

**MoLG-JICA Technical Cooperation Project for Capacity
Development in Solid Waste Management in Palestine Phase-III
(CDSWMP-III)**

- A Technical Cooperation between Palestine (MoLG) and Japan (JICA) -

**CDSWMP-III Output 5 Activities / Project Webinar Series
5th Webinar – Paper and Cardboard Recycling in Palestine**

Proceeding of the 5th Webinar

Series Editor:

Suleiman Abu Mufarreh, Project Manager / Director General, Ministry of Local Government (MoLG)

Editor:

Yousrea Ramadan , Project Member , Environmental Engineer -MoLG

Technical/ Editorial Advisor:

Mitsuo Yoshida, Chief Advisor, MoLG-JICA Project / Senior Advisor, JICA

August 2021

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Disclaimer:

The 5th Webinar was held as a part of the ODA (Official Development Assistance) technical cooperation project between Palestine (MoLG; Ministry of Local Government, Palestine) and Japan (JICA; Japan International Cooperation Agency) with the aim of promoting information exchange in the field of solid waste management in Palestine.

The Proceeding of the 5th Webinar contains the lectures presented during the Webinar and discussions. The contents of the lecture were made at the responsibility of each author and do not express the official position of the MoLG-JICA Project, MoLG, or JICA. Each lecture material was simply posted as it was created under the responsibility of each author. Abstracts were summarized by the Editor of the Proceedings based on the presentations. The copyright of each lecture material belongs to each author. The content of each lecture is tentative in nature and may change with future developments, so if a reader wants to cite a part or all of presentation, it is recommended to obtain the consent of relevant author.

- Series Editor

Corresponding Address of the MoLG-JICA Project:

Directorate of Joint Service Council, Ministry of Local Government, P.O. Box 731, Ramallah

Attn: Suleiman Abu Mufarreh (Project Manager)

E-mail: suleimana@molg.pna.ps

Facebook: JSC Today

Introduction

The Project for Capacity Development in Solid Waste Management in Palestine Phase-III (CDSWMP-III) is targeting developing the technical capacity of the SWM institutions, namely MoLG and JSCs for SWM (13 JSCs in West Bank and 2 JSCs in Gaza). This Project overall goal is aiming at realization of waste reduction and minimization of waste amount over Palestine through implementing the Waste Reduction Program, (reduction of waste generation and various waste diversions from the waste stream flowing into landfills), and sustainable solid waste management systems are established in consideration of the environment and society. This goal is planned to be achieved through several Activities for minimizing waste generation and waste diversion throughout Palestine, where each JSC will prepare and start implementing a plan for minimizing waste generation, verification of effectiveness of methodologies of reduction in waste generation, waste diversion, reduction of waste disposed and appropriate disposal measures, drafting Law on 3Rs (Reduce, Reuse, Recycle) promotion is drafted for MoLG, and bylaws, regulations, standards, institutional design and/or guidelines necessary for promoting 3R practices, proposing for the next National Waste Management Strategy (2023-2027).

The Project will also formulate a National Waste Reduction Program including awareness raising program and appropriate SWM system designs for the entire Palestine, enhancing the Capacity for 3R promotion activities in MoLG-DJSC and JSCs, and support the JSCs in West Bank and Gaza through providing equipment and technical supports.

The Webinar Series will be organized for summarizing previous experiences and on-going activities in waste reduction, minimization, diversion and 3Rs promotion, and for sharing the knowledge and lessons among practitioners on the issues. We hope the webinar can contribute to improving the solid waste management system in Palestine.

Suleiman Abu Mufarreh, Webinar Series Editor & Project Manager, MoLG

Mitsuo Yoshida, Webinar Series Advisor & Chief Advisor of the Project, JICA

August 2021

1. Date, Time and Venue

- Sunday, 8th August, 2021 (Time in Palestine)
- 09:00am to 11:00am
- Web Meeting System (Microsoft Teams)
- Webinar Moderator: Eng. Yousrea Ramadan (MoLG)

2. Attendees

List of attendees including organizations and individuals is presented in Annex-A1.

3. Proceeding of Webinar Agenda

3.1 Welcoming and Objective of Webinar

Mr. Suleiman, the Project Manager of the MoLG-JICA Project started the 5th webinar by welcoming attendees, especially the participants from private sector. Then he mentioned that this webinar is following the 4th one which was about waste composition, he focused on the importance of utilizing the available resources which are limited.

