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EU GRANT PROJECTS AND ACTIVITIES PROMOTING SUSTAINABLE CONSUMPTION AND PRODUCTION 2008-2026

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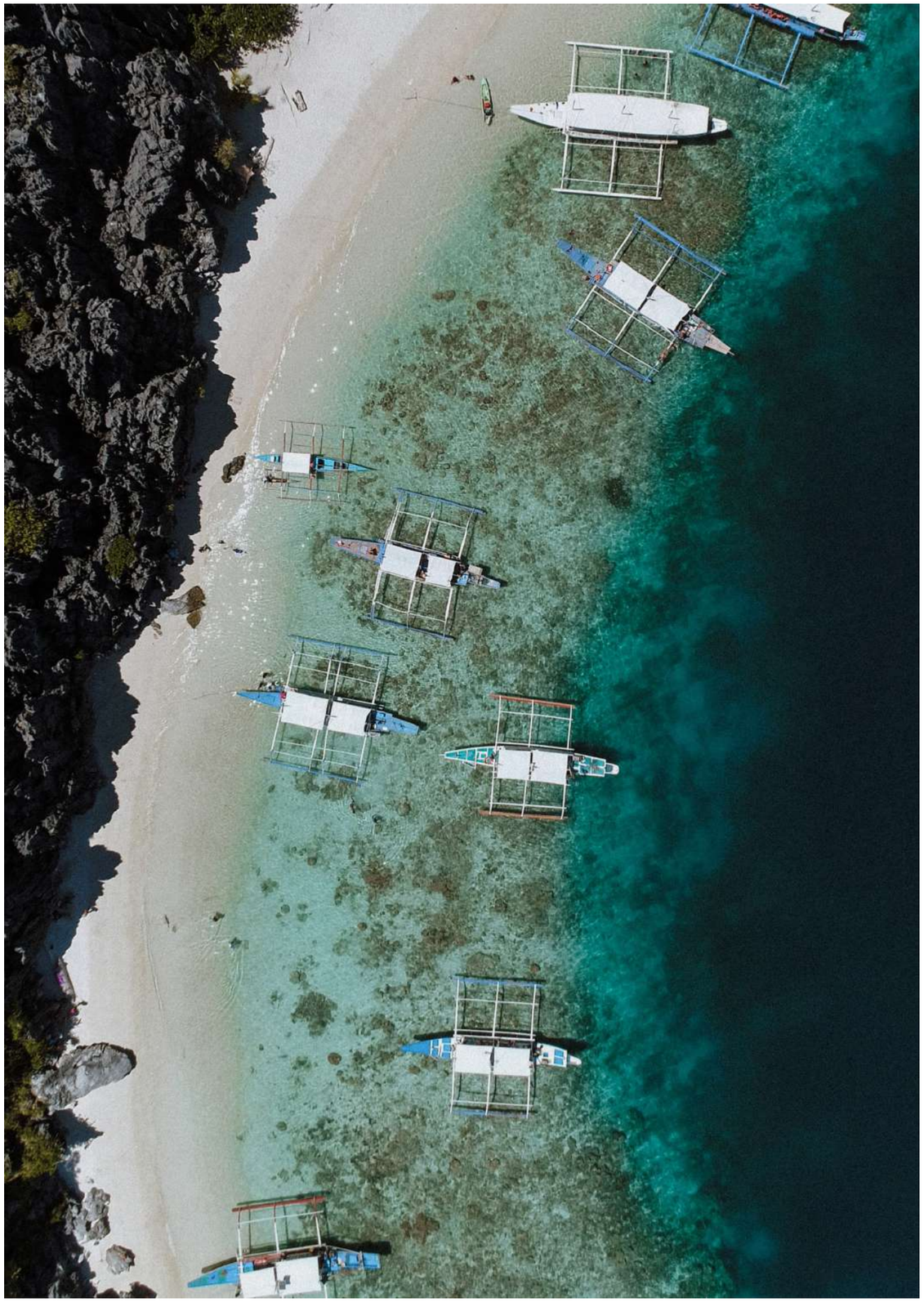


Message from the European Commission

Asia-Pacific is the world's most populous and fastest-growing region. Its rapid growth along with industrial delocalisation have created enormous pressure on land, habitats and biodiversity, making the region one of the most polluted as well as one of the highest greenhouse gas emitters. Just as the region was overcoming the COVID-19 pandemic, the fallout from Russia's protracted invasion of Ukraine and the increasing geopolitical tensions in East Asia have contributed to worsen the economic outlook by disrupting value chains, creating energy insecurity, stressing financial systems and destroying jobs.

