Cross Country Report

WP1.4

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I. Executive Summary.

This report constitutes an analysis of the deliverable D1.4 of WP1 of the "Innovation for the Leather Industry in Jordan and Egypt (INNOLEA)"; an Erasmus+ project, which aims to create and maintain a link between universities and businesses of the leather sector that will foster the innovation and manufacture of high-value quality products, as well as further cooperation between EU, Jordan, and Egypt Universities and leather businesses.

The research desks were prepared based on different focus groups, interviews and questionnaires. These research tools have been used by both the Egyptian and Jordanian partners in the INNOLEA during the first 5 months of this project. Forty questionnaires were used for the industrial sector, twenty for the focus groups and more than 10 interviews. To ensure comparability between the used tools; the same set of questions and focus-group toolkit were used for both countries. The set of questions were further developed by adding more questions to be compatible with the entire markets. The leather sector in Jordan and Egypt consisted of small companies and small craft oriented workshops combining manual and mechanical processes with very basic equipment. Most of these companies are either small or medium-sized factories or workshops. The leather-industrial sector in both countries suffers from a high fragmentation and a lack of quality control in all stages of the production chain and a lack of specialized support. Most of the companies in the sector cannot invest in quality, design and innovation and export their products. This was informed and confirmed by the Jordanian and Egyptian leather-decision makers. This report helps in describing the problems and challenges which face this vital sector in both countries (Egypt and Jordan); and determining the sector's needs and recommending solutions to promote and enhance the performance of leather sector in both countries to be able to compete in the global market.

II. Introduction.

Since last centuries, the MENA region was the active connection among African, Asian and European industrial and trading potentials. The location of both Egypt and Jordan, its old hand-crafted works and of the rise in its population make them till these days the startups for different works and the migration-oriented place.

The leather industry was staring from very old centuries. The supply of raw materials of leather is increasing due to the increase in human population and the increase in the demand for meat from slaughtered animals of sheep and cows. The leather industry was common since the tombs of pharaonic civilization (2200 B.C) in the area of Egypt and arounds, and sure in Jordan which was the historical trade-connection between east Africa and west Asia for very long centuries. Jordan has many raw materials and used to export up to 6 million JOD raw materials as wet blue leathers 15 years ago.

The trade-in opportunities for both Egypt and Jordan, make the high-completion for all national products, and as result it limits the market of the national industry which already face industrial, environmental and cash-flow problems.

In 1995, in response to the industrial and environmental needs, the Egyptian government has made the decision to transfer the tanning industry, presently situated in Al-Robikki area. The project is located between Cairo and Suez city about 45 Km from Cairo. This decision by the government is of particular historical importance: on the one hand it is a choice imposed by the limits of environmental acceptability of urban industrial development, and on the other it expresses a desire to take the opportunity to support and strengthen the Egyptian tanning industry by helping it to become part of an industrial economy.

The situation is different in Jordan, the tannery and leather manufacturers are still asking for specialized leather-industrial area. The tannery-industry in Jordan considers as a small-scale sector because of many problems facing this sector such as lack of fresh water for tannery process, the use of inefficient technology, and the high competition for the leather manufacturing due to the low-price trade-in market.

This report is a brief assessment of the different components of the Egyptian and Jordanian leather sector, and the needed actions for both sides.

III. **Characterization of the Egyptian and Jordanian Leather Sector.**

III.A Tannery Industry.

At present, the Egyptian tanners are few companies, they are industrially organized and able to offer a product suitable for the international market. This is particularly true for the 320, 7500 tannery-workers in old Cairo, which are predominantly artisan workshops, with insufficient and often obsolete machinery. The average daily production per worker of around 48 square feet, which is less than half of the European standard.

The total number of tannery factories in Jordan is 4, representing a very low ratio to the total number of leather-importing companies (currently are 76 companies). With the presence of highly supplies of raw materials of leather from slaughtered animals (mainly goats, sheep, and cows), the leather sector in Jordan has a great potential for improvement and reform.

