



Training Report

Warehouse Operations Management SCMS Training

February 18, 2013

***“Seeing is believing. Just being there gives insights that cannot be taught.
You see how people think when they come back; it is so different.”***

***- Yemaneberhan Taddesse, Deputy Director General
Pharmaceuticals Fund and Supply Agency***



Providing quality medicines for people
living with and affected by HIV and AIDS



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Logan Cochrane



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About SCMS

The Supply Chain Management System (SCMS) was established to enable the unprecedented scale-up of HIV/AIDS prevention, care and treatment programs in the developing world. SCMS procures and distributes essential medicines and health supplies, works to strengthen existing supply chains in the field, and facilitates collaboration and the exchange of information among key donors and other service providers. SCMS is an international team of 13 organizations funded by the US President's Emergency Plan for AIDS Relief (PEPFAR). The project is managed by the US Agency for International Development.

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Supply Chain Management System

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Acronyms

| | |
|------|--|
| BM | branch manager |
| ERP | enterprise resource planning |
| HR | human resources |
| IC | inventory control |
| KPI | key performance indicator |
| PFSA | Pharmaceuticals Fund and Supply Agency |
| SCM | supply chain management |
| SCMS | Supply Chain Management System |
| SOP | standard operating procedure |
| ToT | training of trainers |
| WDC | warehouse and distribution coordinator |
| WHO | World Health Organization |
| WOM | warehouse operations management |

Executive Summary

This technical report summarizes the SCMS training in warehouse operations management, conducted in 2011 and 2012 in South Africa, and its impact on warehouse improvement in Ethiopia. Although some of the lessons learned in South Africa are not yet applicable to Ethiopia, the impact the training has had on staff and warehouse operations to date is significant.

Feedback from staff indicates that knowledge has increased in a number of key areas, resulting in the development of site-specific action plans. Through hands-on training and site visits, the training enabled trainees to gain practical skills and see how operations work as a whole. These experiences have not only built skills, but facilitated a new vision of warehouse operations and management. At the same time, during the last two years of training, staff retention, long perceived as a problem in developing countries, has remained high, at 87 and 86 percent for PFSA and SCMS trainees, respectively.

Qualitative assessment, which looked at 58 warehouse improvement indicators, shows that significant improvements were realized at all sites after the training. The data should be understood as progress made as a result of the training; however, some sites do not have the ability to implement all the changes as outlined in the checklist. For example, eight indicators refer to a cold chain, which is not available at all sites. The indicators should be viewed, then, as improvements to the operations and processes.

From this perspective, each site has made significant improvements. Based on the lessons learned by the Ethiopian delegation, sites made improvements in 17 to 32 different areas, as outlined in this report. These improvements have enabled enhancements to a wide variety of operational procedures, which have in turn improved the operations of each hub and the system as a whole.

Background

The Ethiopian Pharmaceuticals Fund and Supply Agency (PFSA) is developing a national network of regional warehouses (hubs) that will supply more than 3,000 health facilities. New warehouses are being built and will operate using modern mechanical equipment, pallet racking and pick-face systems. However, the greatest asset in ensuring these facilities and tools are as effective as possible is human resource (HR) development and improved capacity to use these new tools effectively. Warehouse staff need to be trained in several key areas, including warehouse management and distribution practices, HR, operations, contracts, standard operating procedures (SOPs), quality control, cold chain, bar coding and customer service.

During 2011 and 2012, delegations of professionals from Ethiopia, with representatives from PFSA and SCMS, met in South Africa for advanced warehouse and distribution training. Attendees from warehouse sites across the country, as well as regional and country managers, were equipped with the skills and knowledge to manage a modern warehouse operation independently and build the capacity of their hub and staff. The training was offered by an SCMS partner, Imperial Health Sciences. The company fine-tuned the content to the specific needs of the Ethiopian delegation and provided a focused, practical, hands-on training.

This training, however, was only the beginning. The real transformation took place when each attendee returned to his or her respective facility and implemented post-training development plans. As each site has a unique context, operational improvement plans were developed for each location. These developments will be tried and practiced, so that when the transition to the new facilities takes place, the initial set-up and management system can integrate improved practices as well as lessons learned.

