



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



INCLUSIVE AND SUSTAINABLE CLUSTER DEVELOPMENT - UNIDO'S APPROACH

Key Principles and Project Success Stories

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CLUSTER DEVELOPMENT FOR BROAD-BASED ECONOMIC GROWTH



The underlying concern of UNIDO's cluster development approach is the promotion of private sector-based inclusive growth, defined as a pattern of economic growth that creates equitable opportunities and benefits for every section of society.

The potential of cluster development resides not just in its capacity to stimulate high rates of growth, but also in the conducive environment it provides for the promotion of broad-based and inclusive forms of development.

Over the past 20 years, UNIDO has been involved in the implementation of cluster and network development projects in multiple countries around the globe.

UNIDO's cluster initiatives offer tailored technical assistance, fostering collaboration among firms and support institutions.

By facilitating joint actions within clusters, UNIDO helps stakeholders overcome the limitations of small and medium-sized enterprises (SMEs) and seize

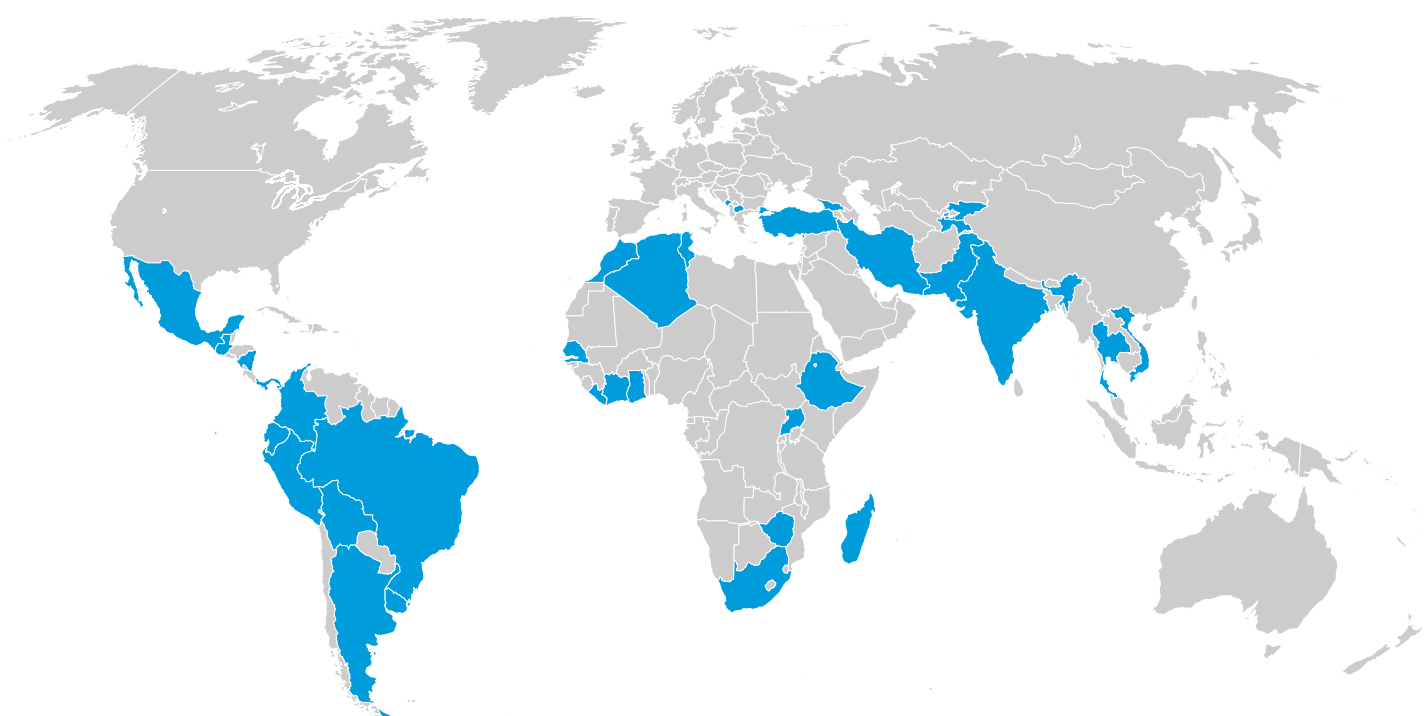
collective opportunities, amplifying their impact beyond individual capacities.

Through this approach, barriers hindering the growth of small-scale businesses are dismantled, leading to enhanced performance across economic, social, and environmental dimensions. As the private sector thrives, it becomes a driving force in local economies, generating widespread benefits and opportunities for diverse economic actors.

UNIDO's strategic methodology guides cluster stakeholders through the entire development process, from formulation to evaluation, addressing root causes of stagnation and unlocking growth potential.

By empowering local institutions and enterprises to collaborate effectively, UNIDO fosters sustainable improvements that benefit both clusters and the communities they serve.