In that context of significant risks and uncertainty, pursuing a green and fair recovery remains more relevant than ever to stand and emerge stronger, transform our economies and create opportunities and jobs. The United Nations Agenda 2030 recognises Sustainable Consumption and Production (SCP) as a standalone Sustainable Development Goal, SDG12, in support of the recovery and transformation of economies. In 2019, the EU adopted the European Green Deal, a set of policy initiatives aimed at boosting the efficient use of resources, cutting pollution and reducing the effects of climate change, reverting biodiversity loss and promoting more circular economies. By covering all sectors of the economy, from agriculture to buildings, from textiles and chemicals to transport and energy, the European Green Deal aims to turn Europe into the first climate-neutral continent by 2050.

Through the external dimension of the EU Green Deal, the EU is committed to supporting a greener and more resilient Asia-Pacific region by adopting higher climate and environmental standards, reducing the carbon footprint and moving from a linear to a circular economy. As a result, the Green Deal principles were integrated into EU strategies and programmes in the Asia-Pacific region for the period 2021–2027.

To respond to the needs of the region, the European Commission (Directorate-General for International Partnerships) will continue supporting the region through its SWITCH-Asia Programme. Since its launch in 2007, the Programme has funded over 140 projects promoting more sustainable supply chains between Europe and Asia. It has provided support for more than 20 countries leading to the elaboration of National Action Plans or Roadmaps for Sustainable Consumption and Production, for example in Kazakhstan, Uzbekistan, Tajikistan and Cambodia; circular economy plans in Vietnam and Uzbekistan; green public procurement policies and product directories in Thailand, India and Indonesia; green building codes in Pakistan and Kyrgyzstan; new policy options for plastics in Lao PDR and the Maldives; and waste management plans in Pakistan, new national standards for sustainable textiles (including the cashmere sector) in Mongolia, and enhanced consumer guidelines in Vietnam, to name just a few.

By engaging with over 500 partners and indirectly reaching out to 80,000 micro, small and medium-sized enterprises (MSMEs) in the region, over the years SWITCH-Asia has affirmed its significance and impact as the EU programme for the promotion of sustainable consumption and production in the region. This challenge will nevertheless continue for the years to come.

As of 2023, the Programme has been extended to the Middle East and the Pacific, strengthening the commitment of the EU in promoting a global green transition. This comes at an auspicious moment with the United Arab Emirates in the Middle East hosting the next Conference of Parties (COP28) on climate change.

Building on a solid track record, SWITCH-Asia will continue supporting governments in adopting green strategies and new financial incentives for MSMEs as well as strengthening the knowledge and capacity of SCP-related regional organisations.

By sharing the opportunities of SCP, the Programme will help national governments to adhere to international frameworks such as the Global Alliance on Circular Economy and Resource Efficiency (GACERE) and the Global Agreement on Plastics (GAP), of which the EU is a strong promoter.

Finally, the Programme will continue to support access to finance for MSMEs by ensuring that the pipeline of green projects will have access to credit lines in local and regional banks as well as to financial mechanisms in European and international financial institutions.

I would like to express my deepest gratitude to the representatives of national governments, civil society, practitioners, project and policy implementers, EU Delegations in the region and to the coordination team in Brussels HQ whose constant engagement has made it possible to achieve these outstanding results over the years and make of SWITCH-Asia a successful flagship of the EU in the region.

Peteris USTUBS

Director for the Middle-East, Asia and the Pacific
Directorate-General for International Partnerships, European Commission

Together with major international organisations, the EU SWITCH-Asia Programme has been at the forefront in introducing the notion of Sustainable Consumption and Production in the region.

The external dimension of the European Green Deal offers today a unique opportunity to further engage with local partners in addressing climate change and environmental concerns, two of the most pressing global challenges of our time.