The training, along with policy development and a PFSA five-year strategic plan, supports the infrastructural expansion and construction of 10 new warehouse sites. The existing temporary hubs, although sub-standard and posing a number of challenges, facilitated the development of an integrated distribution model and tracking systems (paper-based and electronic logistics management information system), which will act as a foundation for the permanent sites. However, staffing shortages remain, highlighting the importance of training-of-trainer (ToT)-style trainings. Also, the lack of a comprehensive management information system has resulted in data quality issues. The PFSA enterprise resource planning (ERP) system under development seeks to address this challenge.

The national network is supported by strong government commitment, devoted development partners and an improving array of local manufacturers. One result of this support is the system's increased financial capacity. However, services are expanding faster than the PFSA implementation capacity, and the diversity and volume of items are increasing. Furthermore, a high staff turnover rate compounds challenges in an environment where supply chain management professionals are already limited.

Training Sessions

Training dates

Four warehouse operations management (WOM) training sessions were held in South Africa on the following dates:

- February 7–18, 2011
- June 27–July 15, 2011
- November 7–25, 2011
- February 6–24, 2012

Training company

Imperial Health Sciences, formerly RTT Tactix, provided the training. As a key PEPFAR and SCMS partner in Africa, the company has appropriate experience in the sector. Imperial Health Sciences provides technical assistance across all elements of the supply chain, but particularly in warehousing and distribution management. It plays a major role in driving out inefficiencies and ensuring that essential medicines, in particular anti-retrovirals, reach the people who need them.

The company is supported by expertise in managing the complexities and challenges of the public health supply chain in under-resourced environments with limited infrastructure. Of importance to the goals of this training, Imperial Health Sciences develops solutions to supply chain challenges in warehousing and distribution management and provides training tailored to client needs.

A primary offering of Imperial Health Sciences is a solution-driven advisory service for improving supply chain efficiencies and performance. A key differentiator of its services is that the consultants and trainers are theorists as well as expert practitioners who can implement the solutions developed.

Trainees

The four training sessions included representatives from all Ethiopian hubs, including representatives from PFSA and SCMS. In total, 29 people were trained, half of whom were from PFSA and half from SCMS Warehouse and Distribution. Training content is provided in Annex 1, while the full list of trainees is provided in Annex 2, which includes details on site representation, timing of training and persons trained.



One of the Ethiopian graduating classes

Key Findings

Trainee evaluation

A few trainees were asked to give feedback on the training course. Their responses are provided below. In general, trainees found that the training gave them practical experience in warehouse operations that they previously had not been exposed to. This enabled the development of new skills, knowledge and perspectives. However, some of the lessons are not, at this time, applicable in Ethiopia. The amount of information was at times overwhelming, as the warehouse operation was significantly different than that in Ethiopia. However, practical and applicable lessons were drawn from the training, and warehouse operations were improved as a result.

Participants offered the following evaluations:

It was a well-organized training with all details planned for ahead of our arrival. The course was rich in its content and provided by well-qualified and experienced instructors; it was also complemented by relevant hands-on practical sessions. The training coordinator and all the staff kept the three weeks lively and supported the delegates in everything we wanted.

I have learnt a lot about how to develop and revise SOPs. Based on the knowledge and skill I acquired from WOM training and the materials I obtained from RTT-tactix, I am able to revise 26 PFSA storage and distribution SOPs. The revised SOPs are now reviewed by PFSA management and approved for printing and implementation. Currently, I am processing the printing of the SOPs with relevant bodies.

This was my first exposure to a modern warehousing and distribution facility and it helped me to align my theoretical knowledge with its practical application in a real world.

My understanding about warehouse layout design has improved since the WOM training. Owing to the skill and knowledge I got from the training, I am contributing a lot during the development and revision modern layout designs for the ten PFSA primary warehouses, which are under construction.

I learned a lot from the course; I can apply some of the knowledge and skill I acquired in a short term and under the current context while some of them can only be applied after the current huge government plan in the sector is implemented.