For further information on the methodology, please refer to <https://hub.unido.org/>



CLUSTER DEVELOPMENT AND THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)

UNIDO's approach to cluster development contributes to the achievement of the SDGs in various ways:

- **1 NO POVERTY**
POVERTY REDUCTION
In cluster initiatives, UNIDO often works with micro enterprises in rural areas and marginalized populations.
- **4 QUALITY EDUCATION**
QUALITY EDUCATION
UNIDO collaborates with educational institutions to develop educational programmes that directly contribute to promote cluster development.
- **5 GENDER EQUALITY**
GENDER EQUALITY
Many cluster initiatives focus on marginalized populations, including women, further enhancing gender equality.
- **9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**
INDUSTRY & INNOVATION
Cluster development encourages innovation and inclusive industrial growth.
- **10 REDUCED INEQUALITIES**
REDUCED INEQUALITIES
By promoting cluster development in different sectors and regions, UNIDO contributes to reducing regional inequalities within national borders.
- **13 CLIMATE ACTION**
CLIMATE ACTION
Cluster development facilitates climate adaptation and promotes environmentally sustainable practices to combat climate change.
- **15 LIFE ON LAND**
LIFE ON LAND
Raising awareness about the importance of biodiversity, sustainable utilization of resources, collaborative governance and decision-making are all spillover effects of cluster development.
- **14 LIFE BELOW WATER**
LIFE BELOW WATER
Cluster development promotes sustainable fisheries within fisherfolk communities and can also trigger collective blue economy interventions.
- **17 PARTNERSHIPS FOR THE GOALS**
PARTNERSHIPS FOR THE GOALS
Cluster development can contribute to SDG 17 by promoting partnerships, fostering economic cooperation, and enhancing capacity building.

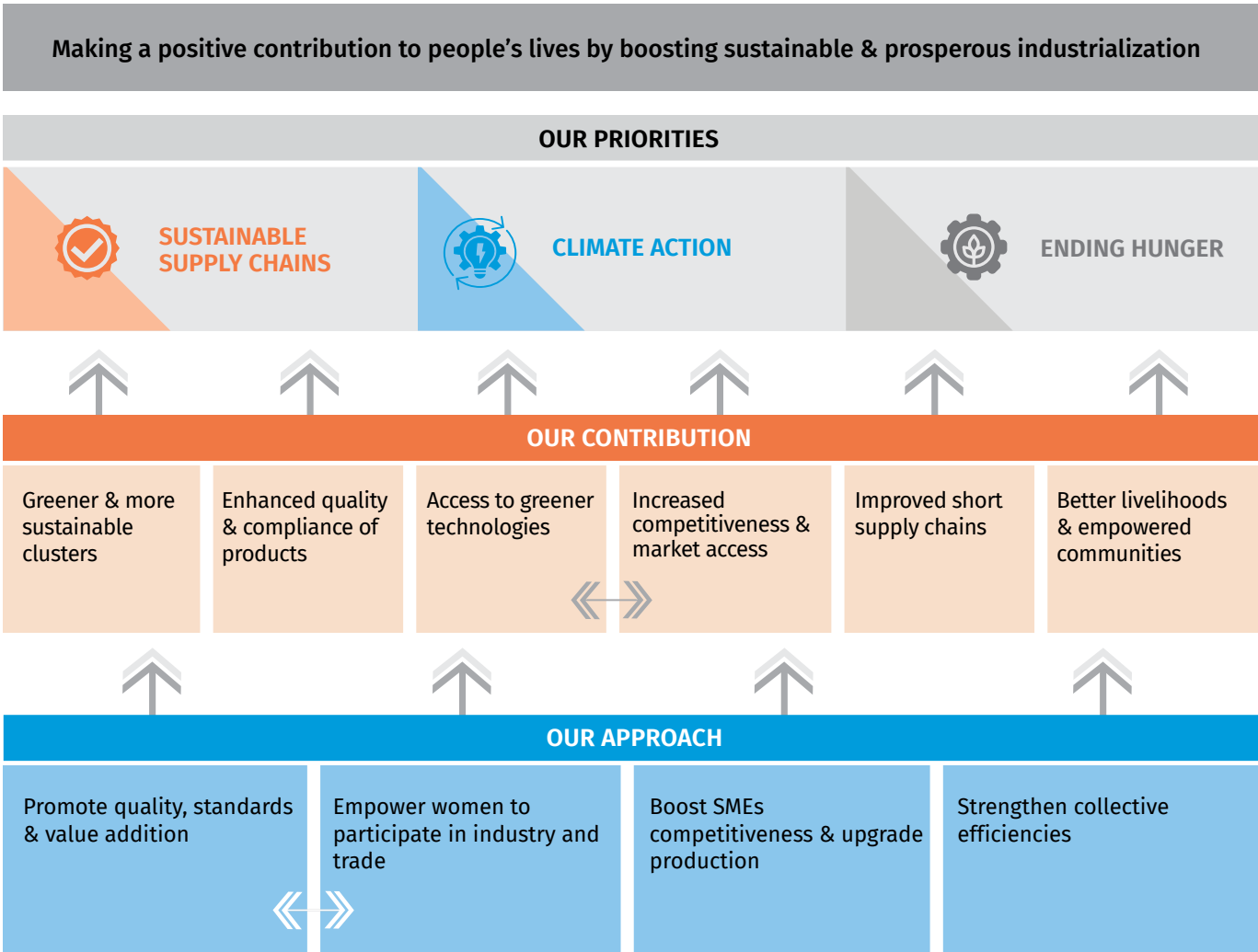
UNIDO'S PRIORITIES

UNIDO addresses global challenges such as hunger, poverty, climate change, and unemployment through sustainable industrial development. It supports the adoption of new technologies and promotes fair supply chains to preserve resources.

The organization focuses on three main priorities:

- » **Supporting sustainable supply chains** so that developing countries producers get a fair deal and scarce resources are preserved.
- » **Limiting climate breakdown** by using **renewable energy and energy efficiency** to reduce industrial greenhouse gas emissions.
- » **Ending hunger by cutting post-harvest losses and developing agribusiness value chains.**

These priorities are complemented by themes such as technology transfer, digitalization, investment promotion, and women's economic empowerment. UNIDO's cluster development programme strongly contributes to the achievement of UNIDO's three priorities by fostering collective efficiency, enhancing quality and competitiveness and contributing to sustainable and inclusive supply chains as well as to the adoption of greener technologies.