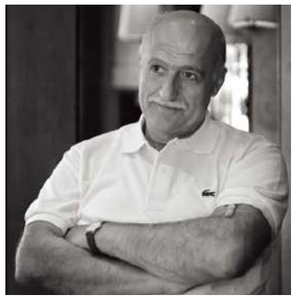
The SWITCH-Asia Programme will continue to be an important tool for EU investments in sustainable industrial practices and products, boosting the resilience of value-chains within the region and with Europe and supporting the green recovery regionally.

The success of our Programme would not be possible without the engagement and support of all our partners, from national governments to regional organisations, from private sector representatives to universities, research centres and civil society organisations to which goes our very great appreciation.

Alessandra LEPORE

Former SWITCH-Asia Programme Coordinator
Directorate-General for International Partnerships, European Commission

Message from the Team Leaders



The global community has progressively realised the critical importance of and necessity for Sustainable Consumption and Production (SCP) in structuring and driving the sustainability agenda: from Rio 1992 and its unsustainable patterns, to the Earth Summit in Johannesburg 2002 with its call to Action on SCP and the effective re-evaluation of the importance and necessity for SCP at Rio 2012, and finally, with the adoption of the 10-Year Framework of Programmes (10YFP) on SCP. This culminated in the United Nations 2030 Sustainable Development Agenda and the Sustainable Development Goals (SDGs) and SDG12 on Responsible Consumption and Production, with consumption- and production-related targets included in most of the other SDGs. Such recognition was further confirmed by the 2015 Paris Agreement and the Quito New Urban Agenda, both recognizing the necessity of promoting resource efficiency and sustainable lifestyles.

SCP can quickly become the engine for positive and effective development when the benefits of 'doing more and better with less' within the system and throughout the ecosystem are thoroughly understood. On the basis of improved knowledge, relevant enabling capacity, adequate governance, and good exemplary practices, the deforming lenses of short-term constraints can be identified, thereby short-circuiting business-as-usual consumption and production practices. SCP is not a static or linear process – on the contrary: SCP is a dynamic and evolving process, continuously adapting as knowledge increases and contexts change, and it continuously re-equilibrates the components of the system. SCP is a 'movement' empowered by innovation, efficiency and responsibility, a necessary 'companion' to a green and circular economy delivery. In fact, SCP is the missing link for an effective delivery of sustainability.

Asia has been leading global discussions and awareness-raising towards SCP for the past two decades, and preparatory work in Asia was critical for the adoption of the 10YFP. This is one of the reasons why the SWITCH programme was first initiated in Asia. Moreover, Asia – already known as the 'manufacturing hub of the world' with all the obvious negative consequences on the environment and health – today concentrates the largest number of consumers, including a growing middle class demanding lifestyles that increasingly put more pressure on resources and cause a negative impact on society and ecosystems. SWITCH-Asia has demonstrated that more responsible development processes are possible in Asia, and that local MSMEs and local innovations, when adequately enabled and backed-up, can be the drivers of the sustainable development that is so urgently needed.

Thanks to and because of Covid-19, some of the citizens of Planet Earth now seem to be (re) discovering the virtue of sustainable consumption coupled with production, without which there can be no Green Growth, no Green Economy, no Circular Economy, no low-carbon economy, no climate mitigation, no biodiversity protection and no Green Recovery effectively delivered in the spirit of long-term transformative change. It is to be hoped that this will not be just an opportunistic attitude and that, with renewed hope, the global community, the rich nations and the developing countries, the large business companies and the MSMEs will finally have understood the absolute necessity for an urgent change in our still mostly irresponsible and unsustainable consumption and production patterns. After decades of knowledge gathering, project piloting and experience-sharing about SCP, we can finally act on our insights, create an environment conducive to transformative change, and realize that this is not only our shared responsibility, but an ethical obligation.

Arab Hoballah

Team Leader 2017-2021, SWITCH-Asia SCP Facility
Ex-Chief, SCP, UNEP
Executive Director, SEED

As we move into the 2020s, just about every citizen in Asia and elsewhere is experiencing in real time what scientists have been warning us about for decades. Weather records are being broken with extreme heat, droughts, floods and other drastic weather events. Plastic pollution is omnipresent in even the remotest corners of the globe and most of us breathe unhealthy air. The health of ecosystems is in severe decline. Indeed, a triple planetary crisis is with us: climate change, loss of Nature and biodiversity, and an ever-accumulating pollution burden that threatens not only the well-being of billions of humans but, indeed, the ability for life on planet Earth to continue.