He mentioned that we have many ongoing pilot projects which will target paper and cardboard recycling in Ramallah, Jericho and Bethlehem Governorates, these pilot projects are implemented by JSCs in cooperation with Private sector under MoLG and JICA supervision, such projects are subjected to be repeated according to its results, as the main target of MoLG is to promote paper recycling and to stop depending on the Israeli side in getting rid of such waste. Also, he stated that the direction of the Palestinian Authority in general and MoLG in specific is to utilize renewable energy resources, reduce waste and promoting 3R's activities.

Eng. Yousrea Ramadan from MoLG, introduced the attendees and speakers. She also mentioned that the goal of this webinar is to present the current recycling activities by private sectors as well as the ongoing pilot projects in the JSCs that targeting paper and cardboard through the project of (CDSWMP-III), in order to form a clear picture about private sector activities in paper and cardboard recycling, their achievements, challenges/difficulties they are facing and recommendations.

Set of PPTs were presented during this webinar. The title, speaker and summary of each presentation as following

1st Presentation: Outline on used paper/cardboard recycling based on the experience in Japan and other countries.

Speaker: Dr. Mitsuo Yoshida / Chief Advisor of the project CDSWMP-III

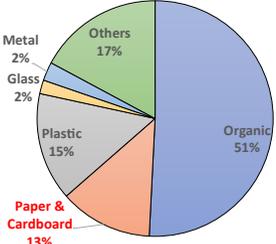
Organization: JICA

Abstract: paper and cardboard recycling is playing an important role in reducing waste amount as well as giving the opportunity to achieve best utilization of the available and limited resources we have in Palestine, the presentation gave a technical knowledge and background about history of paper and cardboard recycling in Palestine as most of paper/cardboard waste have been open-dumped and open-burned. Paper and cardboard are forming around 13% of generated waste in WB and 7.3% in GS. Many pilot projects were implemented in the past by government through JSC but unfortunately not repeated as the results were not satisfied, the projects included paper/cardboard separation and transferring. No recycling facilities were established and collected separated quantities were sent to Israeli companies.

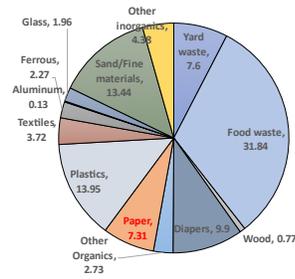
In Palestine there are not many private companies that can manufacture recycled products, and the scale/capacity is small, in specific 12 private facilities of paper and cardboard recycling are available in WB.

The presentation focused on the neighbor countries experience; Jordan. *Question was raised: why we cannot repeat this experience in Palestine??*

PPTs slides:

 <p>Paper & Cardboard Recycling: For Promotion in Palestine</p> <p>Mitsuo YOSHIDA Chief Advisor of MoLG-JICA CDSWMP-III Project Japan International Cooperation Agency (JICA) CDSWMP-III 5th Webinar, 8th August 2021</p>	<p>Today's talk</p> <ul style="list-style-type: none"> • Issues in Palestine • Paper/Cardboard Recycling for Waste Reduction • General Process for Paper/Cardboard Recycling  <p>Manual Separation in Material Sorting Facility PAPER RECYCLING PRODUCTION CENTER 古紙分別・梱包</p>
<p>Environmentally Sound Material Cycling</p>  <p>Benefits of Paper/Cardboard Recycling Recycling saves landfill spaces. Recycling saves energy and trees that absorb carbon dioxide.</p> <p><small>http://www.norfolkproject.net/Cardboard-recycling-grammar/</small></p>	<p>Generalized Municipal Waste Composition in the West Bank</p>  <p>Waste Generation in West Bank 2,622 tons/day 957,030 tons/year 0.91 kg/day/capita</p> <p>Around 1,711 tons/day (65%) is collected by the JSCs, and the collection of the remaining quantities is collected by LGUs or UNRWA.</p> <p>Source: Data Book 2019</p>

Averaged Waste Composition in the Gaza Strip



Waste Generation in the Gaza Strip

1,330 tons/day
 485,450 tons/year
 0.7 kg/day/capita

Approximately 12% of the municipal waste generated (157 tons/day) is collected by the JSCs, and the collection of the remaining quantities is collected by LGUs or UNRWA.

Source: Gaza Feasibility Study 2012

Almost all paper/cardboard waste have been open-dumped and open-burned.



