoilage and weight calibration reporting (monthly) and physical inventory exercises, which have served to increase accountability and the sense of responsibility in the field of warehouse management, making it possible to identify the losses and hold service providers to account, particularly in the case of losses incurred in repacking, kitting and handling. Transport losses were covered through transporters' invoices in accordance with the observations in the recipient section of the original signed waybills.

### **Ukraine**

56. The Ukraine country office incurred an above-threshold post-delivery loss of 692 mt in 2023, the result of defective canned pulses that arrived at the WFP warehouses in Dnipro, Kyiv and Kropyvnytskyi on 23 May 2022.
57. As soon as the issue came to light, the country office isolated the affected stock and stopped all kitting operations and distributions involving those goods to ensure that beneficiaries were comprehensively protected from any exposure to a potential health hazard. On 30 May 2022, the office undertook a formal assessment and established that the incident had been caused by a failure in the canning process leading to compromised sterility and microbial proliferation inside the cans, and that the can deformation had, in turn, been caused by internal gas pressure due to spoilage. A subsequent inspection of the production site, on 6 June 2022, revealed deficiencies in the production process, particularly in the inspection of double seams. Based on those observations, the country office classed the entire consignment as unfit for human consumption. To further ascertain the root cause of the incident and assess whether the goods were indeed unfit for human consumption, an independent third-party entity was engaged to conduct a visual inspection of the stocks at all WFP warehouses.
58. The case was managed by a WFP food incident management committee of headquarters-based food procurement, food safety and quality, risk management and legal team staff. In the light of the assessments, the supplier was suspended from the WFP roster. In March 2023, WFP determined that the entire consignment should be disposed of and efforts to recover the costs began in November 2023.

## ANNEX II

## Global losses

2023 GLOBAL LOSSES REPORT - LOSSES BY COMMODITY			
Commodity	Commodity description	Sum of net <i>mt</i>	Sum of <i>USD</i>
CERBAR	Barley	4.550	2 124.02
CERBRE	Bread	0.003	3.16
CERMAZ	Maize	1 141.319	600 445.14
CERMML	Maize meal	906.559	770 539.19
CEROAT	Oat	0.857	661.19
CERPAS	Pasta	19.619	20 026.62
CERRIC	Rice	3 825.384	2 283 370.68
CERSOR	Sorghum/millet	39 028.362	16 963 869.93
CERWBG	Bulgur wheat	22.242	19 120.31
CERWHE	Wheat	3 399.614	1 353 329.34
CERWHF	Wheat flour	5 647.729	4 318 338.46
DAIDSP	Plain dried skimmed milk	0.375	1 417.87
DAIDWM	Dried whole milk	0.311	1 371.53
DAIUHT	UHT milk	0.510	545.70
FRUDFR	Dried fruits	15.721	27 655.88
FSHCFI	Canned fish	4.614	21 597.85
MEACHK	Canned chicken	5.608	13 520.34
MEAMEA	Canned meat	8.204	49 491.07
MIXBP5	BP5 emergency rations	0.002	7.38
MIXCSB	Corn soya blend	725.404	1 343 421.27
MIXHEB	Fortified biscuits	26.670	46 846.07
MIXLNS	Lipid-based nutrition supplement	1 617.021	4 726 522.70
MIXRSF	Ready-to-use supplementary food	74.628	259 910.90
MIXWSB	Wheat soya blend	144.138	191 950.71
MIXWSF	Wheat soy flour	16.656	10 367.06
MSCMNP	Micronutrient powder	7.225	92 051.49
MSCMNT	Micronutrient tablets	0.003	77.10
MSCSAL	Iodised salt	207.500	42 284.72
MSCSUG	Sugar	157.743	135 593.80
MSCTOM	Processed tomato	0.016	33.30
MSCYEA	Yeast	0.796	2 156.80
OIOLV	Olive oil	0.045	140.75
OILVEG	Vegetable oil	3 693.811	8 193 867.83
PPFRTN	Rations	52.512	54 348.91