This crisis is human-made, and the ever-increasing consumption of materials, energy and other natural resources arising from the prevailing linear and wasteful take-make-dispose model of production and consumption is at the heart of the problem. The International Resource Panel has shown that extraction and processing of natural resources is responsible for 90% of biodiversity loss and for the generation of 50% of greenhouse gas (GHG) emissions.

Past environmental policies and management initiatives have too often tried to solve one environmental issue at a time, typical of the reductionism and specialisation that have instead only helped to expand industries, infrastructure and cities. The triple planetary crisis, as a human-made problem, calls for profound, human-made solutions that address the root causes of the wasteful use of natural resources to transform global production and consumption systems. Increasingly, a Circular Economy (CE) is poised as this system solution. CE does retain the value of materials and natural resources through take-make-recover circular production and consumption systems, especially when powered by the sun. Beyond the broad consensus that CE replicates natural-resource usage cycles in industrial production and consumption systems, the term 'CE' itself continues to mean different things to different people.

CE will remain abstract until producers and consumers change their patterns of action and lifestyles – which has been the trust of Sustainable Consumption and Production (SCP) since its launch as a global priority during the 1992 Rio Summit. Since that time, SCP has evolved from a concept to well-established practices – cleaner production, selection of more sustainable and less harmful inputs, eco-design, sustainable consumption – that result in real-time environmental and economic benefits. The principles of SCP have informed various critical policy approaches in areas as diverse as sustainable public procurement (SPP), extended producers responsibility (EPR), and education.

Starting as an agenda for the Global North, SCP has proven its equal relevance for the Global South. The 143 Grant Projects of SWITCH-Asia Programme demonstrate that SCP generally resonates well with people in Asia, given their ingrained values of sufficiency, efficiency, partnerships, and creativity. While showing innovative ways of practicing SCP, the Grants began exploring pathways for upscaling their actions by interconnecting with, among other issues, goals for climate, biodiversity, equality, and gender.

Notably, the ideas of the EU Circular Economy Action Plan, the EU Green Deal, the Farm to Fork Strategy, the Renovation Wave for Sustainable Housing and Buildings, the new Textile Strategy, the Strategy on Plastics, and the Sustainable Tourism Strategy are being tested in SWITCH-Asia grant projects and reflected in the policy dialogue with Asian governments for the elaboration and implementation of national policies, regulatory frameworks and policy instruments related to SCP and the Green Circular Economy. This highlights the critical role of SWITCH-Asia grants in knowledge exchange and the development that subsequently follows it.

It is hoped that the results and experiences from the work of the Grants documented here demonstrate that SCP is being accomplished in very different sectors and settings. We see this as an inspiration for the policy work, stakeholders' engagement and advocacy to those whose aim is to vigorously scale up and speed up SCP. We trust that this will become the determining factor for avoiding the worst impacts of the triple planetary crisis within our own lifetime.

Zinaida Fadeeva

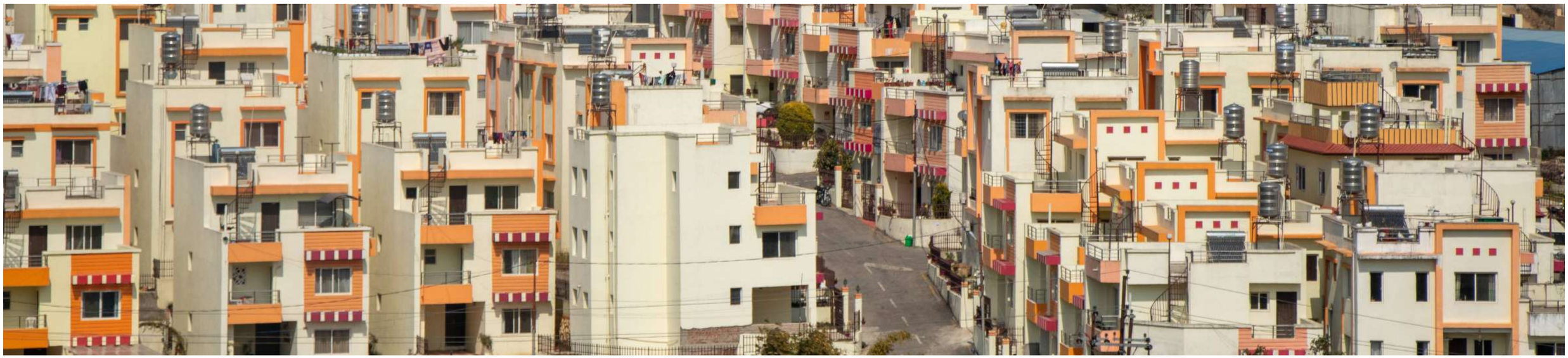
Team Leader 2021-2023,
SWITCH-Asia SCP Facility