Some of the best practices we were exposed to could not be applied to our warehouses right now... Once the new warehouses go live, it will be easier to introduce some of the changes that we could not now such as implementing security measures, allocating separate areas for special commodities, and implementing modern fleet management and scheduling tools.

Lessons learned

At the conclusion of the 2012 WOM training the Ethiopian delegation made a presentation on the core take-home messages and action items. Key lessons learned are summarized below in general categories. Each site made specific work plans, which differ from the general list below, as not all sites have the same technologies available.

- **Good warehouse practice:** Assign individuals to manage separate shelves and racks, clean warehouse regularly with daily inspection, dispose of expired items quarterly and outsource disposal.
- **Storage:** Separate receiving, dispatching, storage, picking and quarantine areas; store high-value items in locked areas; introduce new/different warehouse equipment to run more effectively; and ensure narcotic and psychotropic substances (Schedules 5 and 6) are handled by a pharmacist.
- **Controls/safety/security:** Have security checks at different spots; limit non-employee access; introduce smoke detectors and fire extinguishers and have them inspected regularly; train staff in the use of fire extinguishers; quarantine expired, damaged, broken and narcotic and psychotropic substances drugs with follow-up.
- **Procurement:** Base procurement on a single batch number and specify in contract agreement.
- **Inventory control:** Conduct a physical count every morning, using electronic inventory control (IC) tools (bar code/ERP) with back-up system.
- **Cold chain:** Introduce cold chain validation and temperature monitoring, separate vaccines from other cold chain items, use alarm for temperature monitoring in refrigerator, clean and defrost cold room, provide drivers with a proper briefing during cold chain distribution, have either direct loading into cold room or small refrigerators in receiving and dispatching area, dispatch cold chain items after other items.
- **Warehouse design/capacity:** Improve design and layout for space management.
- **Master file:** Ensure site has a master file with SOPs and use template from World Health Organization (WHO) website.
- **Distribution:** Schedule distribution and Stock Transfer Voucher preparation, fulfill six rights during distribution, improve stock flow planning from center to hubs, inform clients about short-dated items before delivery and determine lead time for health facilities.
- **Bar coding:** Improve inventory control and financial management; facilitate picking and dispatch, as they promote accountability and are cost-effective.
- **Quality control:** Determine how to recall defected items and recall processes for threats to public through mass media, develop quality assurance and quality control of pharmaceuticals for placing orders, receiving orders, storage, stock management and cold chain.
- **HR:** Recognize employee performance, post recognition letter from branch manager (BM) in facility, introduce performance measurement, undertake time analysis of different activities (invoice, finance...), have clear employee expectations and design staff development strategy.
- **Receiving management:** Ensure goods/vehicles are on schedule, have physical and analytical inspection of incoming goods and undertake blind count during receiving.

- **SOPs:** Develop and revise SOPs, offer staff training in SOPs, develop checklists and regular follow-up on checklist use and conduct internal audits to identify and solve problems.
- **Key performance indicators (KPIs):** Develop KPIs for every task.
- **Miscellaneous:** Improve communication between divisions within the supply chain system; evaluate customer satisfaction; standardize pallet size; label cartons (fragile, cold chain, flammable, etc.); wrap cartons on pallet; use cage for distribution, changing room and cabinet for staff, and individual staff folder.



Before (warehouse, Ethiopia)



After (warehouse, Ethiopia)