<b>2023 GLOBAL LOSSES REPORT - LOSSES BY COMMODITY</b>			
<b>Commodity</b>	<b>Commodity description</b>	<b>Sum of net <i>mt</i></b>	<b>Sum of <i>USD</i></b>
PULBEA	Beans	713.718	653 878.59
PULCKP	Chickpeas	344.998	391 785.21
PULCPU	Canned pulses	801.252	1 848 350.00
PULCVE	Canned vegetables	0.028	54.77
PULLEN	Lentils	3 737.846	4 342 865.77
PULPEA	Peas	116.461	84 644.08
PULSLN	Split lentils	13.041	15 956.41
PULSPE	Split peas	1 550.006	1 227 771.07
		<b>68 033.101</b>	<b>50 112 314.99</b>

**ANNEX III**

<b>2023 PRE-DELIVERY LOSSES REPORT – LOSSES BY COMMODITY</b>				
<b>Commodity</b>	<b>Commodity description</b>	<b>Pre-delivery losses (mt)</b>	<b>Pre-delivery losses (USD)</b>	<b>% losses (USD)</b>
CERMAZ	Maize	155.206	85 638.73	0.77
CERMML	Maize meal	146.426	153 820.03	1.39
CERPAS	Pasta	7.325	10 337.74	0.09
CERRIC	Rice	2 107.009	1 155 765.52	10.46
CERSOR	Sorghum/millet	2 825.623	1 383 626.81	12.52
CERWBG	Bulgur wheat	0.230	216.82	0.00
CERWHE	Wheat	2 647.455	999 277.52	9.04
CERWHF	Wheat flour	1 822.873	2 050 753.99	18.55
DAIDWM	Dried whole milk	0.019	83.79	0.00
FRUDFR	Dried fruits	4.237	4 140.71	0.04
FSHCFI	Canned fish	0.293	1 268.10	0.01
MEACHK	Canned chicken	0.180	480.76	0.00
MEAMEA	Canned meat	1.640	5 436.09	0.05
MIXCSB	Corn soya blend	251.386	445 438.38	4.03
MIXHEB	Fortified biscuits	3.378	6 134.03	0.06
MIXLNS	Lipid-based nutrient supplement	993.679	2 809 105.87	25.41
MIXRSF	Ready to use supplementary food	31.233	109 225.11	0.99
MIXWSB	Wheat soya blend	12.658	15 359.91	0.14
MIXWSF	Wheat soy flour	0.075	50.03	0.00
MSCSAL	Iodized salt	18.481	6 954.89	0.06
MSCSUG	Sugar	132.760	112 523.70	1.02
MSCTOM	Processed tomato	0.003	5.70	0.00
MSCYEA	Yeast	0.433	1 167.29	0.01
OILVEG	Vegetable oil	250.050	467 614.50	4.23
PPFRTN	Rations	3.274	4 902.76	0.04
PULBEA	Beans	10.483	10 772.71	0.10
PULCKP	Chickpeas	141.182	178 416.58	1.61
PULCPU	Canned pulses	100.916	225 441.28	2.04
PULLEN	Lentils	73.648	81 192.32	0.73
PULPEA	Peas	62.399	47 674.48	0.43
PULSLN	Split lentils	2.280	2 105.87	0.02
PULSPE	Split peas	891.082	678 296.51	6.14
<b>Grand total</b>		<b>12 697.916</b>	<b>11 053 228.53</b>	<b>100.00</b>

**ANNEX IV**

<b>2023 PRE-DELIVERY LOSS REPORT – LOSSES BY REASON</b>		
<b>Reason for loss</b>	<b>Pre-delivery losses (mt)</b>	<b>Pre-delivery losses (USD)</b>
Deterioration of food commodities mainly attributable to problems at origin	1 028.063	2 785 806.16
Deterioration of packaging materials	3.378	2 022.33
Flooding and other natural disasters	409.139	221 083.96
Improper/overlong storage	1 355.263	1 769 188.83
Inadequate transport	4 963.113	3 976 633.62
Loss due to fire	959.270	382 492.57
Loss due to sampling food analysis	20.228	22 786.28
Loss during civil strife	2 246.361	1 089 036.01
Pilferage/theft	26.036	32 390.02
Poor handling	145.305	63 148.67
Processing/transformation of commodity	510.234	192 115.77
Reconstitution/re-bagging/repacking	1 031.526	516 524.31
<b>Grand total</b>	<b>12 697.916</b>	<b>11 053 228.53</b>