Purpose and Scope of this Book

This book provides practical knowledge and concrete information about the vast number of EU SWITCH-Asia funded projects that have been implemented in Asia for over 15 years now, and furnishes insights about their impact in the region as well.

A total of 158 ongoing and completed projects are clustered under overarching thematic issues in line with the EU Green Deal priorities: Agri-food, Textiles and Leather, Sustainable Housing and Building, Waste Management, Tourism, Plastics, Transport and Logistics, Cook Stove, and Electrical and Electronics.

Since its inception, the SWITCH-Asia Programme has been following trends common to Europe and Asia, two regions increasingly interconnected through global value chains. Important lessons learnt and experiences from Asia can inform and support the implementation of the EU Green Deal's external framework, while incorporating SCP to support a country's policy changes towards a green and circular economy, environmental justice and equality.



About the SWITCH-Asia Programme

WHO WE ARE

SWITCH-Asia was launched in 2007 as part of the European Union's priority to support a programme of sustainable consumption and production (SCP) in its regional cooperation strategy with Asia. The programme currently covers 42 countries, spanning from the Middle East, to Central Asia, South Asia, East Asia, Southeast Asia and the Pacific. It addresses emerging economies as well as least-developed and major CO_2 emitting countries. The engagement of the programme with stakeholders is twofold.

The **Policy Support Component (PSC)** provides direct support to regional organisations, national governments and related implementing agencies in charge of policies and regulatory frameworks relevant to SCP. This component has been playing a key role in ensuring the coherence of activities and the communication of results to regional and EU stakeholders.

The **Grant Scheme Component** targets micro, small and medium sized enterprises (MSMEs), business organisations and industrial clusters, retailers, chambers of commerce, national clean production centres, and universities, and NGOs and consumer organisations willing to test and adopt cleaner and more sustainable production processes, improve the sustainability of their products and change their consumption behaviours. Under this scheme, partnerships are established involving both organisations from the EU and from the region. The ultimate goal of this component is to facilitate the large replication of sustainable production and consumption practices in MSMEs in the region through investments.

Since its launch, 158 projects have been funded with an average grant size of EUR 1.7 million across a wide range of sectors including energy efficiency in industrial plants and houses, agri-food and fishing sectors, textiles and leather, tourism, logistics and freight. These have been implemented by over 500 Asian and European partners and some 100 private sector associates, indirectly benefitting up to 80,000 MSMEs.

The evidence provided by grant projects is meant to feed into policy and regulatory dialogues with Asian governments for the elaboration and implementation of national policies, regulatory frameworks and policy instruments related to SCP and a circular and green economy, in collaboration with the EU country Delegations and the Focal Points of Ministries.

Synergies among the SWITCH-Asia programme and regional and international organisations ensure complementarities in the support provided to national governments in terms of policy development, for example in SCP practices like green building codes. The programme also builds collaboration with financial institutions, essential for promoting (new) green financing for MSMEs and for the wider replication of SCP practices tested through the SWITCH-Asia grants.

