Host Communities Support in Waste Management

Greater Irbid Municipality

1- Challenges related to GIM waste management fleet

Population of Irbid is around one million, 25% of which are non-Jordanians who have increased n numbers after the situation in Syria, creating challenges, infrastructure issues, increasing environmental issues and traffic jams in the governorate.

- **Daily repair rates:**

Vehicles Department receives (20-25) malfunctioning vehicle daily with minor, intermediate and major faults.
Despite the limited number of technical staff compared to the daily work load, around 80% of the malfunctioning vehicles are repaired while 10% are referred to the private sector and the rest are un-repairable either because of the repair being time consuming or it should be put on hold awaiting supply of the required spare parts.

- Challenges related to GIM waste management fleet (Contd.)
- **Poor educational backgrounds of the technical staff**

All of the faulty vehicles require computer skills to determine faults

- **Diversity of vehicles operating in waste collection**

GIM has more than eight types of waste collection vehicles, which is caused by the source being different foreign organizations. Such diversity creates a huge obstacle in the supply and storage of spare parts on warehouses as well in having the proper technical skills

- **Infrastructure**

GIM lacks the infrastructure for qualified parking areas with required advanced tools to carry out optimal maintenance and repair works in addition to traffic jams that create another big obstacle in waste collection.

- **Procurement and Supply of Spare Parts**

Unusually, this takes two weeks at least, creating a delay in the supply of spare parts

2- Vehicles Department, its administrative structure and functions

- **A department of GIM specialized in repair and maintenance of all operational vehicles and equipment of the Municipality totaling 348 including 112 vehicle for solid waste collection and transfer within the Municipality. The Department works on implementation of plans and programs that aim at upgrading the efficiency of those vehicles and sustainability of their operations.**

Staff of the Vehicles Department include:

Count	Position
4	Mechanical Engineers
8	Admins and supervisors
59	Technicians- Different specialties
10	Warehouse personnel
3	Procurement personnel

Among the 59 Technicians, 18 started work early this year.

Technical and admin staff were divided into two shifts

- **Shift A – From 7 a.m. – 3 p.m.**
- **Shift B – from 3 p.m. – 10 p.m.**
- **Shift C – from 10 p.m. – 7 a.m. (To be activated in emergencies and difficult weather conditions only.)**

3- Methodology to overcoming challenges and find appropriate solutions

GIZ began its work plans with the GIM since 12/2014. Accordingly, GIZ provided two engineers with competency and is capacity to repair vehicle faults using computer and have the capacity to develop plans and programs that aim to raise work efficiency. GIZ achievements can be summarized as follows:

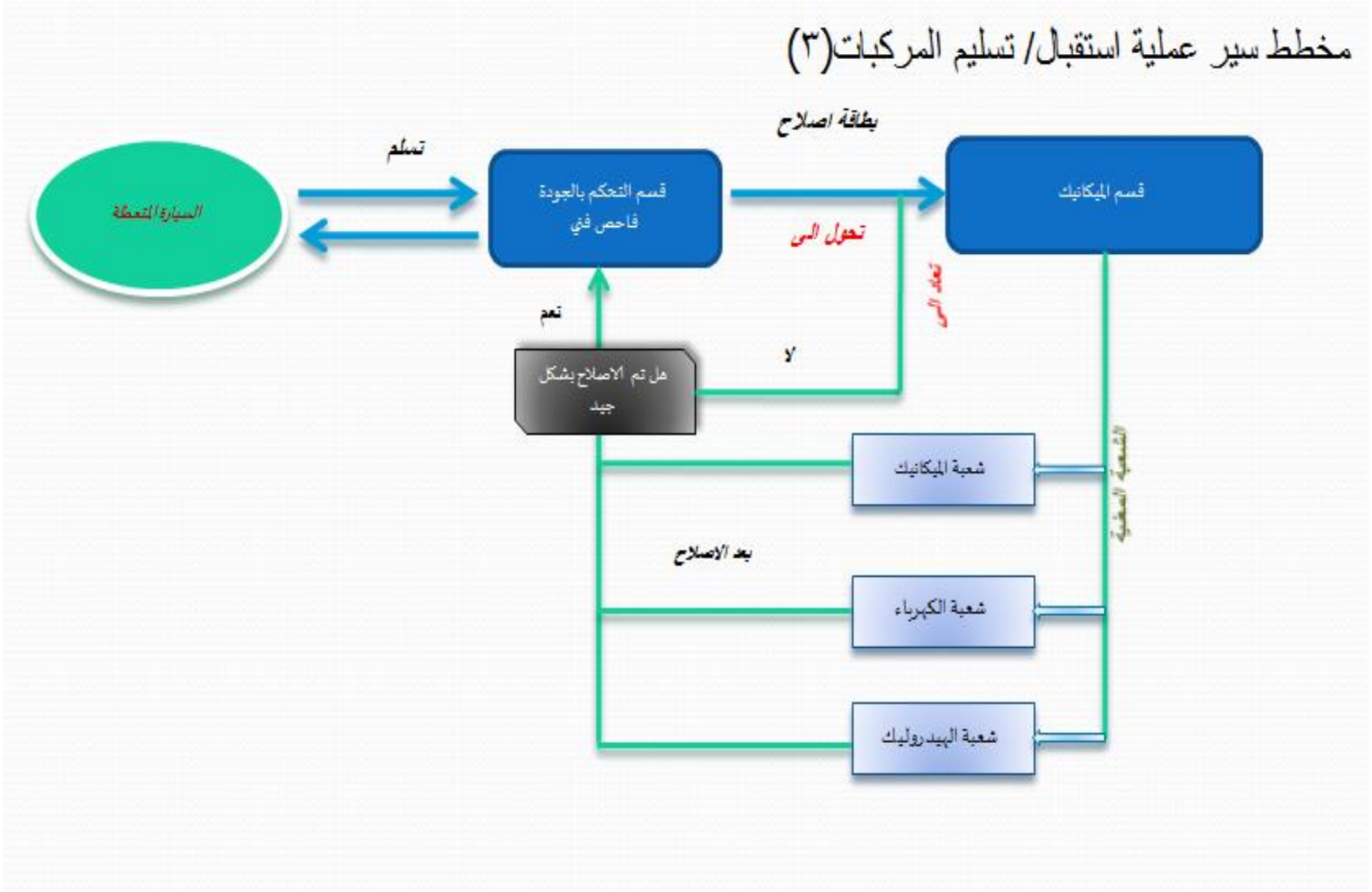
- **Provision of mobile workshop that contains all tools and equipment needed to repair faults and place it inside the garage**
- **Training of engineers and technicians on the use of computer in the process of troubleshooting and repair**
- **Provision of tools and equipment for some of the technical divisions**
- **Contribution of GIZ engineers to repair a set of vehicles' faults that would have to be forwarded to the private sector ; thus, saved financial costs to GIM**
- **Hold courses and workshops for admins that aim to raise the level of work**