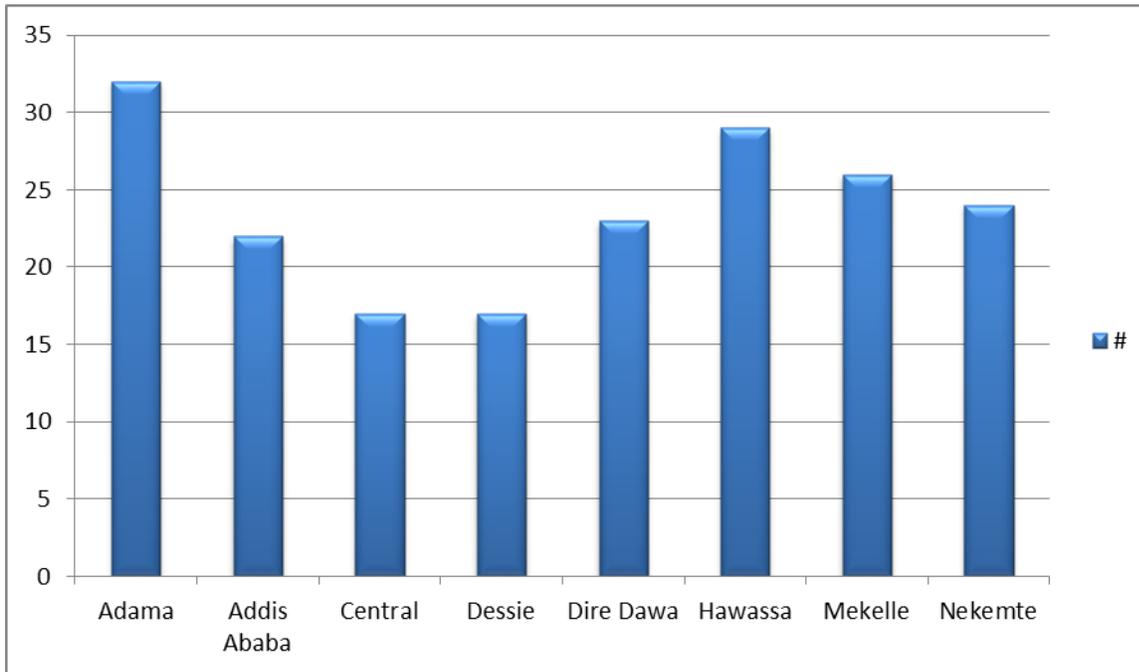
Impact on warehouse operations

Although 58 indicators were used (see Annex 3), based on the Take-Home Lessons presented by the Ethiopian team at the end of the training, fulfilling and implementing of all these action items is not applicable or possible at some sites. For example, many lessons were learned about the cold chain (eight indicators); however, some sites are not yet capable of enacting those lessons due to limitations beyond their control. Similarly, having a staff change room and implementing bar coding require significant financial support. The measure of indicators should be considered as improvements made as a result of the training (i.e., an overall improvement of warehouse operations by a certain number of indicators).

Table 1. Implementation of lessons learned at sites following training

| Site | Improvements made | In progress | Not applicable |
|-------------|-------------------|-------------|----------------|
| Adama | 32 | 1 | 1 |
| Addis Ababa | 22 | - | 7 |
| Central | 17 | - | 16 |
| Dessie | 17 | - | - |
| Dire Dawa | 23 | 1 | 2 |
| Hawassa | 29 | - | 2 |
| Mekelle | 26 | - | - |
| Nekemte | 24 | - | 4 |

Figure 1. Implementation of lessons learned at sites following training



As shown in Table 1 and Figure 1 above, as well as the matrix of warehouse improvements in Annex 4, the WOM training has resulted in significant changes at sites across Ethiopia. The number of changes ranges from 17 to 32, which are derived from gaps indentified by the Ethiopian trainees after the training. On average, more than 23 improvements were initiated at each site.

The improvements made at the warehouses to date are expected to increase when the new warehouses are completed. This is expected to be the case as staff retention, which is recognized as a major concern in the health sectors of developing countries, remains high among the trained staff. For PFSA and SCMS, trainee retention over the two years since training began is high at 87 and 86 percent, respectively.

Although room remains for continued improvement, including areas that are not dependent on financial investment or improved capacity, the WOM training has clearly had a positive impact on warehouse operations and management.

Recommendations

1. Train additional staff.

The SCMS team plans to develop a training-of-trainers (ToT) course that can use local trainers for WOM training within Ethiopia. This will include general WOM training, similar to what was provided in South Africa, as well as refresher training. However, to have a strong base from which to train individuals to become trainers, each site needs at least one representative who has completed the WOM training in South Africa. Some shifts have already taken place since the initial trainings, including staff relocating, moving on to other positions or retiring. We recommend training an additional seven PFSA staff members and five SCMS staff members in the final round of WOM training in South Africa. It is also worthwhile to consider PFSA's request to train an additional 10 members of their staff, as their warehouse operations include sites beyond those under the SCMS umbrella.