How We Work

SUPPORTING GAME CHANGERS THROUGH PROJECTS

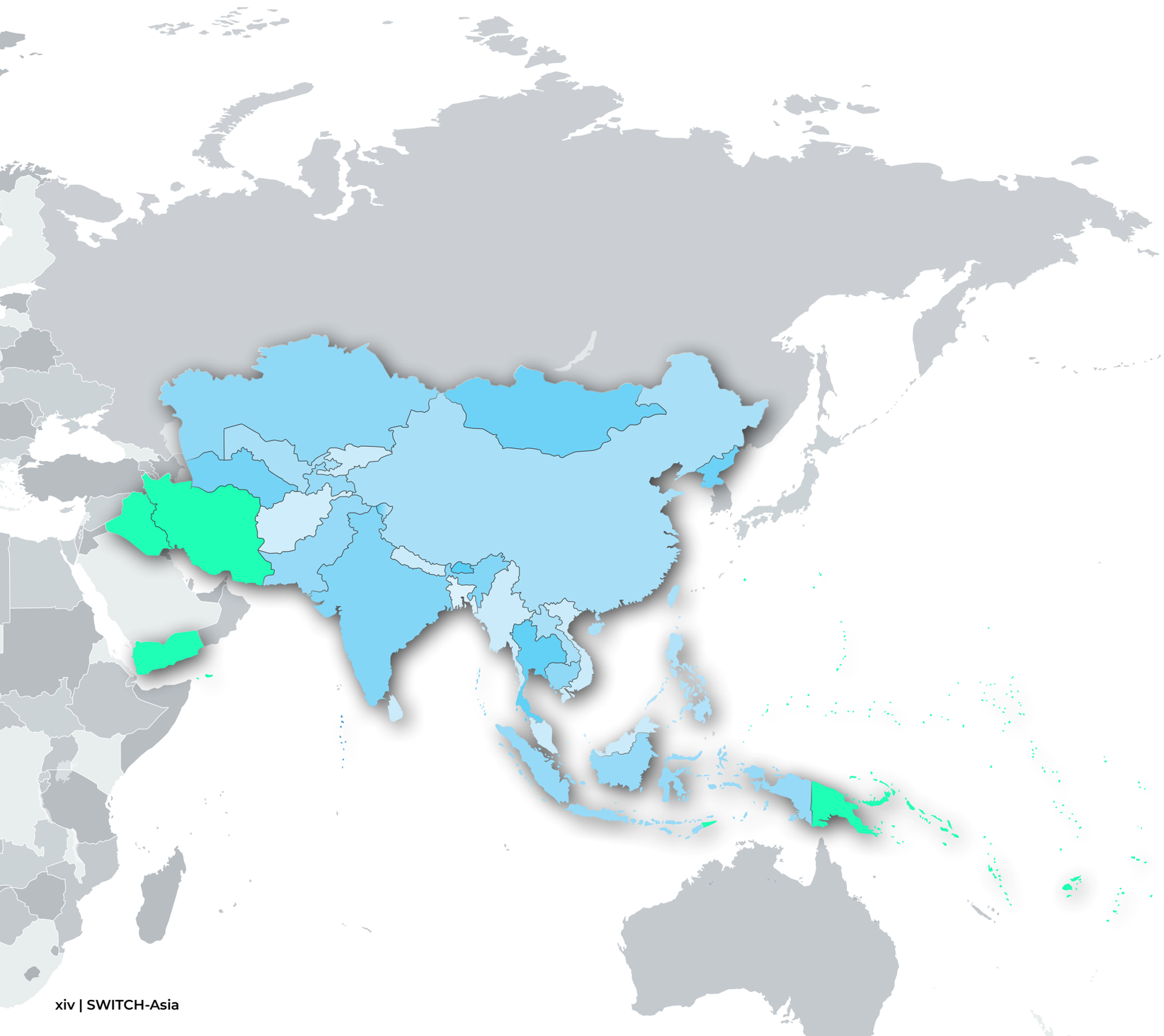
Testing and adopting greener and more sustainable industrial processing in MSMEs

Promoting greener products and **more sustainable consumption patterns and behaviours** in Asia.

STRENGTHENING POLICY DIALOGUE

Project results will feed into policy dialogue with Asian governments to elaborate and implement national policies, regulatory frameworks and policy instruments related to SCP and the Green Economy, in collaboration with the EU Delegations and Focal Points of Ministries in partner countries.