**ANNEX V**

<b>2023 POST-DELIVERY LOSS REPORT – LOSSES BY REASON</b>		
<b>Reason for loss</b>	<b>Post-delivery losses (USD)</b>	<b>% of total loss</b>
Attack by termites	203 642.94	0.53
Broken during loading	22 234.03	0.06
Deterioration of food commodities mainly attributable to problems at origin	194 033.13	0.51
Deterioration of packaging materials	58 114.30	0.15
Flooding and other natural disasters	312 518.29	0.81
Improper/overlong storage	1 010 070.15	2.63
Inadequate transport	4 182 732.84	10.90
Infestation	89 067.02	0.23
Loss due to fire	189 480.32	0.49
Loss due to over-scooping	29 700.05	0.08
Loss due to sampling food analysis	141 038.07	0.37
Loss during civil strife	25 429 779.19	66.28
Pilferage/theft	1 294 386.41	3.37
Poor handling	615 217.87	1.60
Processing/transformation of commodity	88 301.00	0.23
Reconstitution/re-bagging/repacking	4 326 671.72	11.28
Short-delivered	17 742.46	0.05
Unauthorized distribution	48 918.16	0.13
Variance in weight	89 064.17	0.23
Wet bags	793.66	0.00
Wet by gas oil	481.62	0.00
Wet by oil	120.97	0.00
Wet by water	22 069.26	0.06
<b>Grand total</b>	<b>38 366 177.66</b>	

**ANNEX VI**

<b>2023 POST-DELIVERY LOSS REPORT QUANTITIES AND VALUES BY REGION</b>								
	<b>2023 opening stock</b>		<b>Received in recipient country</b>		<b>Total handled</b>		<b>Post-delivery losses</b>	
<b>RBB</b>	116 527	142 035 801	736 948	562 432 676	853 475	704 468 476	4 241	2 567 177
<b>RBC</b>	126 207	159 901 716	1 148 452	948 131 164	1 274 660	1 108 032 880	1 913	2 759 840
<b>RBD</b>	116 240	115 539 883	391 801	331 635 506	508 041	447 175 389	1 078	1 233 315
<b>RBJ</b>	91 939	77 955 466	296 109	250 110 900	388 048	328 066 366	1 649	1 377 632
<b>RBN</b>	465 488	314 098 811	1 004 996	894 779 665	1 470 484	1 208 878 476	45 262	30 265 028
<b>RBP</b>	16 371	22 076 838	77 282	104 200 477	93 653	126 277 315	133	163 186
<b>Grand total</b>	<b>932 773</b>	<b>831 608 514</b>	<b>3 655 588</b>	<b>3 091 290 388</b>	<b>4 588 361</b>	<b>3 922 898 903</b>	<b>54 276</b>	<b>38 366 178</b>

*Abbreviations:* RBB = Regional Bureau for Asia and the Pacific; RBC = Regional Bureau for the Middle East, Northern Africa and Eastern Europe; RBD = Regional Bureau for Western Africa; RBJ = Regional Bureau for Southern Africa; RBN = Regional Bureau for Eastern Africa; RBP = Regional Bureau for Latin America and the Caribbean.