In the UNIDO context, clusters are defined as “geographical concentrations of inter-connected enterprises and associated institutions that face common challenges and opportunities”.

This definition highlights two essential features of clusters:

They consist of a critical mass of enterprises that share many common features. As SMEs belonging to a cluster produce similar or related goods or services, they can benefit from:

- » economies of scale in their engagement in collective actions for the procurement of supplies and the marketing of their products
- » information exchange, joint learning and the development and adaptation of innovations

They are located in geographical proximity: all enterprises share the same territory, its infrastructure, services and, in many cases, a common cultural identity. Enterprises within a cluster also often face common obstacles and challenges including, for example, a lack of infrastructure or limited access to capital.

Clusters are not simple aggregations of companies, they also include support institutions, such as:

- » business associations
- » business development service (BDS) providers
- » financial service providers, including banks
- » public authorities such as local, regional and national governments and regulatory agencies
- » training agencies such as vocational schools, universities, etc.



WHAT ARE CLUSTERS



CAPITAL PROVIDERS



GOVERNMENT



FIRMS



RESEARCH ORGANIZATIONS



EDUCATION ORGANIZATIONS

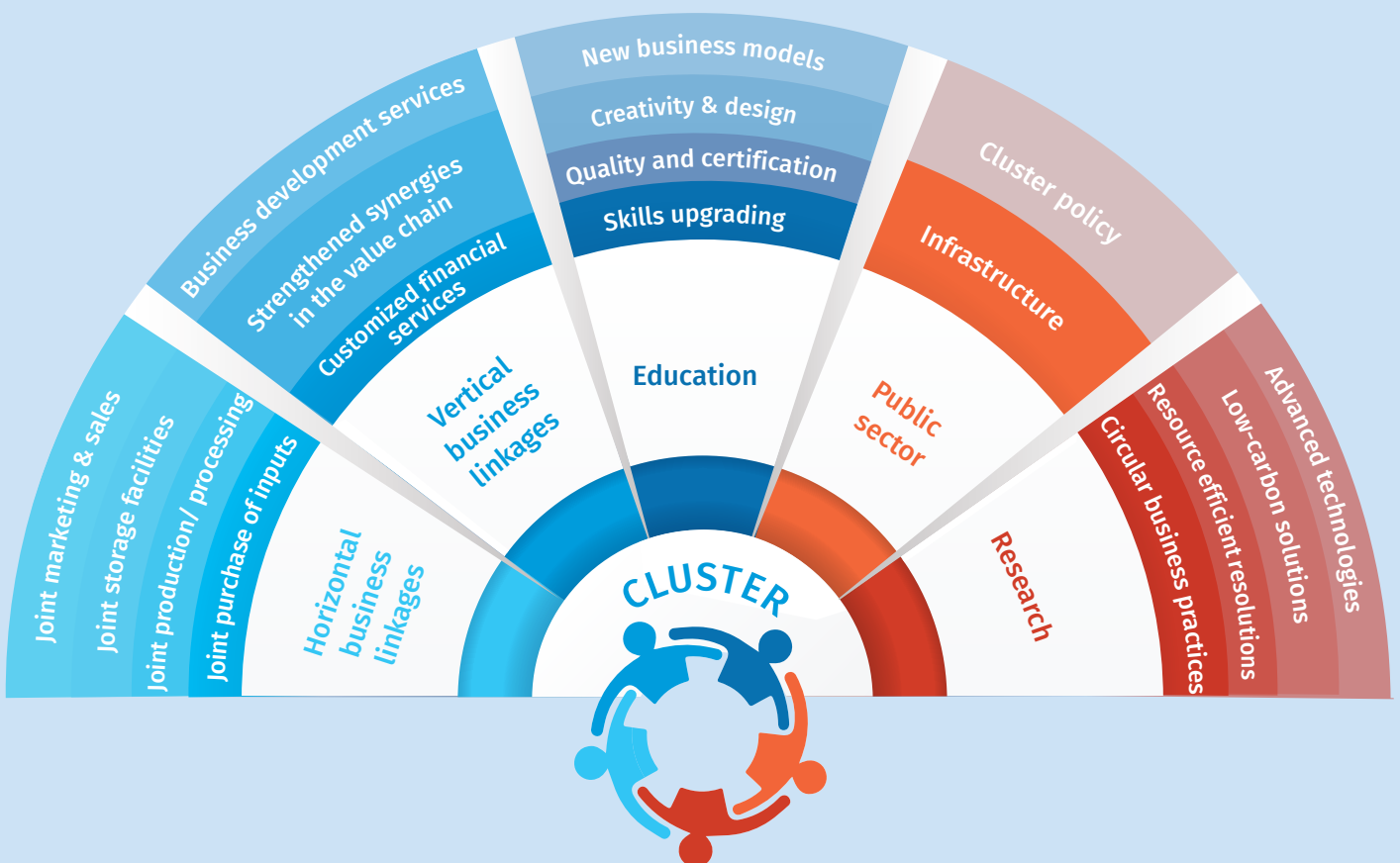


WHY CLUSTERS

Over the years, clusters have emerged as crucial drivers for economic development, recognized by governments worldwide for their potential to foster enterprise development and innovation as well as inclusive and sustainable growth.

Clusters play a strategic role in supporting various areas, including the adoption of advanced technologies, new business models, low-carbon solutions, creativity and design, skills upgrading, talent attraction, and internationalization.