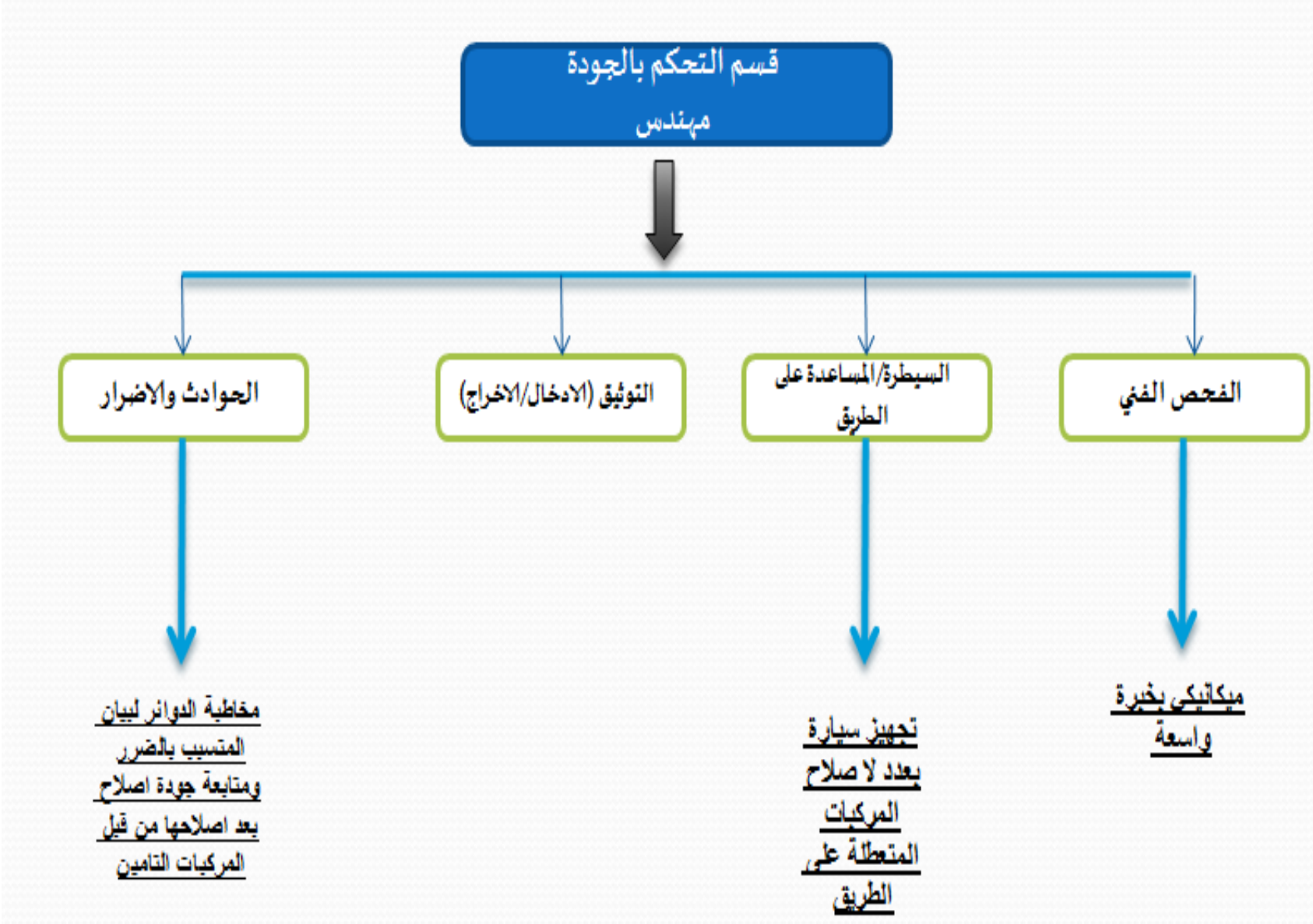
Methodology to overcoming challenges and find appropriate solutions (Contd.)

- **Establishment of Regular and Preventive Maintenance Division and providing it with all spare parts, tools and required equipment in order to reduce the proportion of faults and maintain vehicles operation so that the Division develops a monthly program that require each vehicle to be inspected served to ensure their due readiness to work**
- **Establishment of the Quality Control Department, which aims to increase the level of control on drivers and technicians as well as to raise the quality of repairs. The Division will begin operations with the beginning of work at the new location for garages**
- **Providing GIM with a JD200,000 worth of spare parts for vehicles, where GIZ was provided with the necessary lists, and we are waiting for the supply after the prepare and equipping of warehouses**
- **Work on the establishment of a training center within the new garages to hold courses and workshops and we are awaiting equipping the center with all its needs through the of the cooperation of GIZ**

Chart: Maintenance Division

Quality Control Division




قسم التحكم بالجودة
مهندس
الفحص الفني
السيطرة/المساعدة على الطريق
التوثيق (الادخال/الاخراج)
الحوادث والاضرار
ميكانيكي بخبرة واسعة
تجهيز سيارة بعدد لا صلاح المركبات المتعطلة على الطريق
مخاطبة الدوائر لبيان المتسبب بالضرر ومتابعة جودة اصلاح بعد اصلاحها من قبل المركبات التامين