Open dumpsite in Jericho 2004. But situation is not different after 17 years. It is not only for paper/cardboard but also for glass bottle, metallic can and other recyclables. (Photo by Yoshida)

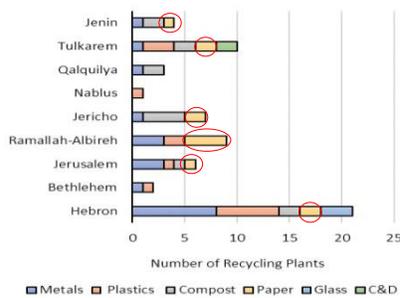
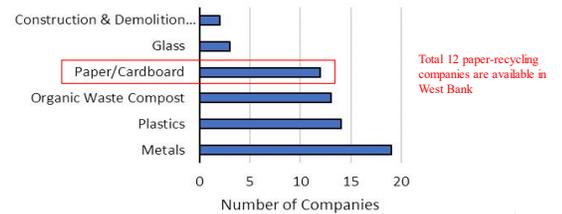
Limited amount of paper/cardboard waste have been separately collected and baled.



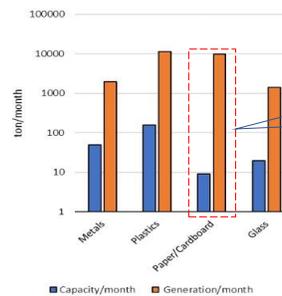
Segregating cage for cardboard waste in Hebron 2015. They are baled and sold to recycling industries, Israel. The lesson from this recycling program is informative for future practice in paper/cardboard waste recycling. (Photo by Yoshida)

Recycling Industries in Palestine

In Palestine there are not many private companies that can manufacture recycled products, and the scale/capacity is small. In West Bank, there are 63 private recycling companies registered that operate sorting and recycling businesses, as of 2019 shows the distribution of business fields of the recycling companies; in which metals (steel, aluminum, and copper) recycling is most common, and followed by plastics recycling, organic waste composting, and paper/cardboard recycling.

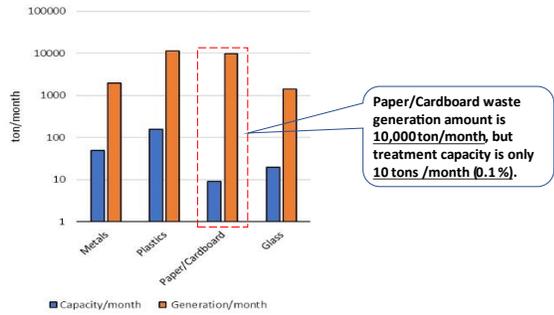


Location of recycling industries in West Bank (Data source: Final Report of the MoLG -JICA Project Phase-II)



Paper/Cardboard waste generation amount is 10,000 ton/month, but treatment capacity is only 10 tons /month (0.1%).

Total generation amount of recyclable and its treatment capacity for material recycling in West Bank, Palestine (data from Phase-II Project Report (2019).



Total generation amount of recyclable and its treatment capacity for material recycling in West Bank, Palestine (data from Phase-II Project Report (2019)). 10

Jordanian Case

Separated and baled paper piles in Amman (photo by Yoshida, Amman 2006)



Used cardboard price – An Example



The price of used cardboard highly fluctuated between 25 and 95 £ (pond sterling) per ton in 2020, UK.



<https://www.kitware.com/news/latest-news/waste-paper-markets-see-cheap-correction/>

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Source: SUEZ, <https://www.suez.com/uk/en/sustainability-ips/learn-about-waste-streams/general-waste-streams/paper-and-cardboard-recycling>

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Pulping



Used papers are mixed with water. (photo by Yoshida, Amman 2006)

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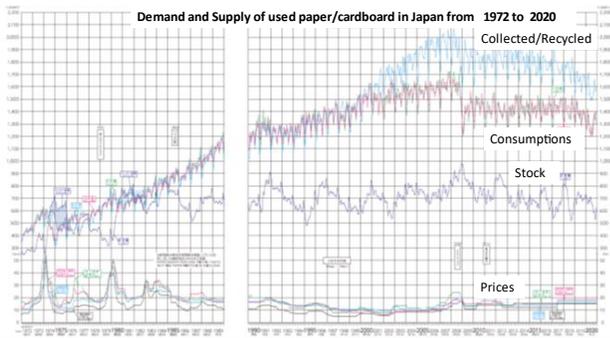


Drying



Pulp materials are pressed and dried. (photo by Yoshida, Amman 2006)

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Paper & Cardboard: What can (and cannot) be Recycled?