Using the old leather processing and tannery techniques, the regulations and polices related to this sector and to investment in recycling the water from the tannery process, are the main reasons for the decline in the number of tannery in Jordan from 4 to 2 nowadays. The sector should also work on improving the quality of the leather raw materials from the slaughtered animals by reducing the use of knives during the flaying process. The lack of rational organization and the spaces which the companies occupy are in buildings which are completely inadequate for running a modern production cycle. Most tanneries have been operating at cost or at loss since the early 1990s in both countries. Structural adjustment policies reduced or eliminated subsidies on basic utilities, such as electricity in both and water in Jordan. Access to favorable foreign exchange rates, which ran 40-50% below official exchange rates, also ended raising the cost of imported inputs, especially chemicals. Demand for tanned leather goods also fell domestically due to rising inflation and changing consumer's tastes. As a result, capacity utilization decreased from nearly 100% to only 50%. In order to stay in business, tanners have to sell their products on long-term credit, while borrowing in the short-term in order to meet expenses. This further added to production costs leaving little capital left to make investments in new equipment or environmentally friendly technologies.

Therefore, the competitiveness of Egyptian and Jordanian tanned leather suffers from: The effluent of the tannery processes and the national lack of water, in addition to that the government doesn't allow to open new tannery companies due to the low efficiency of water treatment stations of the suggested companies.

- High workers' salary.
- The use of old techniques and insufficient production processes.
- Industrial overcrowding.

The leather source and grade for Egypt are shown below in table 1. Number of leather skin from different animal source in Jordan is shown in Table 2.

Table 1: Numbers of leather skins according to the quality grades inside the Egyptian governmental slaughterhouses (by piece) in 2015 (Central Agency for Public

Table 2: Total number of cow, sheep and goat heads in thousands in Jordan. (Ministry of Agriculture)

Year	Goat			Sheep	Caws		
	Goat total	Jordanian	Arabian		total	Jordanian	Holland
2007	569.38	560.08	9.30	2251.45	80.95	4.50	76.45
2008	1100	1048.39	51.61	2252.00	79.43	3.00	76.43
2009	1145	1145		2726.15	68.78	5.44	63.35
2010	849	847		2316.31	69.79	5.99	63.58
2011	889	889		2391.29	65.81	6.01	59.79
2012	885	885		2389.60	70.34	6.64	63.70
2013	836	836		2311.10	75.60	6.60	69.00
2014	857	857		2680.30	78.30	9.30	69.00
2015	1007	1007		3170.0	81.6	9.36	72.317
2016	1100	1100		3280.0	82.6	9.304	73.285

III.B Leather Manufacturing Companies.

Both Egyptian and Jordanian leather sectors are divided into subsectors including bags, clothes, belts and mostly footwear leather industry. In more details; Egypt is: footwear, leather goods and leather garments, Jordan is: footwear, bags and belts.

Footwear represents more than 80 percent of the Egyptian and Jordanian industrial products. The used leather for the footwear, good and clothes is the industrial and natural leather; some of the manufacturers use complimentary synthetic leather (PVC and PU coated fabrics and poromeric materials) for their products. The manufacturers of leather and synthetics are supported by a sub sector of component manufacturers/Importers of chemicals raw materials.

III.C. Egyptian and Jordanian Supporting Leather-Industry.

The Egyptian Leather Industrial Clusters.

Leather industry in Egypt is scattered in different clusters:

- Old tannery district in Cairo in Magra EL- Ayoun with firm plan for transfer to Badr City (a new leather city).
- Artisan shoe makers in downtown Cairo (Bab El Sherya)
- 10th of Ramadan city, 60 km west of Cairo.
- 6th of October city, a new industrial district.
- El Obour city – industrial district.
- El Robikki industrial area
- El Max tanneries area – Alexandria

It’s a must to mention that the Egyptian leather sector is wider and vary than the Jordanian sector, and the clusters of leather industry in Egypt make the big better jump than Jordan. In addition, the number of companies and workers, and the water availability in Egypt. But again, both suffer from facing different challenges and problems.

Institutional Support for Leather Industry in Egypt and Jordan.

This section depicts the current supporting institutions for the leather industry in Egypt and Jordan. It includes the unions, training centres, and regulatory bodies.

Jordan:

- Association of leather and footwear.
- This association for the tannery and leather manufacturers, already provided yearly some scholarships and trainings with the Jordanian.
- Profession and Technical Training Association.
- Jordanian Technical and Profession Training Association.
- Amman and Zarqa'a Chamber of Industry.
- The Ministry of Industry and Trading.
- The Jordanian Royal Scientific Society. (Providing some leather tests).
- Jordanian footwear industry for army (Providing some leather tests).