## ANNEX VII

2023 POST-DELIVERY LOSS REPORT – LOSSES BY COMMODITY				
Commodity	Commodity description	Total handled (USD)	Post-delivery losses (USD)	Losses in USD as % of total handled
BEVJUI	Juice	62 753	-	0.00
CERBAR	Barley	1 498 300	2 124	0.14
CERBRE	Bread	9 347 151	3	0.00
CERMAZ	Maize	80 389 571	158 241	0.20
CERMML	Maize meal	88 530 901	616 719	0.70
CEROAT	Oat	6 215 150	661	0.01
CERPAS	Pasta	27 230 113	9 689	0.04
CERRIC	Rice	292 222 201	1 127 605	0.39
CERSOR	Sorghum/millet	316 800 754	15 580 243	4.92
CERWBG	Bulgur wheat	9 578 964	18 903	0.20
CERWHE	Wheat	225 768 375	354 052	0.16
CERWHF	Wheat flour	638 160 690	2 267 584	0.36
DAIDSP	Plain dried skimmed milk	1 616 950	1 418	0.09
DAIDWM	Dried whole milk	432 184	1 288	0.30
DAIUHT	UHT milk	1 116 149	546	0.05
FRUDFR	Dried fruits	4 088 235	23 515	0.58
FSHCFI	Canned fish	24 235 832	20 330	0.08
MEACHK	Canned chicken	10 898 418	13 040	0.12
MEAMEA	Canned meat	86 558 157	44 055	0.05
MIXBIS	Biscuits	109 104	-	0.00
MIXBP5	BP5 emergency rations	64 714	7	0.01
MIXCSB	Corn soya blend	277 070 810	897 983	0.32
MIXHEB	Fortified biscuits	87 327 957	40 712	0.05
MIXLNS	Lipid-based nutrition supplement	414 940 356	1 917 417	0.46
MIXRSF	Ready-to-use supplementary food	74 971 530	150 686	0.20
MIXRTF	Ready-to-use therapeutic food	6 157	-	0.00
MIXWSB	Wheat soya blend	129 542 014	176 591	0.14
MIXWSF	Wheat soy flour	2 472 741	10 317	0.42
MSCHAL	Halawa	714	-	0.00
MSCMNP	Micronutrient powder	527 609	92 051	17.45
MSCMNT	Micronutrient tablets	93 509	77	0.08
MSCSAL	Iodized salt	6 388 934	35 330	0.55

<b>2023 POST-DELIVERY LOSS REPORT – LOSSES BY COMMODITY</b>				
<b>Commodity</b>	<b>Commodity description</b>	<b>Total handled (USD)</b>	<b>Post-delivery losses (USD)</b>	<b>Losses in USD as % of total handled</b>
MSCSPC	Spices	9	-	0.00
MSCSUG	Sugar	32 736 825	23 070	0.07
MSCTOM	Processed tomato	831 732	28	0.00
MSCYEA	Yeast	1 944 071	990	0.05
OILOLV	Olive oil	475 844	141	0.03
OILVEG	Vegetable oil	547 708 007	7 726 253	1.41
PPFRTN	Rations	47 921 546	49 446	0.10
PULBEA	Beans	110 790 920	306 762	0.28
PULCKP	Chickpeas	34 787 687	213 369	0.61
PULCPU	Canned pulses	39 140 218	1 622 909	4.15
PULCVE	Canned vegetables	131 261	55	0.04
PULLEN	Lentils	57 017 952	4 261 673	7.47
PULPEA	Peas	10 136 447	36 970	0.36
PULSLN	Split lentils	1 688 365	13 851	0.82
PULSPE	Split peas	219 023 742	549 475	0.25
TUBFRS	Tubers – fresh	297 280		0.00
<b>Grand total</b>		<b>3 922 898 903</b>	<b>38 366 178</b>	<b>0.98</b>