Accepted paper/cardboard



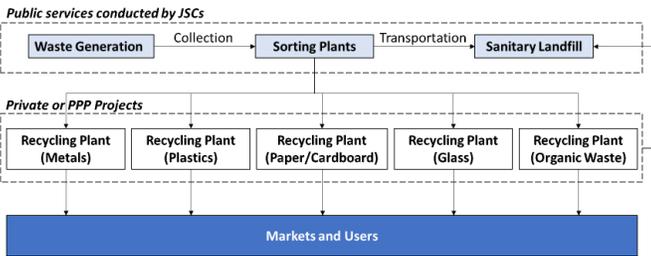
Non-accepted items

- Paper towels/napkins/tissues, Wax or coated paper, Laminated with plastic film, Photograph paper, etc.
- Contaminated pizza boxes, Coated paper containers, Packaging with styrofoam or plastic/bubblewrap, etc.

<https://www.isaridate.com/DocumentCenter/View/4036/CAC-Sustainability-Article---Recycling-Paper-and-Cardboard---Dec-2020>

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Relationship between the solid waste management as public services and recycling businesses by private sector or PPP projects



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Roles of Stakeholder

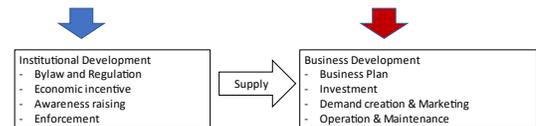
Institutional Development and Investment

Public Sector (JSCs, LGUs)

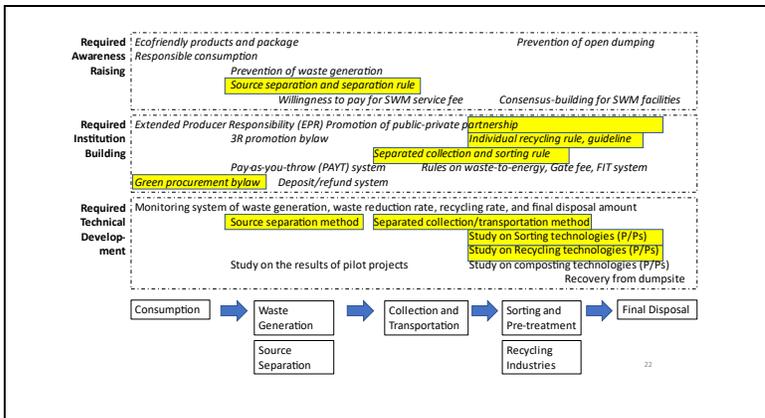
- Source separation
- Collection
- Sorting and Supply

Private Sector

- Quality (Fine Sorting) and baling
- Material Recycling
- Recycled Paper Products

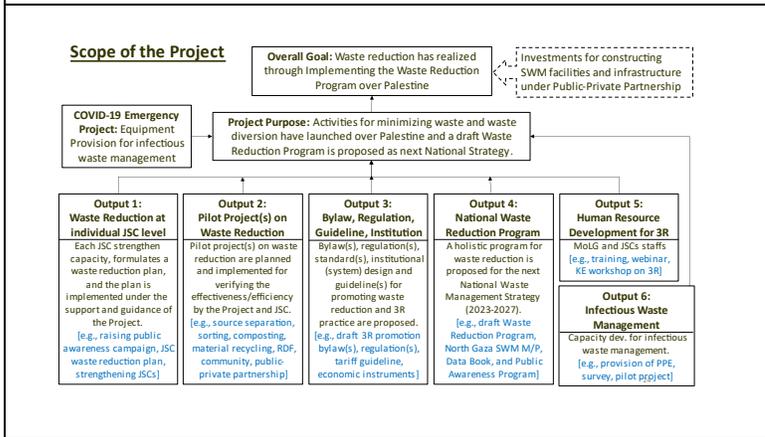


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Summary

- There is a potentiality of Paper/Cardboard Recycling, which can contribute to 13% waste reduction as well as saving resources.
- Weakness of Palestine is that sorting/recycling industry are less developed, where present capacities for treatment is only 0.1% of generation.
- Investment for sorting, material recycling, and plant for recycled paper products is highly required.
- Public sector (MoLG, JSCs, LGUs) need to establish appropriate institutions for the recycling system.



The End!

