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The Hashemite Kingdom Of Jordan  
Ministry of Industry, Trade and Supply



Ministry of Environment

# Business Case 5: Upcycling with Social Entrepreneurs

Introducing Circularity as a Business Opportunity to Jordan's Ready-Made Garment (RMG) Sector



## BACKGROUND

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The “Green Action in Enterprises” (GAIN) project, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH*, works in close cooperation with the Ministry of Environment, the Ministry of Industry, Trade and Supply and other stakeholders towards the green industrial transition by introducing sustainable use and management of energy, water, and waste in the sector.

In Jordan, the garment manufacturers at Al-Hassan Industrial Estate (HIE) generate 35 tonnes of solid textile waste per day, which is being disposed of in municipal landfills. This textile waste is being treated as a cost factor harming Jordan’s fragile ecosystem. However, textile waste also does involve numerous opportunities and could be recognised as a valuable resource on regional and international level on the long term. Based on collected quantitative and qualitative data, a list of circularity options was explored. **5 business cases** have been developed which provide marketable solutions for textile and garment waste minimisation, prevention, and revalorisation. The primary purpose of these business case is to identify opportunities to minimise textile waste, including recycling, upcycling, and reuse measures for factories in HIE.

- |                         |   |
|-------------------------|---|
| Business Case 1:        | Investing in Material Efficient Technology and Software |
| Business Case 2:        | Mechanical Recycling for Industrial Symbiosis           |
| Business Case 3:        | Mechanical Recycling for Fibre-to-Fibre Yarn Production |
| Business Case 4:        | Chemical Recycling for Fibre-to-Fibre Yarn Production   |
| <b>Business Case 5:</b> | <b>Upcycling with Social Entrepreneurs</b>              |




## BUSINESS CASE 5 RATIONALE

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The business case on **upcycling with social enterprises** demonstrates a win-win-win collaboration between garment manufacturers, HIE and local social entrepreneurs. This can be realised through the entrepreneurial system in Jordan to encourage the establishment or promotion of textile upcycling enterprises which will contribute to the socio-economic development of Jordan. It will also reduce the amount of waste which is sent to the landfill and therefore generate environmental benefits.

## DESCRIPTION OF BUSINESS-AS-USUAL


### CURRENT WASTE HANDLING PRACTICE

	Garment manufacturers in HIE generate around 35 to 40 tonnes of textile waste per day. This waste is disposed of by the companies in containers outside their premises. No separation on the basis of textile type and/or colour takes place. The waste is collected by a private contractor at HIE and sent to Al-Ekeider landfill.
	Cutting waste accounts for around 70% <sup>1</sup> of the overall waste of garment manufacturers in HIE which is currently sent to Al-Ekeider landfill for disposal.
	Jordan's entrepreneurial ecosystem ranked 49 in the Global Entrepreneurship Index 2018 which includes a list of 137 countries <sup>2</sup> . There are several programmes implemented in Jordan which aim at promoting entrepreneurship as self-employment for young Jordanians. There are also several organisations in Jordan providing support services for entrepreneurs. These support services include capacity building, seed funding, incubation, networking and partnership building.

### COSTS OF CURRENT WASTE HANDLING MODEL

	<ul style="list-style-type: none"> <li>Waste pick-up and landfilling costs: 4 JOD per ton of textile waste</li> </ul>
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### RISKS OF CURRENT WASTE HANDLING MODEL

	<ul style="list-style-type: none"> <li>Increasing costs of waste handling and transport, e.g., closing of Al-Ekeider landfill for textile waste</li> <li>Costs of compliance with export market laws (e.g., EU supply chain due diligence)</li> <li>Opportunity loss due to high prices of raw materials which is being wasted</li> </ul>
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## DESCRIPTION OF BUSINESS CASE 5

### NEW WASTE HANDLING PRACTICE

To work with social entrepreneurs, garment manufacturers can collaborate with existing incubators in Jordan (e.g. Queen Rania Center for Entrepreneurship, QRCE and Shamal Start), which host startups and businesses that may utilise the textile waste (e.g., to create insulation, carpet padding, furniture lining, blankets, etc.). This collaboration can include financial and technical support for research and development on textile waste. Businesses that are still in the early stage might prefer to establish their operations at HIE to circumvent the custom regime barrier. With already established businesses outside HIE, the implementation of this business case will entail higher costs due to the enforcement of VAT/sales tax. it might require customs/tax policy change.