2. Develop a ToT manual for trainers and trainees.

With a ToT manual, future trainings on WOM can take place within Ethiopia, and the expertise gained from these trainings can be leveraged. As staff turnover remains an issue, ToT will be important and will enable more people to become trained and be trainers, ensuring that knowledge can spread from a few persons to many.

Table 2. Staff retention

| Staff | Trained | Retained (%) – to present |
|-------|---------|---------------------------|
| PFSA | 15 | 13 (87%) |
| SCMS | 14 | 12 (86%) |

A locally produced ToT will be able to address and reinforce the specific areas that are in need of improvement within Ethiopian warehouses. It will also help to address the problem of staff turnover, in that knowledge is not retained within a few individuals, but is shared by local trainers to a larger group. Two individuals from PFSA, who were trained in South Africa, have since moved on. Building strategies to address staff turnover is important, and a localized ToT is one such mechanism.

3. Offer an annual follow-up training at each site.

The follow-up training can act as a refresher as well as a practical means of checking up on each site's progress. Combining evaluation and training will enable the one-day training to be tailored to site-specific needs.

4. Conduct quarterly evaluations.

Evaluations will facilitate continuous quality improvement at each site and identify areas for improvement. This process will ensure that responsibility is delegated to the site, and all are aware of the quarterly reporting and evaluations. It will also streamline the refresher training, as trainers will know, from the quarterly reports, the areas that need attention and additional training.

Annex 1. Training content

| Session 1: Supply Chain Management | |
|---|--|
| Module 1: | Professionalizing the supply chain |
| Module 2: | Key performance indicators |
| Module 3: | Checklist for internal audits |
| Module 4: | Human resources, performance appraisals and job descriptions |
| Session 2: Demand Forecasting | |
| Module 5: | Contract-level agreement |
| Session 3: Procurement | |
| Module 6: | Operations: Procurement |
| Session 4: Receiving | |
| Module 7: | Operations: Receiving management |
| Session 5: Warehousing | |
| Module 8: | Warehouse design and capacity |
| Module 9: | Physical controls, safety and security in the warehouse |
| Module 10: | Good warehouse practice |
| Module 11: | Site master file |
| Module 12: | How to write and train for SOPs |
| Session 6: Stock Holding | |
| Module 13: | Operations: inventory control |
| Module 14: | Quality control, management, drug recall and destruction |
| Module 15: | Storage management and special requirements |
| Module 16: | Cold chain |
| Session 7: Distribution Planning | |
| Module 17: | Operations: distribution |
| Session 8: Customer Service | |
| Module 18: | Customer service |
| Session 9: Strategic Planning | |
| Module 19: | Situation analysis and decision-making process |
| Session 10: information Technology | |
| Module 20: | Bar-coding |
| Simulation | |
| Module 21: | Operational simulation exercise |