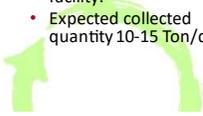
2nd Presentation: Current projects and plans of paper/cardboard recycling in Palestine Jericho and Ramallah Governorates

Speaker (1) : Eng. Husain Abuoun

Organization: Joint Service council of solid waste management in Ramallah and Al-bireh Governorate

Abstract: The JSC is implementing a pilot project about paper recycling under supervision of MoLG and JICA, and is financially covered by CDSWMP-III, through this project the cardboard will be collected separately from 100 commercial and trade centres in the city, then to be baled and transferred to the recycling facilities.

PPT slides.

 <p style="text-align: center;">Joint Service Council for Solid Waste Management in Ramallah and Al Bireh Governorate</p> <hr style="border: 1px solid red;"/> <p style="text-align: center;">Waste Reduction Plan Pilot Project cardboard collection project</p> 	 <h2 style="text-align: center;">Objectives</h2> <hr style="border: 1px solid red;"/> <ol style="list-style-type: none"> 1) Collect the cardboard separately in order to reduce the amount of waste. 2) Decrease solid waste quantities transferred and dumped at the sanitary land fill. 3) Enhance targeted stakeholders and residents to start waste reduction. 4) Enhance efficiency and effectiveness of solid waste collection. 
 <h2 style="text-align: center;">Targeted Area</h2> <hr style="border: 1px solid red;"/> <p>100 Commercial and trade centers in Ramallah, Al Bireh and Betonia Cities</p>  	 <h2 style="text-align: center;">Recourses</h2> <hr style="border: 1px solid red;"/> <ul style="list-style-type: none"> • 400 Plastic Containers capacity 1100 Liter • Cardboard Baler • Collection Vehicle • 1 Driver, 2 Workers    
 <h2 style="text-align: center;">Implementation</h2> <hr style="border: 1px solid red;"/> <ul style="list-style-type: none"> • Cardboard shall be collected and transferred to JSCRAB storing yard. • Cardboard shall be compacted to bales. • Bales shall be stored and then sold to mediator who will transfer it to cardboard recycling facility. • Expected collected quantity 10-15 Ton/day.  	 <h2 style="text-align: center;">Thank you</h2> <hr style="border: 1px solid red;"/>  <p>Husain Abuoun, Msc Executive Director Ramallah Downtown, Al Harja Building, 3 rd Floor Tel: +970-2-2957977 Fax: +970-2-2955814 Mobile: +970-598-566866 E-mail: Husain.abuoun@jscrab.ps</p>

Speaker (2) : Mr. Sulieman Abu Muffareh on behalf of Eng. Mohammad Isayed.

Organization: Joint Service council of solid waste management in Jericho and Alaghwar Governorate

Abstract: The JSC is implementing a pilot project about paper recycling under supervision of MoLG and JICA, and is financially covered through CDSWMP-III, Jericho city is facing a serious problem in managing the huge generated paper waste quantities which consumed most of the available space in the collection containers as of its big volumes, so this project is aiming at collecting separately the generated paper waste from different offices and schools, and then to be baled and sold to private recycling companies.

In general, the main goal of these two pilot projects is to figure out a way to promote paper and cardboard recycling in other JSCs based on their results and impacts.

PPTs slides.

 <p>The Project for Capacity Development in Solid Waste Management in Palestine</p>  <p>JCSpd</p> <p>تدوير الورق والكرتون</p> <p>مجلس الخدمات المشترك لإدارة النفايات الصلبة المدير التنفيذي: محمد اسعد</p>	<p>كميات كبيرة من الكرتون خاصة بالقرب من المحال التجارية مشكلة حجم وليس وزن معضلة حيث انها تأخذ حيز كبير في الحاويات تشكل 12,6 % من النفايات اليومية.</p> 
<p>مشروع الفرز والتدوير الحالي في اريحا</p>   	<p>صناديق لجمع الكرتون بواسطة المستثمر</p>  
<p>تدوير الورق مكاتب مدارس ارسال الى الشركات الخاصة</p>  	<p>شكرا</p>

3rd Presentation: Private sector's view on paper/cardboard recycling perspectives and business opportunities and requirements for this sector?

Speaker (1) : Eng. Orwa Alahmad

Organization: Paper Pal company and Ostry Company for agricultural Development

Abstract:

Participation of private sector in Paper and cardboard recycling is limited in Palestine, paper pal and ostry as local Palestinian private businesses succeeded in recycling white paper mixed with palm fronds to produce toilet tissues, and recycling white paper and cardboard to produce agricultural and industrial packaging boxes respectively.