<sup>1</sup> As per the survey results in the study on garment waste materials reduction and their revalorization potential, developed by GIZ on behalf of BMZ

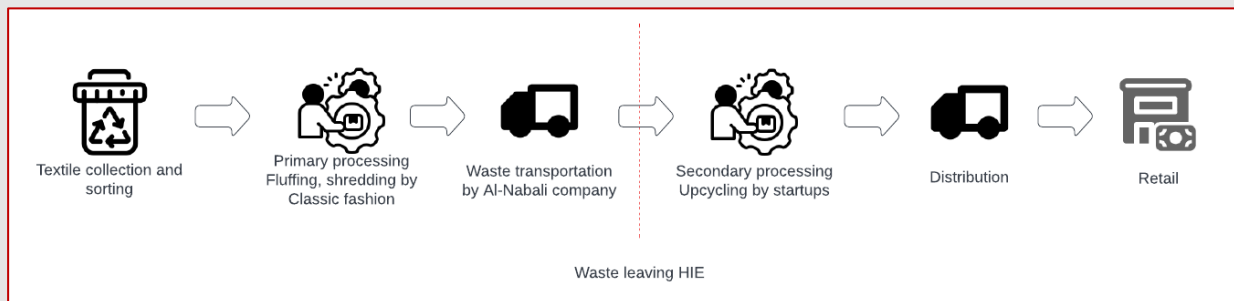
<sup>2</sup> Jarrar, A. Entrepreneurship in Jordan: the eco-system of the Social Entrepreneurship Support Organizations (SESOs). J Innov Entrep 11, 11 (2022). <https://doi.org/10.1186/s13731-022-00200-z>

**Practice Example:**

Green Fashion is an **Egyptian** start-up that collects **cuttings from textile factories and upcycles them into fashionable products like bags, jackets or jeans**. The start-up also uses post-consumer waste to manufacture products with higher value and **empowers female workers by providing work opportunities** and giving them a fair wage to enhance their lifestyle.

They have produced more than 76,000 garments, by recycling almost 400 tonnes of textile waste. They also created more than 200 job opportunities<sup>1</sup>.

**Value Chain:**



**BENEFITS OF UPCYCLING WITH SOCIAL ENTREPRENEURS**

Once the social enterprises are fully operational, following benefits will occur for the garment manufacturers:

**Direct:**

- Partial resolution of the waste challenge (depending on the scale of the participating social enterprises)
- Improved relationship with local community through support for local entrepreneurs
- Reduced service costs for waste pick-up and handling
- Reduced material output as waste – approx. 10 to 30 tonnes per year
- Job creation in social enterprises – approx. 20 jobs per enterprise
- Job creation in value chain (Sorting and storage, packaging, distribution, retail)
- Tax exemptions if waste is given to NGOs – elimination of 16% sales tax

**Indirect:**

- Increased economic value for local communities through social enterprises
- Decreased CO<sub>2</sub> emissions and soil pollution due to less landfilling
- Improved image of involved companies taking into account Corporate Social Responsibility (CSR) considerations

<sup>3</sup> <https://www.greenfashion-stores.com/>



**Total benefits**Assuming the creation of 10 enterprises (each enterprise utilizes 20 tonnes of waste per year)<sup>4</sup>

	Value per unit	Number of units	Total benefit
Cost savings on waste for RMG companies	4 JOD	200 tonnes per year	800 JOD
Selling textile waste to upcycling companies	0.1 JOD per kg	200 tonnes per year	20,000 JOD
Job creation – upcycling enterprises	20 jobs per enterprise	10 enterprises	200 jobs
Job creation – value chain	4,000 JOD	50 workers	200,000 JOD
CO2 emissions avoided	5.19 Kg CO <sub>2</sub> /kg mixed fabric <sup>5</sup>	155,700 tonnes CO <sub>2</sub> for 30 tonnes per day	56,830,500 tonnes CO <sub>2</sub>
<b>Total benefits</b>			<b>20,800 JOD</b>

**COSTS AND CHALLENGES****Costs:**

- Costs of waste collection and sorting:
  - Leasing of land at HIE for sorting and storage – 20 JOD per square meter of land
  - Building infrastructure (hanger structure) – 100 JOD per square meter
  - Workforce costs (up to 50 workers) paid by textile industry – average 300 JOD per month salary per worker plus benefits (social security 14.5 %)
- Costs for training local entrepreneurs
  - Cost of training per entrepreneur - 1,400 JOD
- Investment costs (financing entrepreneurs)
  - Average initial investment required - 50,000 JOD

**Total costs: establishing 10 social enterprises**

	Cost per unit (JOD)	Number of units	Total cost (JOD)
Capital Expenditure (CAPEX)			
Hanger structure	100 JOD per square meter	500 square meters	50,000
Entrepreneurship training	1,400 JOD per entrepreneur	10 entrepreneurs	14,000
Enterprise financing	50,000 JOD	10 enterprises	500,000

<sup>4</sup> considering the costs of startups and the size of waste they can absorb 10 is an arithmetic optimum, but this is a multivariate issue (supply, demand, finance, capacity...etc) which requires deeper analysis to get a robust number

<sup>5</sup> Source: [https://www.researchgate.net/figure/Industrial-carbon-footprint-of-textile-fabrics-in-this-study-kgCO2-e-kg\\_tbl1\\_303634993](https://www.researchgate.net/figure/Industrial-carbon-footprint-of-textile-fabrics-in-this-study-kgCO2-e-kg_tbl1_303634993)