Timeframe adopted during application of the regular maintenance

Work on the regular maintenance program began early December after being approved by GIM as a first phase
Work on Quality Control Division will begin after finalizing the first phase as follows:

1- The site has been fully equipped with necessary maintenance equipment and received (3) vehicles a day to perform maintenance operations and record their mileage (km) from (29.11.2015) for a period of 6 weeks
2- Files have been prepared for all the agreed upon vehicles totaling (60) and all observations and maintenance programs were recorded in these files from (10.01.2016) for a period of 4 weeks. All vehicles were checked in accordance with the model shown below
3- Quality Control Division will be equipped after the completion of the first phase
- Staff were selected and trained
- Files were prepared for all operating vehicles
- Site was selected
From (07.02.2016) for a period of 8 weeks

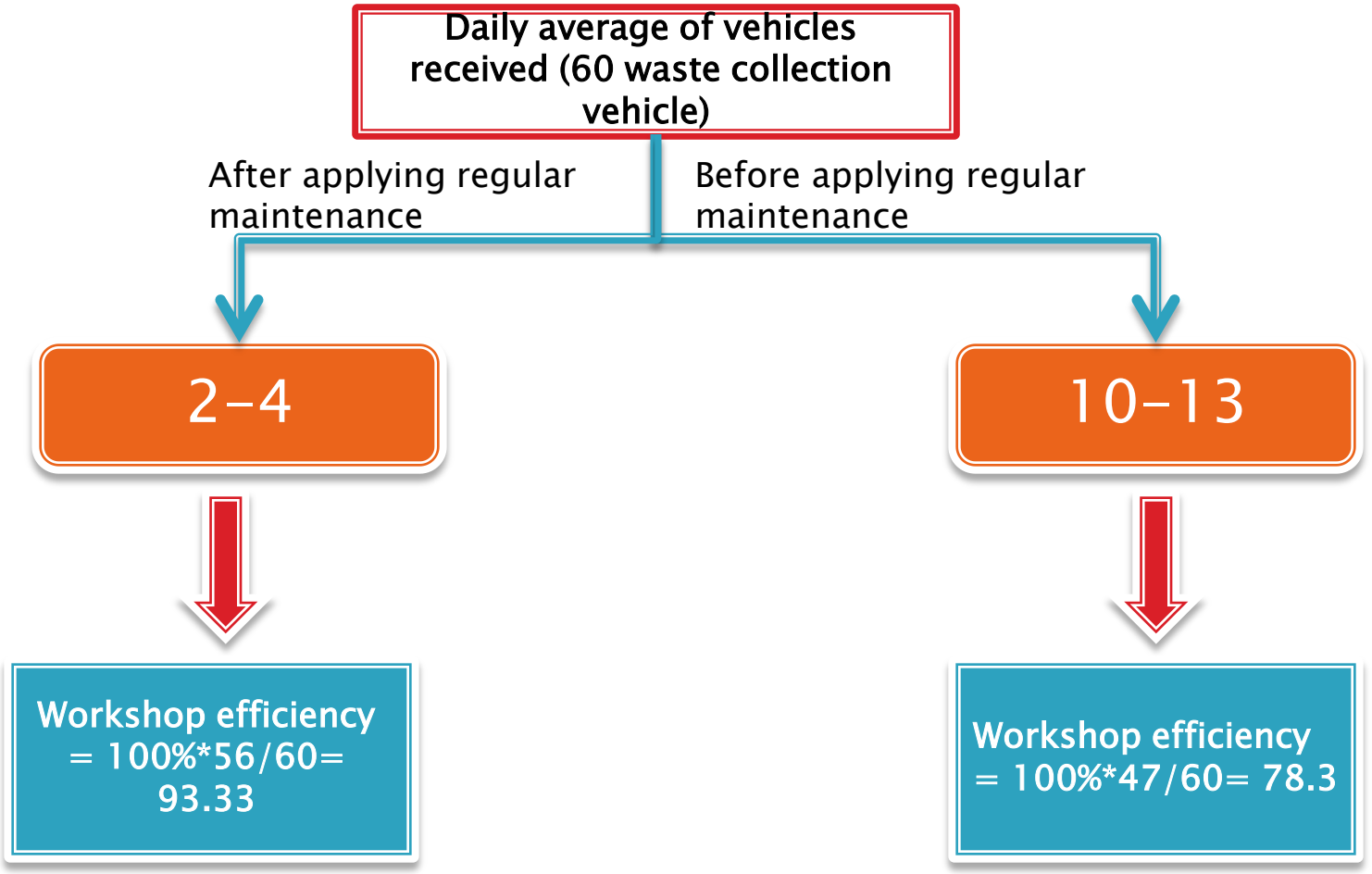
Regular Maintenance

Date: **Area:**	**Vehicle No.:** **Vehicle Type:**

Wash the vehicle before maintenance Mechanics Inspection and maintenance of the cooling system Inspection and maintenance of chassis and tighten the screws Tighten screws of the barrel for grinding mills Full inspection of the hydraulic system	Inspection of air filters and replacing them, if necessary Inspection of the wheels and tighten the rim screws Inspection and maintenance of the BRIC system Inspection and maintenance of the guidance system Signature of the mechanic ----------
Oils Check	
Hydraulic Oil Gearbox and Bakaks oil and, if necessary, oil change	Engine Service Steering Oil Signature of Oil Technician ----------
Lubricating Dry Shaft conjunctions Caliber joints of rear and front BRIC Axis and boxes Rare and front springs Rear and front drum Pele and barrel jagged Front chamber lifting joints	 Clutch Pele Steering system joints Water pumps for tanks, if any Rare device Spare wheel lifting device Blade and blade ducts Signature of oils technicians ----------

Electricity Inspection of battery fluids and battery cables	Inspection of dynamo and starter
	Signature of Electrician ----------
Puncture Tires check	Air gauge
	Signature of puncture service technician --------

❑ Results and Outcomes: Workshop Efficiency



Percentage of increase in workshop efficiency= 78.3 – 93.33=15%

❑Staff benefited from technical training

Subject	No. of staff trained	Name	Position