This offers significant opportunities for developing countries and least developed countries (LDCs) to foster local economic growth and development.



UNIDO recognizes the introduction of a **gender perspective** within all phases of its cluster development approach as a decisive element to foster inclusive and sustainable industrial development, where no one is left behind. Attention is given to prevent the implemented cluster development interventions from triggering the exclusion of women as a collateral effect of the development policy promoted. This is achieved by including a gender perspective from the early phases of cluster development activities.



COLLECTIVE EFFICIENCIES: HOW SMEs BENEFIT FROM CLUSTER DEVELOPMENT

Clusters offer a fertile ground for the growth of small and medium-sized enterprises (SMEs).

Often hindered by their small scale, individual SMEs struggle to capitalize on market opportunities requiring large-scale production or compliance with international standards. Limited bargaining power in input procurement and access to specialized support services further compound these challenges, as does minimal influence in shaping support policies.

SMEs, even within clusters, encounter growth barriers, often stemming from isolation rather than size alone. In **underperforming clusters**, such constraints may lead to unhealthy competition, characterized by wage cuts, neglect of worker welfare, technological stagnation, and resource depletion, resulting in limited local benefits.

Evidence from **strongly performing clusters**, by contrast, demonstrates that it is possible for SMEs to achieve high levels of growth by attaining steady quality improvements and adding value, while at the same time respecting environmental, social and labour standards.

Spatial proximity and shared strategic interests allow enterprises and their support institutions to realize shared gains through the organization of joint actions between cluster enterprises (e.g. joint bulk inputs purchase or joint advertising, or shared use of equipment) and between enterprises and their support institutions (e.g. provision of technical assistance by business associations or investments in infrastructure by the public sector).

The advantage accruing to the cluster from such collective efforts is referred to as **collective efficiency**.

To unleash SMEs growth and sustainable development potential, UNIDO's interventions focus on:



Building networks and fostering linkages as well as cooperation among SMEs



Facilitating consensus building



Building trust and social capital



Strengthening governance mechanisms



Promoting gender inclusion

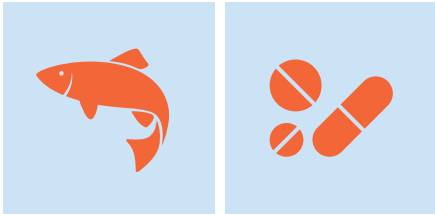


Promoting an integrated territorial development by facilitating intra and inter sectoral synergic linkages



INCREASING THE SUSTAINABILITY AND COMPETITIVENESS OF SMEs IN THE GEORGIAN BIOPHARMACEUTICAL AND MARINE FISHING CLUSTERS

VALUE CHAIN: FISHERY AND BIOPHARMACEUTICAL PRODUCTS



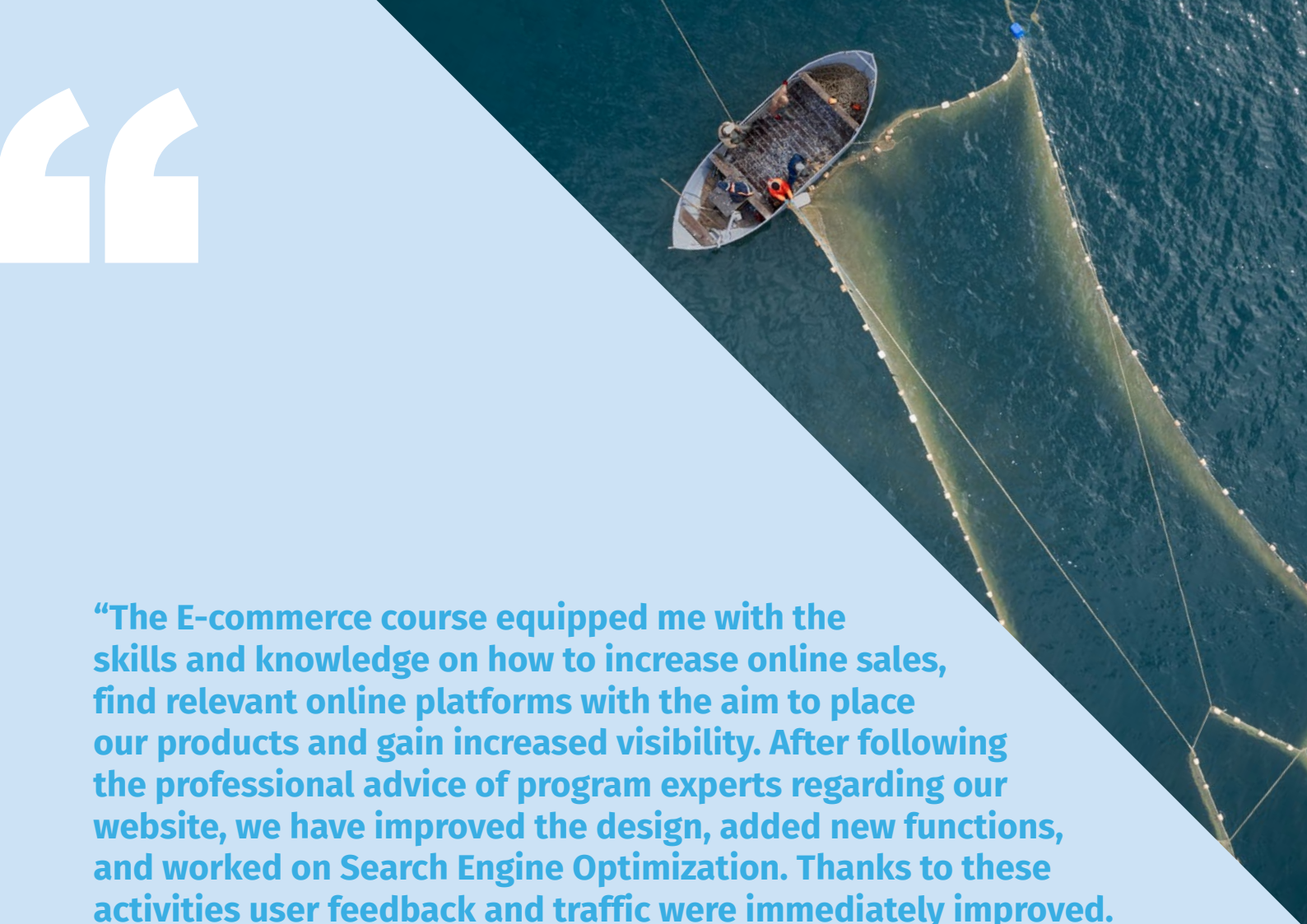
UNIDO supported the establishment of two leading business clusters in Georgia, helping foster modernization, sustainability and quality improvement. As a result of interventions, the Georgian biopharmaceutical cluster now has both Good Manufacturing Practices (GMP) and Good Distribution Practice (GDP) certified members, which has opened up both local and international markets. The Georgian marine fishing cluster is a main advocacy mediator for the entire sector.