	Cost per unit (JOD)	Number of units	Total cost (JOD)
Operational Expenditure (OPEX)			
Land leasing	20 JOD per year	500 square meters	10,000
Workforce – storage and sorting	4,000 JOD per worker per year	50 workers	200,000
<b>Total costs for first year (CAPEX and OPEX)</b>			<b>774,000</b>

### Challenges

- Low scalability
- Space and sorting process will add costs for the factories
- Competitiveness of upcycled products on the market
- Access to funding
- Logistics requirements
- Pre-treatment and storage requirements

### ENABLING FACTORS

- ① Jordan's entrepreneurial ecosystem ranked 49 in the Global Entrepreneurship Index 2018 which includes a list of 137 countries.
- ② There are several incubators operating on the national level. Business Development Center, QRCE and Shamal Start are best positioned to form a collaboration.
- ③ The US Embassy in Jordan is currently supporting a programme aimed at training entrepreneurs and supporting the development of entrepreneurial endeavors to resolve the textile waste challenge in Jordan<sup>6</sup>. This programme trained its first cohort of teams and the teams are now engaged in research and development of business models based on textile waste and product prototypes.
- ④ Inhad is a local financing Initiative, which provides financial support in the form of low-interest loans as well as technical support for young Jordanians to start their own businesses.

<sup>6</sup> <https://www.rit.edu/news/rit-professors-awarded-state-department-grant-help-entrepreneurs-jordan-form-circular-economy>

## IMPLEMENTATION ROADMAP

<b>SHORT-TERM (1 YEAR)</b>	<b>KPI</b>	<b>Timeline</b>	<b>Cost Incurred</b>
Asses existing social enterprise market size for textile waste	Social enterprise assessment completed	Y1 Q1	Yes
Identify potential social enterprises to partner on textile waste	A short list of possible social enterprise partners	Y1 Q1	No
Identify potential investors for business solutions	List of funding investors	Y1 Q3	No
Allocate and acquire funding	Secured CAPEX	Y1 Q4	No

<b>MID-TERM (2-3 YEARS)</b>	<b>KPI</b>	<b>Timeline</b>	<b>Cost Incurred</b>
Build partnerships between manufacturers and social enterprises	Partnership agreements signed	Y2 Q1	Yes
Support research and development in business ideas and to increase scale of business if needed	At least one social enterprise is operational in textile waste	Y2 Q1 – Y3 Q4	Yes
Monitor and evaluate the economic and environmental performance of the established partnerships (waste use, economic value added etc.)	Monitoring & Evaluation Plan developed and implemented	Y2 Q2 – Y3 Q4	Yes
Develop marketing strategy	Marketing Strategy developed	Y2 Q2 – Q3	Yes

<b>LONG-TERM (5 YEARS)</b>	<b>KPI</b>	<b>Timeline</b>	<b>Cost Incurred</b>
Increase visibility of success stories	Case presented in at least 2 international events	Y5 Q1	No
Implement marketing strategy	Marketing Strategy Implemented	Y5 Q1	Yes
Increase selling prices of “circular goods”	Revenues increased by 10%	Y5 Q2	No

## CONCLUSION

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Social enterprises create value through job creation (a social enterprise employs on average 5-10 employees) as well as addressing social and environmental challenges of local communities. They also benefit the economy by contributing to the GDP (e.g. the social enterprises in the EU contribute to 4-7% of the GDP).

For the implementation of this business case, the HIE management and/or garment manufacturers could develop initiatives with social enterprises (SMEs and startups) to utilise large and medium sized cuttings into production of new products. The social enterprises can create added value out of large and medium sized cutting swatches or unfinished assembly waste in form of new and unique products. Once the social enterprises begin to scale up, the garment manufacturers will also gain revenues in the long term. This option can be monetized through in-kind support by manufacturers/HIE, public funds, financing facilities from international banks (EBRD), donor organization funds or a mix of all the above. The social enterprises are expected to cover their own operating expenses within the first 2 years of operation.



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Registered offices  
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**Green Action in Enterprises (GAIN) Project**

GIZ Jordan  
Mohamed Baseem Al-Khammash St. 13, Sweifeh  
Amman 11190  
Phone +962-6-5868090  
Fax +962-6-5819863  
[giz-jordanien@giz.de](mailto:giz-jordanien@giz.de)  
[www.giz.de/en/worldwide/102349.html](http://www.giz.de/en/worldwide/102349.html)

**For Inquires**

Ms Mareike Boll  
Advisor for Private Sector Development  
[mareike.boll@giz.de](mailto:mareike.boll@giz.de)

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Adelphi Consulting: Burcu Tuncer, Ferda Ulutas Isevi and Jana Hack  
Senture Consulting: Israa Thiab, Ghalia Armouti