In fact, they are facing many challenges and obstacles at different levels which need a serious interfere from government to facilitate the Private sector participation in the field , such obstacles include raw material (Paper and Carton), Taxes on purchase compared to taxes on sales, high Energy Cost, low water availability and high associated cost, difficulties with municipalities, lack of government support, and incentives from PA side, and consequently all of these constrains making companies unable to work more than 50% of their normal capacity.

PPTs Slides



<h3>Obstacles</h3> <p>Obstacles due to the public and government sectors</p> <ul style="list-style-type: none"> • RAW Material (Paper and Carton). • Taxes on purchase compared to taxes on sale • Energy Cost. • Water Availability and Cost. • Difficulties with Local municipalities. • Lack of Government Support. • Lack of Intensives from PIPA side. 	<h3>RAW Material (Paper and Carton).</h3> <ul style="list-style-type: none"> • 80% of used Paper and Carton mixed with industrial and Organic waste. • It collected and stores in bad condition. • Collected in different location. • The cost of transportation is high. • Most of the private collectors are not organized. • The price of the raw material is not stable.
<h3>Taxes on purchase compared to taxes on sale</h3> <ul style="list-style-type: none"> • The collectors of the raw material don't offer formal invoices. • The taxes don't make financial clearing to any materials without invoices. • This increase the tax amount more than 16% when you sell the final products. • About 40% of our final products are smuggling from the Israeli side. 	<h3>Energy Cost</h3> <ul style="list-style-type: none"> • The energy consumption is very high about 50% of the overall running cost. • Energy Needed: <ul style="list-style-type: none"> * Electricity 1.34 ILS/Kw. * LPG 4.79 ILS/Kg. * Diesel 5.5 ILS/Ltr. There is no ADD BLUE intensive.
<h3>Water Availability and Cost</h3> <ul style="list-style-type: none"> • Fresh water is used for mixing , cleaning, filtering, and sterilization the raw materials. • The water consumption is 1:20 of the raw material. • The cost of water is about 5 ILS for cubic meter. • The amount of water needed for both factories are not available. 	<h3>Difficulties with Local municipalities</h3> <ul style="list-style-type: none"> • There is no separation for the paper and carton when collecting by municipalities staff. • The municipalities refuse the domestic water which come out from our manufacture. • The municipalities get about 2500USD from each factory to get rid from the factory waste, on the other hands, no one pay for the factories when it recycled thousands of tons of waste paper and cartons.
<h3>Lack of Government Support & Lack of intensives from PIPA side</h3> <ul style="list-style-type: none"> • the government don't protect our product in the local market. • The government don't redirect the local authority and companies to send our factory their waste. • The government don't implement the PSI standards which affect our products and markets. • PIPA intensives are lack in comparison with other sector like solar energy sector. 	<h3>WHAT WE NEED?</h3> <ul style="list-style-type: none"> • More collaboration with local authorities. • More protection for our products. • More intensive from PIPA. • Supporting our factories to improve and develop its capacity and quality.



Speaker (2) : Eng. Ayman Sbeih
Organization: Federation of paper and Cardboard Industries

The speaker presented the relevant information and facts orally, which can be summarized in the following points:

1. Paper and cardboard recycling should be within main priorities for all stakeholders
2. The success of Jordanian previous experience in nineteens is referred to the strong and good coordination and cooperation between private sector, local NGOs, ministry of environment, environmental associations.
3. Promoting the paper and cardboard recycling industry and providing incentives is very crucial for such facilities to succeed.
4. There is a motivated investor who is making an assessment study of paper and cardboard recycling and he is seeking for support.
5. We can recycle 14% of the paper waste if we can develop and promote such industry considering Taxation, relevant laws, standards.
6. We try previously to reduce water and electric bills for these industries but unfortunately, we couldn't.
7. The occupation is hindering our success somehow, but we need to resolve our own obstacles to overcome this hindering factor.
8. Increasing public awareness in the sector is highly requested
9. we received many offers from private investors but they were shocked when they know the obstacles and challenges that might be appear.