RESULTS ACHIEVED THROUGH THE COLLECTIVE CLUSTER WORK:

- » Helped **SMEs increase their sales online up to 40%** with e-marketing and commerce programmes
- » Helped **three pharmaceutical companies pass GMP and GDP certification**
- » Developed an **accredited GMP training programme** in collaboration with the Ilia State University, Tbilisi, Georgia, and the Georgian Laboratory Association
- » Developed a **self-paced e-learning GMP programme** for better sustainability
- » **Trained more than 100 people on GMP and GDP**, including inspectors, students, personnel of cluster members
- » **Supported marine fishing companies** in negotiations with shipbuilding companies for timely delivery of new fishing vessels, and with banks to refinance USD multi-million business loans
- » **Enhanced visibility and credibility of the clusters** via two international conferences with more than **130 participants**



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“The E-commerce course equipped me with the skills and knowledge on how to increase online sales, find relevant online platforms with the aim to place our products and gain increased visibility. After following the professional advice of program experts regarding our website, we have improved the design, added new functions, and worked on Search Engine Optimization. Thanks to these activities user feedback and traffic were immediately improved. We have identified and started successful cooperation with almost all local marketplaces and after the completion of the course our online sales increased by 40%. Within the framework of individual coaching sessions, the mentor guided me on how to place and sell our products on international marketplaces in the future.”

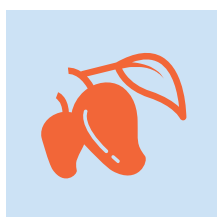
MARIAM KVESELAVA, representative of Neopharm.

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FOOD WASTE REDUCTION AND INCREASED REVENUES FOR PRODUCERS: THE CASE OF A COMMON MANGO DRYING FACILITY AND GENDER INCLUSION IN DODOWA

VALUE CHAIN: MANGO

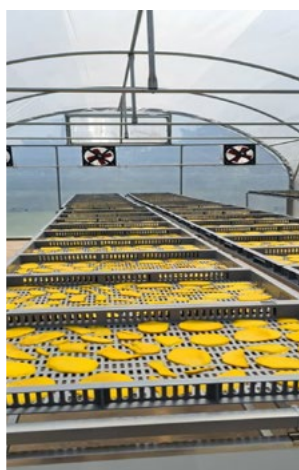


With support from UNIDO-WACOMP Ghana, female-owned Hendy Farms, located within the mango cluster of Dodowa and Somanya in Southern Ghana, embarked on a project to connect the different cluster actors. By processing the oversupply of fresh mangoes into value added dried fruit, the cluster successfully contributed to opening new market opportunities both within the African continent and internationally and to reducing fruit waste, while providing increased revenue and profits to producers.

Thanks to the successful results achieved, Hendy Farm owners defeated the stigma linked to being women entrepreneurs and employing male workers in the farms.

RESULTS ACHIEVED THROUGH THE COLLECTIVE CLUSTER WORK:

- » A 1-tonne dome **drying facility enabling year-round** processing of fruits has been installed
- » Out-grower **farmers have been trained to produce mangoes in line with GlobalGAP certification** both for processing and export
- » **Gender equality** has been enhanced in the mango value chain in the region, contributing to the creation of new jobs for women
- » **New export opportunities** have been provided, local added value has been expanded and the revenues of the company and the out-grower farms have increased
- » **Supplier-purchase agreements between Hendy Farms and the cluster farmers** have been established, contributing to the supply of quality fruits to the common drying facility
- » New products have been introduced by the company and the e-commerce website has been further developed which **optimized multiple payment and currency options**





“Thanks to UNIDO’s technical support, our 1-ton capacity solar dome fruit dryer allows the mango cluster to process new products for the international market all year-around.

This has contributed to reducing over 40% post-harvest losses during the mango season and the cluster group has developed new products that were showcased in Berlin Fruit Logistica 2023.