## ANNEX VIII

2023 POST-DELIVERY LOSS REPORT – QUANTITIES AND VALUES BY RECIPIENT COUNTRY AND REGION						
Region	Recipient country	Total handled		Post-delivery losses		% loss, USD vs. total handled USD
		Net mt	USD	Net mt	USD	
RBB	Afghanistan	650 112.8	510 566 193.1	3 728.2	2 101 554.8	0.41
	Bangladesh	16 742.4	22 973 864.9	20.5	32 636.8	0.14
	Cambodia	4 750.7	3 975 998.3	2.0	1 720.7	0.04
	Kyrgyzstan	6 473.9	3 646 093.5	0.0	23.9	0.00
	Lao People's Democratic Republic	5 720.9	5 349 732.5	18.8	18 693.5	0.35
	Myanmar	81 963.6	53 389 273.2	378.8	242 758.0	0.45
	Nepal	4 225.2	4 623 416.6	2.1	2 354.0	0.05
	Pakistan	40 267.3	71 874 758.9	79.8	159 834.4	0.22
	Philippines	1 125.0	888 769.2	3.0	2 370.1	0.27
	Sri Lanka	24 631.5	16 984 302.9	7.5	5 123.3	0.03
	Tajikistan	15 059.8	8 052 005.1	0.2	107.4	0.00
Timor-Leste	2 402.4	2 144 068.2	-	-	0.00	
<b>RBB total</b>		<b>853 475.4</b>	<b>704 468 476.4</b>	<b>4 241.0</b>	<b>2 567 176.9</b>	<b>0.36</b>
RBC	Algeria	26 566.5	19 589 046.7	26.2	19 638.0	0.10
	Armenia	204.2	351 630.7	-	-	0.00
	Egypt	1 601.8	3 741 444.8	-	-	0.00
	Iran (Islamic Republic of)	4 770.7	3 474 832.9	23.5	12 450.4	0.36
	Iraq	870.3	743 021.3	0.0	48.2	0.01
	Jordan	2 813.2	4 225 945.0	3.4	5 256.0	0.12
	Lebanon	31 666.0	40 798 226.3	1.2	1 565.8	0.00
	Libya	2 186.8	2 880 356.9	0.1	129.4	0.00
	State of Palestine	11 317.8	12 088 175.1	5.4	9 047.3	0.07
	Syrian Arab Republic	330 344.7	288 329 387.2	786.5	668 510.3	0.23
	Ukraine	184 486.1	224 876 457.4	812.0	1 738 571.8	0.77
Yemen	677 831.2	506 934 356.2	255.2	304 622.8	0.06	
<b>RBC total</b>		<b>1 274 659.6</b>	<b>1 108 032 880.5</b>	<b>1 913.5</b>	<b>2 759 840.1</b>	<b>0.25</b>
RBD	Benin	58 129.9	35 007 272.7	53.2	46 031.7	0.13
	Burkina Faso	92 080.7	79 458 554.9	420.2	477 011.1	0.60
	Cameroon	38 071.0	29 072 262.8	94.0	88 559.3	0.30

2023 POST-DELIVERY LOSS REPORT – QUANTITIES AND VALUES BY RECIPIENT COUNTRY AND REGION						
Region	Recipient country	Total handled		Post-delivery losses		% loss, USD vs. total handled USD
		Net mt	USD	Net mt	USD	
RBD	Cabo Verde	820.2	991 804.9	0.1	41.4	0.00
	Central African Republic	36 999.2	37 055 773.8	230.2	226 997.2	0.61
	Chad	80 493.7	70 038 910.8	125.3	142 072.5	0.20
	Côte d'Ivoire	3 676.8	3 362 549.5	0.3	276.5	0.01
	Gambia	1 247.8	1 311 868.2	1.3	1 145.0	0.09
	Guinea	12 343.6	8 962 213.0	2.2	1 484.7	0.02
	Guinea-Bissau	1 803.0	2 832 114.7	0.2	321.1	0.01
	Liberia	161.2	120 777.6	-	-	0.00
	Mali	16 443.2	22 417 975.4	12.1	18 156.9	0.08
	Mauritania	5 898.2	5 077 077.2	0.7	546.0	0.01
	Niger	62 802.4	52 520 164.2	27.8	85 942.0	0.16
	Nigeria	87 117.0	90 719 771.0	74.1	117 363.7	0.13
	Senegal	403.6	1 225 871.9	1.3	2 403.0	0.20
	Sierra Leone	8 348.0	6 078 604.8	35.1	24 958.6	0.41
Togo	1 201.6	921 821.2	0.0	4.4	0.00	
<b>RBD total</b>		<b>508 041.2</b>	<b>447 175 388.6</b>	<b>1 078.0</b>	<b>1 233 315.0</b>	<b>0.28</b>
RBJ	Angola	1 627.1	1 921 233.9	10.4	5 885.6	0.31
	Congo	12 725.4	11 831 142.4	59.4	49 860.9	0.42
	Democratic Republic of the Congo	153 394.1	166 997 576.6	503.6	600 139.9	0.36
	Eswatini	2 491.2	1 935 179.9	0.1	106.9	0.01
	Lesotho	1 966.3	3 133 592.8	124.4	60 436.5	1.93
	Madagascar	60 614.8	48 886 881.8	256.8	291 179.4	0.60
	Malawi	15 749.0	8 657 640.8	0.4	343.5	0.00
	Mozambique	47 149.6	33 782 554.9	478.0	283 266.6	0.84
	United Republic of Tanzania	54 827.6	28 693 959.4	213.5	85 382.4	0.30
	Zambia	74.0	51 049.5	-	-	0.00
Zimbabwe	37 428.7	22 175 553.7	2.2	1 030.6	0.00	
<b>RBJ total</b>		<b>388 047.9</b>	<b>328 066 365.6</b>	<b>1 648.8</b>	<b>1 377 632.3</b>	<b>0.42</b>
RBN	Burundi	21 205.5	18 255 593.4	347.2	225 746.8	1.24
	Djibouti	9 561.3	7 414 499.3	15.0	8 443.8	0.11