Faults and power testing device	2	Engineer Aktham Firas Dkhail	Mechanical and electrical engineer
Hydraulic system	3	Ahamd Abu al-Rob Ahmad Dalki Ahmad Karmi	Hydraulics Technician
Mechanics	4	Amin Hamaydeh Mohammad Abu al-Hana Mohammad Ababenh Osama Ghanim	Mechanical Technician
Maintenance	2	Emad Adawreh Mohammad Abu Msameh	Maintenance Technician

5. lessons learned

- The important role of senior management in providing adequate support through high horizon of thinking and creativity, headed by Engineer Hussein Bani Hani

- The importance of meeting challenges and obstacles, regardless of their size and the optimal use of available resources

- The importance of cooperation and collaboration and effective communication to provide the necessary support, whether technical or financial

- The important role of supporting organizations and the importance of coordination among them to steer the required support with high efficiency and full coordination with concerned municipalities to face their actual challenges

- The importance of finding sustainable solutions to ensure proper functioning after completion of the project

6. Cooperation, sharing and transfer of knowledge

- Greater Irbid Municipality through the creation of a regional training center and the collaboration of the German Agency for International Cooperation is seeking to disseminate and transfer knowledge to neighboring municipalities to be utilized to the fullest in addition to the urgent needs of the GIM in the training and qualification of its staff

- The training center will invite the neighboring municipalities to benefit from courses that will be held, such as scientific and practical training by experts who are contracted by international donor organizations

- GIM will hold training courses in all mechanical, electrical and hydraulic areas through its engineers and technicians who are competent and received necessary training through GIZ

- Also, GIM is ready to transfer technical and administrative expertise to neighboring municipalities upon coordination with these municipalities

In conclusion, we would like to thank all foreign organizations and supporting agencies that provided support to face the challenges resulted from the Syrian refugees, especially GIZ that has provided and still provides all types of material and logistical support and cooperated with the municipality in the worst of circumstances and became part of us. We hope that all municipalities in the country will utilize the opportunity to cooperate with GIZ

Thanks for your attention