Our newly developed website is also helping us increase the brand presence and sales”

From WACOMP Ghana project:
SANDRA SNOWDEN, co-owner of Hendy Farms



“Some common practices in the drying of cassava affected the quality processing of cassava. We were not aware that by drying cassava chips on the ground we were causing contamination and delays in the process. UNIDO dedicated their resources to training my team and my cassava outgrowers at the cluster level on Standard Operating Procedures, Good Manufacturing Practices and Good Hygiene Practices and the production and quality of our final products improved very fast and in a sustainable way. Today we know that collaboration is key to build better final products and we feel rewarded from our collective efforts”

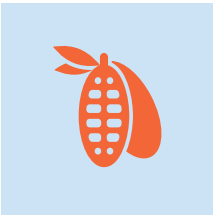
JANET GYIMAH-KESSIE, agro-processor,
Josma Agro Industries





BUILDING TRUST AND COOPERATION FOR ORGANIC COCOA CERTIFICATION IN LIBERIA

VALUE CHAIN: COCOA



Through promotion of collective efficiencies, UNIDO facilitated the organic certification for Liberian cocoa producers and exporters, enhancing transparency and collaboration in the cocoa value chain while creating economic opportunities for smallholder farmers.


UNIDO also established common drying and fermentation facilities to tackle the issue of cocoa's diminished market value caused by inadequate post-harvest practices of individual farmers.

RESULTS ACHIEVED THROUGH THE COLLECTIVE CLUSTER WORK:

- » **1,015 cocoa farmers, organized into two cooperatives**, certified as organic producers with **three additional cooperatives and more than 1,500 farmers** in the process
- » An organic cocoa exporter, sourcing from the certified cooperatives, secured contracts to supply two international buyers an initial volume of up to **200 metric tons (MT) of organic cocoa**
- » **Implemented quality control processes** to ensure farmers are producing cocoa that meets the demand of international standards
- » Introduced a **traceability system** with three cocoa producer cooperatives and two exporters
- » **Trained 72 lead farmers** in internal inspection and cooperative management
- » **Establishment of four common drying and fermentation facilities** on cost-sharing basis with cocoa cooperatives



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“The process of certifying our cocoa as organic has taught our cooperative better ways to maintain our cocoa farms, add value to the high-quality cocoa our farmers produce, and put in a better management system in place. GROW-2’s intervention has connected us with buyers who are now demanding more produce from our farmers than usual. Although producing organic cocoa is challenging, UNIDO has connected our cooperative with a local buyer who has also been linked to international buyers. With more efficient system in place, we believe that our farmers have begun to receive some benefits from their hard work through premium prices.”

ALEX GAYE, ICS manager, Boe-Kparblee Cooperative

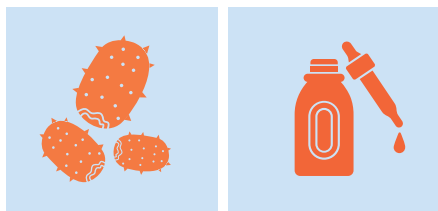
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THE TUNISIAN PRICKLY PEAR CLUSTER: THE FRUIT OF THE POOR TURNS INTO A COSMETIC FLAGSHIP PRODUCT

VALUE CHAIN: CACTUS PLANTATIONS AND COSMETIC CACTUS SEED OIL



UNIDO has supported all operators in the local value chain of cactus plantations and cosmetic cactus seed oil production in the areas of entrepreneurship development, best farming and processing practices, quality compliance, product diversification, certifications, marketing, e-commerce, market access and exports.

Today cosmetic cactus seed oil is well positioned as anti-aging formulation and has become a highly profitable export product.

RESULTS ACHIEVED THROUGH THE COLLECTIVE CLUSTER WORK:

- » **1 single processing SME** supported in 2015, **13 companies** and **4 cooperatives** supported in 2023, including major leading cactus processing companies
- » **10 exporting companies** supported in the cluster
- » Over **400 new jobs** created by cluster companies
- » Dozens of **new cosmetic and agrifood** products launched
- » Over **500 farmers** (mostly women) improved their farming practices
- » **Salaries of female** agricultural cactus fields workers **increased by 120%**
- » **Fivefold increase of certified organic land** (3000 hectares)
- » **Fourfold increase of the late-pick organic prickly pear** price for farmers
- » Development of a **geographical indication** for the prickly pear of Kasserine



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“Before the Djebba fig was not valued and did not generate significant profits. Today our fruit is recognized at its true value and the population of Djebba has begun developing new products made of figs, thus creating a genuine source of income.”