Egypt:

- Chamber of Tanning Industries & Chamber of Leather Industries.
- Export Councils.
- Sectoral Export Councils are formed by the Ministry of Foreign Trade and Industry.
- Egyptian Exporters Association (Expolink).
- Footwear Training Centre – Amereya.

Following services are being offered to the industry with subsidized costs:

- 2 years footwear training program covering cutting, stitching, shoe assembly, design according to German modules. Graduates receive a certificate as a footwear supervisor.
- Short term training courses for upgrading labor skills of the industry's Workers in specific areas (stitching, cutting, skiving, splitting, assembly…)
- Laboratory testing for components and finished products
- Computer aided design systems and pattern making.

Footwear and Leather Industry Service Centre (FLISC)

- Leather Technology Center
- Egyptian Organization for Standardization and Quality Control
- Chemical Department.

IV. Challenges of Leather Sector in Jordan and Egypt and Training Needs.

IV.A. Challenges of Leather Sector in Jordan and Egypt.

- The ranching and animal-life actions affect the quality of the skins. In addition, the low quality skins may result from poor and inappropriate skinning practices that take place in the slaughterhouses. Moreover, the absence of mass production technologies in leather -product manufacturing affects quality, cost and profitability.
- There is a deficiency in the specialized technical support given to the factories, particularly in the field of raw materials and chemicals used in tanning and finishing.
- Unprofessional inspection process and unskilled inspectors are weak points in the import and export stages.
- There is no specialization and no job description for those working in leather production; and as a result, those who graduated from institutions related to the industry do not possess a clear idea of the exact jobs or positions that available to them after graduation.
- The absence of any regulations on the imported leather products and the absence of any incentives to the local leather products contributed significantly to the damage of the leather industry.
- The high cost of the imported leather and the high cost of the workers, the limited variety of products, the lack of molding machines, and the lack of the high cost of the variety of productions machines.
- Mostly, the imported products, mainly imported from china, have a lower quality compared with the national products. Some imported products such as products of Turkey and Italy have similar or better quality than the national ones.
- The national products mostly are not exported for the neighbouring markets such as Iraq and Syria, as used to be few years ago, due to the current political situations of these countries.
- The environmental effect of the toxic chemicals in the tannery process, and the high cost of effluent treatment.
- The lack of using all raw leather skins (in Jordan, for example, more than 90% of the raw leather skins is wasted), in addition to the low quality of the leather due to the bad flaying technique.
- No chance for additional income from the resulted hair and wool; due to the lack of wool manufacturing plants.

- The Free Trade Agreements, which are the first governmental regulations and policies to make the competition between the imported and nationally produced leather shoes and bags, depend on the low - price market.

  For the tanning process, the government does not allow to open new tannery companies (only 4 in Jordan) because of the problems of the wastewater of the effluent of the tanning process.

IV.B. The Governmental Actions for promoting and supporting leather industry for both countries.

- Put greater emphasis on the inspection of imported and exported leather and leather products, by establishing a unit or laboratory to test the imported leather products, and each batch of imported products has to be checked and tested; at least comparable to the national products.
- Set higher penalties for those who violate laws and export raw leather. An official body should set specifications of leather as well as regulating for exporting and importing of leather and leather-related materials. In addition, to act as quality control organization to ensure all needed specifications are being met at all stages of production.
- More accredited labs should be available to test the quality of the raw leather and apply the international certifications.
- Provide financial support and provide effective educational and training courses for labors, technicians, engineers, and designers, who are working in leather sector.
- Subsidize the factories working on making finished leather products.
- Provide support for local chemical factories to manufacture raw materials needed for the leather production instead of importing them.
- Provide support for local factories to manufacture and develop accessories and auxiliaries needed for the leather fabrication.
- Increase the trade barriers for the imported finished leather goods.
- Support exports mainly through subsidizing participation in the international exhibitions.
- Promote effectively the leather products in international exhibitions through facilitating the procedures for the companies to get involved.
- There are a large number of potential candidates to receive an appropriate training in Egypt, where around 15000 labors are needed for recruitment in the industry of leather and leather products (as per the Leather Branch in the Chamber of Commerce). However, most of the workers are not interested in the leather industry for previously mentioned reasons.
- Cooperating of the national leather exporter and manufacturers, the leather goods and the footwear associations with the Chambers of Industries and other decision makers; in order to orient the

regulations and policies fairer toward the imported and manufactured products by implementing the quality-standard codes on the imported leather products to Jordan.