Speaker (3): Eng. Abd Alnaser Dweikat
Organization: National Carton Industry company

The speaker presented the relevant information and facts orally, which can be summarized in the following points:

1. NCI company is producing (all types of cardboard products for food and agriculture use), regarding the defects emerged during production process, they collect, bale and send to paper factories
2. The recycling sector in Palestine is not well regulated and it faces a lot of obstacles - the factory only recycles the waste generated inside the facility itself (defects items are accumulated and sent to other factories).
3. Corona pandemic -COVID 19 has big impact on increasing the price of paper and cardboard

4. Most of paper and cardboard waste is burned, and consequently negatively affecting the environment and health.
5. Recycling has a good potential unless the circumstances are well managed.
6. We have a big market, and the chances can be given to other initiatives.
7. Paper can be recycled more than 25 times without losing its natural properties. (in fact only three times paper can be recycled, since the strengths are affected according to response of Dr. Yoshida and Dr. Amer)
8. papermill in the area is only present in Israel none in the Jordan (not correct: we have in Jericho)

3.2 Discussion and Q&A

- ❖ Eng. Aktham highlighted many issues:
 1. The resident should cooperate with JSCs and reduce the amount of generated cardboard waste which increase the burden on recycling industries.
 2. cardboard waste can be collected either as baled or in compacted containers (40 m³ for example) as they tried both and both are practical. he asked Eng. Orwa from Paperpal to contact him for further cooperation in future as Tulkarm JSC has 5 years' experience and a vehicle for separated collection.

- ❖ Eng. Mohammed Alsa'di : he pointed that :
 1. It is very necessary to study the feasibility of paper and cardboard recycling. and we can build on the results of ongoing pilot projects in Jericho and Ramallah. Where Mr. Tariq from ostry responded that "in all neighbour countries all separated paper and cardboard waste is collected and sent to the recycling facility by LGUs who are not supposed to make any profit from this service as they already take waste collection fees, so this role should be withdrawn from recycling company.
 2. It is necessary to make partnership with Private sector and ask for funds to establish plastic and paper recycling facility in the middle of Westbank for example.
 3. According to the feasibility of paper recycling we should examine all related ideas in waste reduction through recycling and to focus on the quality of the recycled material as the current used technologies will not be able to produce a recycled paper or cardboard with high quality.
 4. He recommended to continue working in the sector and to analyse the challenges and propose solutions

- ❖ Eng. Samir Matar emphasized that restaurants should cooperate with JSCs toward reducing the generated paper and cardboard waste, and he recommended to follow the principle of EPR in the future.

- ❖ Dr. Ali Barhoum highlighted the importance of the Private sector role in the recycling industry, the Government interferes and support is highly requested and finally he recommended that all requested incentives to keep private sector working in the recycling industry should be provided as their role is an integrative one.

- ❖ Dr. Amer AlHamouz mentioned that cost is a very important and critical issue in recycling, and he asked all private companies who are working in the field to develop a financial model according to their

experience in order to be used as reference. He recommended that paper and cardboard recycling associated cost can be reduced through reuse of treated waste water as well as proposing that paper cannot be recycled more than 3 times because it will shorten the length of Cellulose needed for paper making.

- ❖ Eng. Orwa from Paper pal highlighted many issues:
 1. There is no specific location/station to collect all generated quantities of paper waste in West Bank
 2. Recycling of paper for the third time is a risk, as there is a potential to have bad quality products, and this confirmed by Dr. Amer and Dr. Yoshida during discussion.
 3. Based on paper pal experience, currently there is no companies in Jordan, only one which already moved to KSA.
 4. The problem is with Israeli borders, the community is very interested in our products. This problem can only be facilitated by the government.
 5. I encourage sorting plants rather than source separation in order to guarantee high quality of separated paper and cardboard waste.

4. Recommendations

- ❖ Cost is a very important and critical issue, all private companies who are working in the paper and cardboard recycling since 2016 should develop a financial model according to their experience, so cost and benefits can be set.
- ❖ At long- term, waste and wastewater can be reduced through recycling as for example currently 80% of used water in paper recycling by paper pal is reused within the factory.
- ❖ According to paper pal experience, there is a high potential to generate bio-diesel from palm grinding (generated black liquor is a rich source for bio diesel).
- ❖ Electrical tariff on recycling industry should be reduced, as the paper waste drying phase is consuming 30% of the electricity requested in running such recycling facility.
- ❖ Government (MoLG) should work toward formulating law and regulations that enable the investors to recover costs as much as possible through providing recycling facilities with requested equipment and services that enhance and increase their productivity.
- ❖ MoLG in cooperation with other stakeholders should formulate national plan to overcome the challenges in recycling industry, secure the market and support the recycling industries
- ❖ Palestine Standards Institution (PSI) should be involved in the recycling industry in order to control and monitor the products' quality.
- ❖ To make afield visit to one of the local recycling facilities in order to have a clear picture about the recycling activity and being able to put the requested actions in order according to its priority; formulating laws, reduce taxes, VAT exemptions.