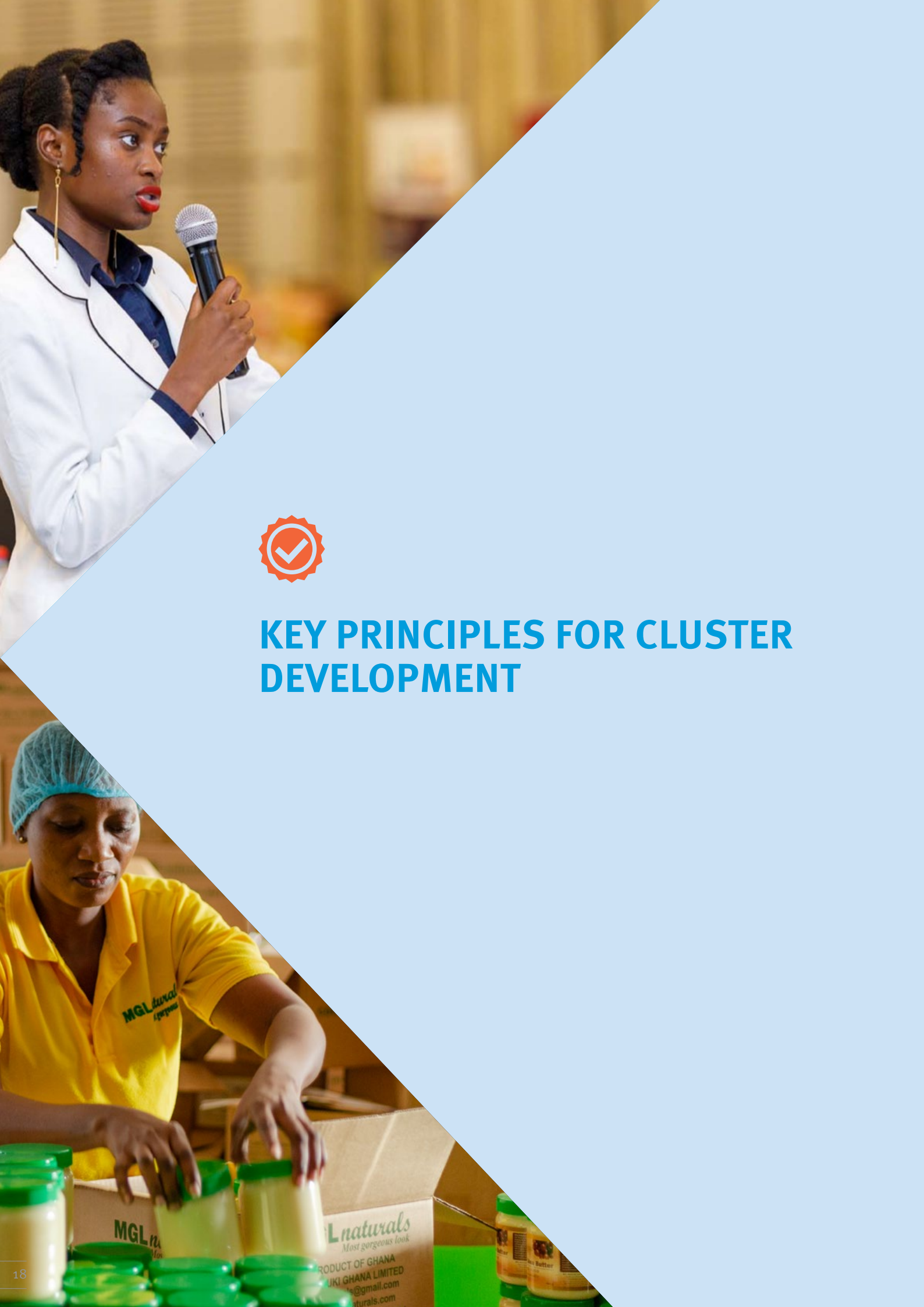
From PAMPAT I project, Tunisia:
FERIDA DJEBBI, president of GDA « Kounouz Djebba »

“In 2016, my SME was among the pioneers in the Kasserine cactus sector, which was still nascent at that time. With UNIDO support, I finalized the SME’s business plan and initiated my first national and international market access activities. Today, newly established women farmer cooperatives supply high-quality inputs to my company, public institutions prioritize the cactus sector, and the prickly pear seed oil is a precious Tunisian highly demanded export product. We have collaborated with other SMEs and cooperatives to establish a cactus association, develop a national standard for the oil, request geographical indication and plan the set-up of a joint venture.”

Ms. Sonia FERCHICHI, owner of the prickly pear company Biozelfen based in Kasserine

”





KEY PRINCIPLES FOR CLUSTER DEVELOPMENT

1.



FOCUS ON EXISTING CLUSTERS RATHER THAN CREATING NEW ONES

While existing clusters often show untapped potential, creating clusters from scratch tends to be a top-down process, with the private sector having limited incentives to assume a leading role.

2.



PROMOTE PRIVATE SECTOR-BASED INCLUSIVE GROWTH

The private sector plays a pivotal role in driving growth, innovation, and competitiveness while also addressing social issues by empowering marginalized groups, enhancing employment access, and improving health and education.

3.



ENCOURAGE COLLECTIVE EFFICIENCY THROUGH JOINT ACTIONS

Collective efforts may ultimately benefit both the cluster as a whole and the communities in which they are embedded.

4.



STRENGTHEN CLUSTER GOVERNANCE MECHANISMS

Empowering formal or informal organizations that lead joint actions enhances interaction among cluster stakeholders and ensures sustainable and coordinated collective efforts.



PHASES OF CLUSTER DEVELOPMENT



PHASE 1: CLUSTER MAPPING, PRIORITIZATION AND SELECTION

A well-designed and participatory selection process with clearly defined criteria is essential for successful initiatives as it allows identifying those clusters for which the impact of planned interventions can be maximized based on available time and resources.

UNIDO's role in the selection process is to recommend the most appropriate criteria and variables to achieve agreed-upon development objectives.



PHASE 2: CLUSTER GOVERNANCE, TRUST BUILDING AND THE ROLE OF THE CLUSTER DEVELOPMENT AGENT (CDA) OR CLUSTER MANAGEMENT ORGANISATION (CMO)

For a cluster to emerge and perform, there is a need for a facilitator. This can take the form of a Cluster Development Agent (CDA) or a Cluster Management Organization (CMO).

The facilitator enables cluster stakeholders to work together, define their collective action plan, and manage the cluster ambitions.