2023 POST-DELIVERY LOSS REPORT – QUANTITIES AND VALUES BY RECIPIENT COUNTRY AND REGION						
Region	Recipient country	Total handled		Post-delivery losses		% loss, USD vs. total handled USD
		Net mt	USD	Net mt	USD	
	Ethiopia	608 346.9	474 577 260.4	990.3	1 246 233.5	0.26
	Kenya	153 156.9	118 786 875.9	257.3	168 201.2	0.14
	Rwanda	5 764.9	5 991 840.2	1.5	2 026.3	0.03
	Somalia	114 072.1	147 841 261.8	139.0	146 766.0	0.10
	South Sudan	235 850.2	215 068 939.7	1 990.7	1 962 486.6	0.91
	Sudan	260 296.5	169 237 172.5	41 445.5	26 441 660.4	15.62
	Uganda	62 229.6	51 705 033.4	75.7	63 463.0	0.12
<b>RBN total</b>		<b>1 470 483.9</b>	<b>1 208 878 476.5</b>	<b>45 262.0</b>	<b>30 265 027.5</b>	<b>2.50</b>
RBP	Colombia	8 964.0	14 557 893.5	0.8	1 341.1	0.01
	Cuba	6 087.1	9 262 101.8	0.4	1 449.8	0.02
	Dominican Republic	101.6	164 589.4	0.0	44.9	0.03
	Ecuador	98.6	245 383.3	0.7	1 851.9	0.75
	El Salvador	916.8	917 306.0	-	-	0.00
	Guatemala	242.9	654 743.1	0.0	4.2	0.00
	Haiti	12 679.9	14 519 046.6	82.7	89 289.3	0.61
	Honduras	23 436.6	29 612 629.1	1.0	1 394.6	0.00
	Nicaragua	9 734.8	13 220 803.3	0.1	142.3	0.00
	Venezuela (Bolivarian Republic of)	31 390.8	43 122 818.9	46.7	67 667.6	0.16
<b>RBP total</b>		<b>93 653.1</b>	<b>126 277 315.0</b>	<b>132.6</b>	<b>163 185.7</b>	<b>0.13</b>
<b>Grand total</b>		<b>4 588 361.1</b>	<b>3 922 898 902.6</b>	<b>54 275.9</b>	<b>38 366 177.7</b>	<b>1.00</b>