- Providing incentives to exported national leather products; similar to those in China and Iran, so that national leather products can compete widely in the regional markets.
- Allocating designated areas for the tannery process, with all necessary facilities and infrastructure.

IV.C. The Cooperation of Leather Industrial sector with the Academic Sector.

Both countries have recently shared the academic cooperation but for limited levels comparing to the sector ability. The leather department in Helwan University/Egypt is a good example for providing a high level of educational and vocational training. The department has a production line of leather garments and leather shoes for men and women as well as other leather products. The college also offers periodic training for industry workers and uses its products for fairs (non-profit). In addition, the College has five labs for testing and producing high quality leather products, which are:

- Sewing lab.
- Tensile lab.
- Production line.
- Design and planning lab.
- Physical testing lab.

The graduates from the academic institutes need to be trained on leather products fabrication and processing particularly in the stage of finished goods, design, marketing and sales.

Current standards and specifications can be developed by the academic institutions to match the fast progress in leather industry. That may include specifications of both input materials and finished goods. The Jordanian footwear Association is another good example, which funded some workers by collaboration with the Jordanian Technical and Profession Training centres to provide them with some technical skills for soles and leather manufacturing.

The actions needed and asked by different participants in the research tools:

- The government shall encourage more universities to develop an education program to teach and train students and workers, as bachelor or diploma.
- As for finished leather products, the need emerges for trainings in leather production.

IV.D. The Training needs and tests needed for the leather goods and footwear.

- The training for both leather tannery and manufacturing industries should focus on using the best techniques and machines and producing high quality finished leather, and lower cost, higher quality and more varied designs. This includes:
- Offering in-factory training to enhance the workability and profession of current workers.
- Offering a special training for the molding process for shoe industry.
- Offering a special training for modern designs of shoes.
- Establishing of two research centers at the partner universities equipped with the needed instruments for leather and shoe testing, to be also as research and development unit for the leather design, process and support.
- Providing modern and low cost treatment unit for the effluent waste of the tannery plants.
- Establishing an education program at the community college or university level to teach and train students and workers.
- The training needs for both the Jordan and Egypt leather sectors are:
- Physical and chemical tests on leather and the related restricted materials
- Physical, mechanical, chemical and finishing quality controls available.
- Environmental management, waste management (specially for tannery plants)
- Implementation of research and development research and development activities.
- Implementation of modern production methods (designs and diverting).
- Mold production and design (for shoes).
- Advance product design (variety, models, etc. especially for shoes)
- Best of handmade production process practices.

The tannery owners and producers asked for labs that provide two categories of testing

(physical and chemical) and there are needs in both countries for testing:

- Percentage of chrome.
- Softness vs hardness of leather.
- Thickness of leather.
- Evenness and consistency of colour.
- Fixedness of colour.
- Flexibility of leather.
- Durability of leather.
- Porosity and permeability of water in leather.

- Percentage of PH in leather.
- Moisture percentage

V. Conclusion.

The leather sector suffers from a high fragmentation and a lack of quality control in all stages of the production chain. The companies involved in the leather manufacturing supply chain work on highly efficient and low quality production techniques using
chemicals of low quality and out-dated technology.

The Egyptian and Jordanian leather industries face very high competition from imported leather products from China and EU that has the advantages of lower production costs as benefits of economy scale. Also due to the lack of specialised support, most of the companies of the sector cannot invest in quality, design, innovation, and exporting the products

The motivation power for most of the manufacturers is only the experience in this field, that the leather manufacturing is their parents' profession.

In Jordan, there is no academic institution offering higher education in leather processing, manufacturing, testing, or any subject directed related to leather sector (according to Jordanian Ministry of the Higher Education) and only very few training program in Egypt. Therefore, there is a critical need for training and testing facilities in both countries to enhance and motivate this vital and promising sector.

References:

This report is cross report; the information was combined from the national reports resulted as the second deliverable of the first work package of INNOLEA project.

1) The report by INNOLEA project: D1.2 National Report/Jordan
2) The report by INNOLEA project: D1.2 National Report/Egypt
3) All the references used in both mentioned reports.

*the responsibility of the of any information related to the original reports.