PHASE 3: CLUSTER DIAGNOSTIC

When a cluster is identified, a diagnostic study is conducted to:

- » Understand the socioeconomic and institutional environment of the cluster
- » Detect potential leverage points for intervention
- » Establish a baseline for monitoring and evaluation
- » Foster initial trust among cluster stakeholders

The cluster diagnostic is a participatory exercise that provides the first opportunity for cluster members to acquaint themselves with one another. During this process, the CDA introduces the concept of cluster development and collective efficiency. Additionally, the diagnostic study should take into consideration the varying roles of men and women within the cluster and how this impacts the accessibility of resources, skills and decision-making power.



PHASE 4: VISION BUILDING AND ACTION PLANNING

Cluster stakeholders create a shared vision based on the diagnostic study results. This vision is periodically reviewed and, if necessary, adjusted to accommodate changes in the cluster or related framework conditions.

Action planning translates the vision statement into a practical development strategy over time, akin to a roadmap. Cluster stakeholders periodically revise action plans using a sound monitoring and evaluation framework.

Vision building and action planning benefit from the adoption of a gender focus by explicitly stating gender-related objectives and implicitly incorporating them into the cluster activities.



PHASE 5: IMPLEMENTATION

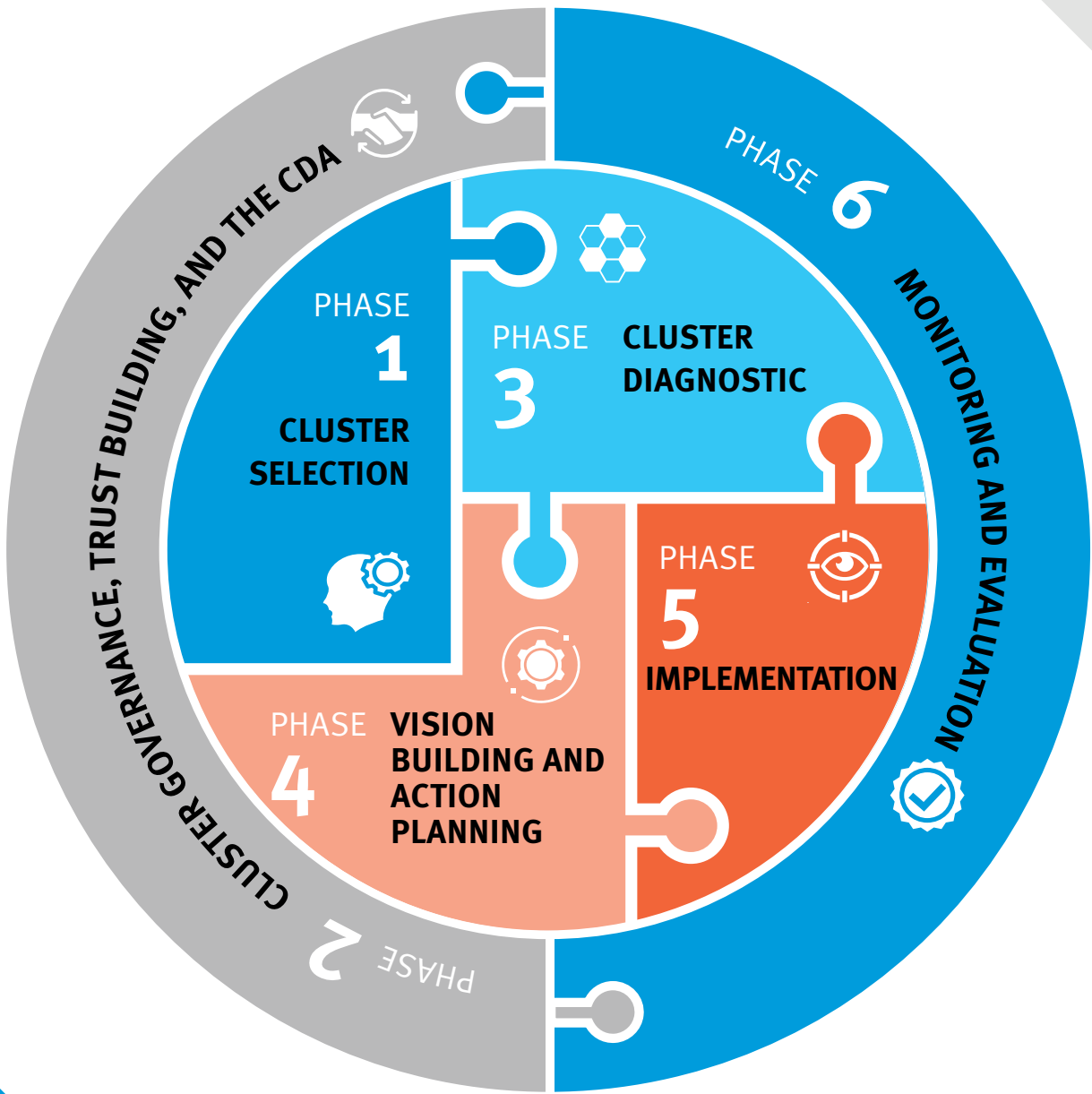
Implementation refers to the execution of the activities described in the action plan and management thereof.



PHASE 6: MONITORING AND EVALUATION (M&E)

M&E of cluster initiatives is an ongoing process. It begins by establishing a clear result chain, connecting specific inputs and project activities to expected outputs and outcomes and explaining how they contribute to the overall impact of a cluster project or programme. Key performance indicators, data collection methods, and reporting responsibilities are then integrated into a comprehensive monitoring framework.

Institutional capacity building and trust-building activities are at the heart of the UNIDO's entire cluster development process. These activities begin with the diagnostic study, continue during the design of the action plan and are reinforced during implementation and M&E.







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