Finally, Mr. Sulieman closed the webinar by “Molg hope to enhance the cooperation between private sector and JSCs to achieve good percentage of paper recycling, so now we are aware of the obstacles and challenges, and we should go further toward formulating a national plan and start working towards solving them”. Then he mentioned that “This webinar is the first step to assess the current situation of recycling sector and existing initiatives, where the ongoing project of “Developing capacities in solid waste management in

Palestine -III) is aiming at formulating waste reduction law that includes EPR (Extended Producer Responsibility) and incentives.

Where Dr. Yoshida (Chief advisor of the project) pointed that there is two aspects related to the recycling sector in which JICA can cooperate (industrial process and technology toward achieving zero emissions), where other aspects are mostly institutional and this is the role of MoLG but need good coordination with ministry of finance and ministry of national economy, and he proposed to organize another webinar but after the action plan including priorities and roles of stakeholders is being formulated .

Annex-1: Participant List of the 5th Webinar

Name	Organization
<i>Dr. Mitsuo YOSHIDA</i>	<i>CA- JICA</i>
<i>Ms. Reiko Shindo</i>	<i>PC -JICA</i>
<i>Mr. Suleiman Abu Mufareh</i>	<i>PM -MoLG</i>
<i>Mr. Ziad Tawafsheh</i>	<i>DPM -MoLG</i>
<i>Eng. Ula Abodi</i>	<i>JICA</i>
<i>Eng. Yosrea Ramadan</i>	<i>MoLG</i>
<i>Eng. Rawan Tayeh</i>	<i>JICA</i>
<i>Eng. Mohamed Sadi</i>	<i>Jenin JSC</i>
<i>Eng. Hussein Abuoun</i>	<i>Ramallah JSC</i>
<i>Prof. Amer Hamouz</i>	<i>Najah National University</i>
<i>Dr. Ali Barhoum</i>	<i>Gaza KRM JSC</i>
<i>Eng. Abdelrahim Abulqumboz</i>	<i>North Gaza JSC</i>
<i>Eng. Aktham Badran</i>	<i>Tulkarm JSC</i>
<i>Eng. Raed Al-aghbar</i>	<i>NT- member (Ministry of agriculture)</i>
<i>Eng. Mahmoud Othman</i>	<i>NT- member (Ministry of Health)</i>
<i>Eng. Samir Matar</i>	<i>MDLF</i>
<i>Eng. Ayman Sbeih</i>	<i>Federation of paper and cardboard</i>
<i>Eng. Orwa Alahmad</i>	<i>Paper pal Company</i>
<i>Mr. Abd Alnaser Dweikt</i>	<i>National Carton Company</i>
<i>Mr. Tareq Sa'adeh</i>	<i>Ostry for agriculture development</i>

Annex-A2: Agenda:

Activity No	Subject	Time
1	Opening and welcome speech Project Manager: Mr. Sulieman Abu Muffreh – MoLG	9:00 -9:10
2	Introduction to the Paper/Cardboard recycling webinar Project Member: Eng. Yousrea Ramadan -MoLG	9:10 -9:20
3	Outline on used paper/cardboard recycling based on the experience in Japan and other countries Project Chief Advisor Dr. Mitsu Yoshida	9:20-9:35
4	Previous experiences and plans of paper/cardboard recycling in Palestine <ul style="list-style-type: none"> • Jericho JCspd current PP (eng. Mohammad Isae'd) • Ramallah JSCs current PP (eng. Hussien Abuoun) 	9:35-9:55
5	Private sector's view on paper/cardboard recycling perspectives and business opportunities and requirements for this sector? <ul style="list-style-type: none"> • Paper Pal company and Ostry for agricultural Development (eng. Orwa Alahmad) • Federation of paper and cardboard (Eng. Ayman Sbeih) 	9:55 -10:15
6	National Carton industry (Mr. Abd Alnaser Dweikat)	10:15 -10:25
7	General discussion and individual recommendations	10:25 -11:00
8	Closing (PM : Mr. Sulieman Abu Muffreh – MoLG)	11:00

Annex-A3: News and Picture of Webinar

Newsletter on Project Facebook page (JSC Today):

<https://www.facebook.com/Jscoday/posts/2521435441494474>