## ANNEX IX

2023 POST-DELIVERY LOSS REPORT									
Commodities with post-delivery losses greater than 2 percent in tonnage and value over USD 20,000 or value greater than USD 100,000									
Region	Country	Project	WBS	Commodity	Total handled, net mt	Total handled, USD	Post-delivery losses, net mt	Post-delivery losses, USD	% losses mt vs. total handled
RBB	Afghanistan	AF01	AF01.01.011.URT1	CERWHF	424 663.27	202 828 891.76	2 487.232	1 308 119.43	0.59
RBB	Afghanistan	AF01	AF01.01.021.ACL1	CERWHF	12 404.83	6 926 146.47	913.284	492 583.54	7.36
RBD	Burkina Faso	BF02	BF02.01.011.URT1	OILVEG	2 925.35	5 370 580.98	67.003	130 626.30	2.29
RBD	Burkina Faso	BF02	BF02.01.021.SMP1	PULBEA	1 271.76	827 247.12	43.919	27 913.22	3.45
RBN	Burundi	BI02	BI02.04.031.SMP1	CERMML	1 994.82	1 245 829.65	286.952	188 062.04	14.38
RBJ	Democratic Republic of the Congo	CD02	CD02.01.011.URT1	CERMML	57 363.29	59 205 426.42	314.750	345 035.66	0.55
RBD	Central African Republic	CF02	CF02.01.011.URT1	PULBEA	879.25	581 011.22	33.300	21 553.94	3.79
RBN	Ethiopia	ET02	ET02.01.011.NTA1	MIXCSB	35 382.26	66 102 728.68	47.339	102 278.70	0.13
RBN	Ethiopia	ET02	ET02.01.011.NTA1	MIXLNS	10 047.33	28 615 600.32	39.024	120 597.89	0.39
RBN	Ethiopia	ET02	ET02.01.011.URT1	CERWHE	327 803.34	163 584 750.72	258.431	138 180.85	0.08
RBN	Ethiopia	ET02	ET02.01.011.URT1	CERWHF	24 434.15	13 699 362.26	45.437	268 938.47	0.19
RBN	Ethiopia	ET02	ET02.01.011.URT3	CERWHF	2 497.00	999 801.74	63.538	29 951.44	2.54
RBN	Ethiopia	ET02	ET02.01.011.URT3	MIXCSB	10 924.60	19 732 928.05	130.440	256 404.25	1.19
RBN	Kenya	KE01	KE01.04.021.ACL1	CERMAZ	153.30	152 896.82	24.200	23 955.94	15.79
RBJ	Lesotho	LS02	LS02.01.021.SMP1	CERMML	929.98	406 683.28	123.027	55 731.23	13.23
RBJ	Madagascar	MG02	MG02.01.011.URT1	MIXLNS	1 661.37	4 916 387.87	40.514	121 282.57	2.44