Annex 2. List of trainees

| S.N. | Full Name | Work Location | Job Title |
|------------------------------|------------------------------|-----------------------|--|
| Feb 7–18, 2011 | | | |
| 1 | Alemayehu Belay | PFSA Hawassa | BM |
| 2 | Asnake Gemechu | PFSA Adama | BM |
| 3 | Matiwo Haileyesus | PFSA/SCMS Hawassa | Warehouse and distribution coordinator (WDC) |
| 4 | Mohammed Bedru | PFSA/SCMS Adama | WDC |
| 5 | Kahsay Gebreselassie | PFSA Mekelle | BM |
| June 27–July 15, 2011 | | | |
| 6 | Zenab Teklit | PFSA Addis Ababa | BM |
| 7 | Helen Tesfaye | PFSA/SCMS Addis Ababa | Warehouse supervisor |
| 8 | Nega Melaku | PFSA/SCMS Mekelle | WDC |
| 9 | Abdissa Mengesha | PFSA Bahir Dar | BM |
| 10 | Tariku Mohammed | PFSA Bahir Dar | WDC |
| 11 | Melese Tekle | PFSA Jimma | BM |
| 12 | Alazar Workineh | PFSA/SCMS Jimma | WDC |
| Nov 7–25, 2011 | | | |
| 13 | Amsalu Chanie aynalem | PFSA Gonder | BM |
| 14 | Yalew Molla Zelelew | PFSA Dessie | BM |
| 15 | Nuredin Muzemil Imam | PFSA Dire Dawa | BM |
| 16 | Solomon Nigussie Abebe | PFSA Negele Borena | BM |
| 17 | Desalegn Asres Hailu | PFSA/SCMS Dessie | WDC |
| 18 | Seid Mohammed Abdu | PFSA/SCMS Dire Dawa | WDC |
| 19 | Demisachew Lemma Birru | PFSA/SCMS Central | Warehouse and distribution associate |
| 20 | Solomon Abera Derra | PFSA/SCMS Nekemte | WDC |
| Feb 6–24, 2012 | | | |
| 21 | Safia Nuro Hassen | PFSA Central | Stock and distribution coordinator |
| 22 | Alem Tewelde Gebremedhn | PFSA Adama | BM |
| 23 | Muluken Moges Demissie | PFSA Gullele Branch | Stock and distribution coordinator |
| 24 | Tariku Matiyas Afework | PFSA Negele Borena | Stock and distribution officer |
| 25 | Alemayohu Gebremariam Abay | PFSA Mekele | BM designate |
| 26 | Abyu Faris Aberra | SCMS Central | Regional distribution manager |
| 27 | Daniel Taddesse Teklemichael | SCMS Central | Deputy director for technical operations |
| 28 | Munir Abdella Mohammed | PFSA/SCMS Gullele | Assistant hub manager |
| 29 | Asegid Reta Ashenafi | PFSA/SCMS Adama | Assistant hub manager |

Annex 3. Warehouse improvement checklist

Good warehouse practice:

- | | |
|--|-----|
| 1. Assign individuals to manage separate shelves and racks | Y/N |
| 2. Clean warehouse regularly and inspect daily | Y/N |
| 3. Dispose of expired items quarterly | Y/N |
| 4. Outsource disposal | Y/N |

Storage:

- | | |
|---|-----|
| 5. Separate receiving, dispatching, storage, picking and quarantine areas | Y/N |
| 6. Store high-value items in locked areas | Y/N |
| 7. Introduce new/different warehouse equipment to run more effectively | Y/N |
| 8. Narcotics and psychotropic substances (Schedule 5 and 6) handled by a pharmacist | Y/N |

Controls/safety/security:

- | | |
|---|-----|
| 9. Conduct security checks at different spots | Y/N |
| 10. Limit non-employee access | Y/N |
| 11. Provide smoke detector | Y/N |
| 12. Provide fire extinguisher and inspect regularly | Y/N |

13. Train staff in use of fire extinguisher Y/N

14. Quarantine expired, damaged, broken, high-value and narcotic and psychotropic substances drugs with follow-up Y/N

Procurement:

15. Base on single batch number Y/N

16. Specify in contract agreement Y/N

Inventory control:

17. Conduct physical counting every morning Y/N

18. Use electronic IC tools with back-up system Y/N

Cold chain:

19. Validate cold chain Y/N

20. Monitor temperature Y/N

21. Separate vaccines from other cold chain items Y/N

22. Use alarm for temperature monitoring in refrigerator Y/N

23. Clean and defrost cold room Y/N

24. Brief drivers during cold chain distribution Y/N

25. Load directly into cold room or into small refrigerators in receiving and dispatching area(s) Y/N

26. Dispatch cold chain items after other items Y/N

Warehouse design/capacity:

27. Improve design and layout for space management Y/N

Master file:

28. Ensure site has master file with SOP (WHO template) Y/N

Distribution:

29. Schedule distribution and Stock Transfer Voucher preparation Y/N

30. Fulfill six rights during distribution Y/N

31. Plan stock flow from center to hubs Y/N

32. Inform clients about short-dated items before delivery Y/N

33. Determine lead time for health facilities Y/N

Bar coding:

34. Implement bar coding Y/N

Quality control:

35. Plan to recall defected items Y/N

36. Recall plan of threats to public through mass media Y/N

37. Provide quality assurance and quality control of pharmaceuticals for placing order, receiving order, storage, stock management and cold chain Y/N

HR:

38. Recognize employee performance Y/N

39. Provide recognition letter from BM in facility Y/N

40. Provide performance measurement and time analysis of different activities Y/N

41. Have clear employee expectations Y/N

42. Design staff development strategy Y/N

Receiving management:

43. Ensure goods/vehicles are on schedule Y/N

44. Provide physical and analytical inspection of incoming goods Y/N

45. Conduct blind count during receiving Y/N

SOPs:

46. Develop and revise SOPs Y/N

47. Train staff in SOPs Y/N

48. Develop checklists and regular follow-up on checklist use Y/N

49. Conduct internal audits to identify and solve problems Y/N

KPI:

50. Develop KPIs for every task Y/N

Miscellaneous:

| | |
|--|-----|
| 51. Communicate between divisions within supply chain system | Y/N |
| 52. Evaluate customer satisfaction | Y/N |
| 53. Standardize pallet size | Y/N |
| 54. Label cartons (fragile, cold chain, flammable...) | Y/N |
| 55. Wrap cartons on pallet | Y/N |
| 56. Use cage for distribution | Y/N |
| 57. Provide hanging room and cabinet for staff | Y/N |
| 58. Provide individual staff folder | Y/N |

Annex 4. Matrix of warehouse improvements

Complete  In progress  Not applicable
Not available 

| Indicator | Adama | Addis Ababa | Central | Dessie | Dire Dawa | Hawassa | Mekelle | Nekemte |
|-----------|----------------|----------------|----------------|----------|----------------|----------|----------|----------------|
| 1 | Complete | Complete | Not applicable | Complete | Complete | Complete | Complete | Not applicable |
| 2 | Complete | Complete | Not applicable | Complete | Complete | Complete | Complete | Complete |
| 3 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 4 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 5 | Complete | Complete | Not applicable | Complete | Not applicable | Complete | Complete | Complete |
| 6 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 7 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 8 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 9 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 10 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 11 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 12 | Complete | Complete | Not applicable | Complete | Complete | Complete | Complete | Complete |
| 13 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 14 | Complete | Complete | Not applicable | Complete | Complete | Complete | Complete | Complete |
| 15 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 16 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 17 | Complete | Complete | Not applicable | Complete | Complete | Complete | Complete | Not applicable |
| 18 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 19 | Complete | Not applicable | Not applicable | Complete | Complete | Complete | Complete | Complete |
| 20 | Complete | Not applicable | Complete | Complete | Complete | Complete | Complete | Complete |
| 21 | Not applicable | Not applicable | Complete | Complete | Complete | Complete | Complete | Complete |
| 22 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 23 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 24 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 25 | Complete | Not applicable | Complete | Complete | Complete | Complete | Complete | Complete |
| 26 | Complete | Not applicable | Complete | Complete | Complete | Complete | Complete | Complete |
| 27 | Complete | Complete | Not applicable | Complete | Complete | Complete | Complete | Not applicable |
| 28 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 29 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 30 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 31 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 32 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 33 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 34 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 35 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 36 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 37 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |
| 38 | Complete | Complete | Not applicable | Complete | Complete | Complete | Complete | Complete |
| 39 | Complete | Complete | Not applicable | Complete | Complete | Complete | Complete | Complete |
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| 55 | Complete | Complete | Complete | Complete | Complete | Complete | Complete | Complete |

| Indicator | Adama | Addis Ababa | Central | Dessie | Dire Dawa | Hawassa | Mekelle | Nekemte |
|-----------|-------|-------------|---------|--------|-----------|---------|---------|---------|
| 56 | | | | | | | | |
| 57 | | | | | | | | |
| 58 | | | | | | | | |