2023 POST-DELIVERY LOSS REPORT									
Commodities with post-delivery losses greater than 2 percent in tonnage and value over USD 20,000 or value greater than USD 100,000									
Region	Country	Project	WBS	Commodity	Total handled, net mt	Total handled, USD	Post-delivery losses, net mt	Post-delivery losses, USD	% losses mt vs. total handled
RBB	Myanmar	MM01	MM01.01.011.URT1	CERRIC	62 273.71	33 551 077.34	270.639	141 006.05	0.43
RBJ	Mozambique	MZ02	MZ02.01.011.URT1	CERRIC	24 415.16	13 922 697.33	291.727	165 032.07	1.19
RBD	Niger	NE02	NE02.01.011.URT1	MIXRSF	395.97	1 313 491.00	11.700	41 344.53	2.95
RBB	Pakistan	PK02	PK02.02.022.NPA1	MIXLNS	21 052.17	62 040 966.96	50.510	145 699.67	0.24
RBN	Sudan	SD02	SD02.01.011.NPA1	MSCMNP	7.33	82 656.06	4.059	45 758.43	55.36
RBN	Sudan	SD02	SD02.01.011.SMP1	CERSOR	3 486.35	1 336 952.99	616.050	243 762.50	17.67
RBN	Sudan	SD02	SD02.01.011.SMP1	OILVEG	606.68	1 421 570.40	180.968	427 762.59	29.83
RBN	Sudan	SD02	SD02.01.011.SMP1	PULLEN	954.06	1 004 352.89	357.963	399 674.42	37.52
RBN	Sudan	SD02	SD02.01.011.URT1	CERSOR	184 382.68	78 699 526.13	31 551.120	13 442 294.10	17.11
RBN	Sudan	SD02	SD02.01.011.URT1	OILVEG	15 066.41	33 082 315.74	2 869.052	6 425 224.60	19.04
RBN	Sudan	SD02	SD02.01.011.URT1	PULLEN	22 116.65	24 680 451.90	3 264.556	3 817 912.87	14.76
RBN	Sudan	SD02	SD02.02.021.NPA1	MIXLNS	961.55	2 641 165.49	227.385	657 652.62	23.65
RBN	Sudan	SD02	SD02.02.021.NPA1	MSCMNP	17.32	253 284.33	3.162	46 229.79	18.25
RBN	Sudan	SD02	SD02.02.021.SMP1	CERSOR	4 470.60	1 631 175.91	2 160.996	789 793.65	48.34
RBN	South Sudan	SS01	SS01.01.011.URT1	CERSOR	3 639.93	5 020 546.04	283.800	200 945.65	7.80
RBN	South Sudan	SS01	SS01.01.011.URT1	OILVEG	64.56	133 500.02	13.389	24 998.44	20.74
RBN	South Sudan	SS01	SS01.01.011.URT1	PULSPE	199.65	186 899.75	18.750	21 453.06	9.39
RBN	South Sudan	SS02	SS02.01.011.URT1	CERSOR	160 397.61	90 663 739.54	1 146.852	671 212.66	0.72
RBN	South Sudan	SS02	SS02.01.011.URT1	OILVEG	9 772.97	24 434 348.54	65.527	191 098.43	0.67

2023 POST-DELIVERY LOSS REPORT									
Commodities with post-delivery losses greater than 2 percent in tonnage and value over USD 20,000 or value greater than USD 100,000									
Region	Country	Project	WBS	Commodity	Total handled, net mt	Total handled, USD	Post-delivery losses, net mt	Post-delivery losses, USD	% losses mt vs. total handled
RBN	South Sudan	SS02	SS02.01.011.URT1	PULSPE	16 830.84	15 144 109.43	203.292	196 642.29	1.21
RBN	South Sudan	SS02	SS02.02.022.NPA1	MIXLNS	8 257.46	25 294 662.45	128.011	424 058.31	1.55
RBN	South Sudan	SS02	SS02.04.033.ACL1	OILVEG	823.13	1 496 127.32	21.166	39 003.31	2.57
RBC	Syrian Arab Republic	SY03	SY03.01.011.URT1	CERRIC	66 344.55	40 304 451.65	522.641	377 966.16	0.79
RBC	Syrian Arab Republic	SY03	SY03.01.011.URT1	PULCKP	26 376.73	31 392 194.48	101.043	129 287.11	0.38
RBC	Ukraine	UA01	UA01.01.011.URT1	PULCPU	799.00	1 510 007.16	692.130	1 607 302.81	86.63
<b>Grand total</b>					<b>1 549 048.95</b>	<b>1 066 438 544.20</b>	<b>49 974.88</b>	<b>34 304 331.57</b>	



## ANNEX X

POST-DELIVERY LOSSES, 2008–2023						
Year	Total volume handled (mt)	Volume of losses (mt)	Losses as a percentage of total volume handled (%)	Total value handled (USD)	Value of losses (USD)	Losses as a percentage of total value handled (%)
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
2018	4 554 062	12 218	0.27	2 347 637 426	9 803 775	0.42
2019	5 515 651	24 113	0.44	2 611 217 157	14 894 532	0.57
2020	5 666 255	21 875	0.39	2 820 742 753	13 527 096	0.48
2021	5 783 894	23 527	0.41	3 377 115 417	14 758 530	0.44
2022	6 268 911	17 474	0.28	4 926 599 153	16 951 018	0.34
2023	4 588 361	54 276	1.18	3 922 898 903	38 366 178	0.98