Where We Work



CENTRAL ASIA

Kazakhstan
Kyrgyzstan
Tajikistan
Turkmenistan
Uzbekistan

SOUTH ASIA

Afghanistan
Bangladesh
Bhutan
India
Maldives
Nepal
Pakistan
Sri Lanka

SOUTH-EAST ASIA AND EAST ASIA

Cambodia
Indonesia
Lao PDR
Malaysia
Myanmar
Philippines
Thailand
Vietnam
China
DPRK
Mongolia

MIDDLE-EAST (As of 2023)

Iran
Yemen
Iraq

PACIFIC (As of 2023)

Cook Islands
Federated States of Micronesia
Fiji
Kiribati
Marshall Islands
Nauru
Niue
Palau
Papua New Guinea
Samoa
Solomon Islands
Timor Leste
Tonga
Tuvalu

Insights from the SWITCH-Asia Grants: Impacts and Finance Review/ Access to Finance

In 2020, the implementation of the SWITCH-Asia grant scheme was assessed and reviewed for its effectiveness. Based on official policy and technical documents and interviews, projects funded under SWITCH-Asia in the period 2007–2020 that responded to 8 calls for proposals were analysed.

This review draws lessons learnt from the economic, environmental and social results of these projects. In a first step, an analysis was conducted on project objectives and outcomes and their relevance to the above-mentioned policies, taking these criteria into consideration:

- Adoption of SCP practices by MSMEs to become more efficient and greener while reducing environmental impact and CO_2 emissions, and by consumers in shifting to a more sustainable lifestyle
- Opportunities provided by the programme to deal with challenges at the regional level
- Possibility for the project results to be replicated and scaled up within countries or sectors and at regional level, with needed investments
- Role played by projects in mainstreaming SCP into national or regional policies, legislation and regulations
- Contribution of projects to the UN Agenda 2030 and the Paris agreement
- Alignment and contribution to EU Green Deal-related policies and priorities

These SWITCH-Asia grant projects were also clustered into four project types. The majority of grant projects were related to the 'Cleaner Production' and 'Value Chains' project clusters, as they were focused either on innovative cleaner production technologies in manufacturing or on strengthening sustainable value chains and business linkages within a specific sector. A smaller number of projects formed the two remaining types, and these addressed the integration of informal sector players into the formal economy ('Sector Formalisation') or were focused on fostering sustainable consumption patterns and consumer awareness ('Sustainable Consumption').

The review also analyses the possibility for investment cases developed through programme's grants to be scaled up within the region through existing financial schemes of international and European financial institutions.

The impact review of these SWITCH-Asia grant projects focused on seven result areas, selected on the basis of *DG DEVCO's Sector Indicator Guidance on Green Economy*.[1] The quantitative and qualitative analysis of the reported data highlights the substantial results of the grant programme since its inception in 2007. Many projects sought to build relations with key decision-makers at the local, regional and national level while deploying innovative processes such as policy prototyping workshops. Because of this work, many grant projects contributed substantially to a more enabling environment for SCP in the target region.

The uptake of SCP practices by MSMEs is another key impact area of SWITCH-Asia grant projects. Overall, more than 40,000 business entities reported the adoption of SCP practices as a result of the SWITCH-Asia project activities, while more than 27,000 MSMEs were reported to have achieved sustainability standards certification as a result of their work.

1 https://www.switchtogreen.eu/new-sector-indicator-guidance-on-green-economy/

The SWITCH-Asia grant scheme accounted for significant achievements in decoupling economic growth from environmental degradation and carbon emissions. While reported data on CO_2 emissions reductions vary substantially across projects, mainly explained by the different focus of the actions (e.g. energy-intensive industry vs. small-scale agri-business), completed SWITCH-Asia projects accounted for an overall savings of more than 25 million tonnes of carbon dioxide equivalents (tCO_2e) to date.

Finally, the review specifically focused on access to finance opportunities as a key area for scale-up and replication of the SCP practices tested during the grant projects. With respect to the increased importance of access to financing in the international development agenda, it was observed that the finance-related activities of SWITCH-Asia grant projects built up over time. To date, nearly 66% of grants projects are able to report on successful financing activities, ranging from effective business case development to securing financing for MSMEs.

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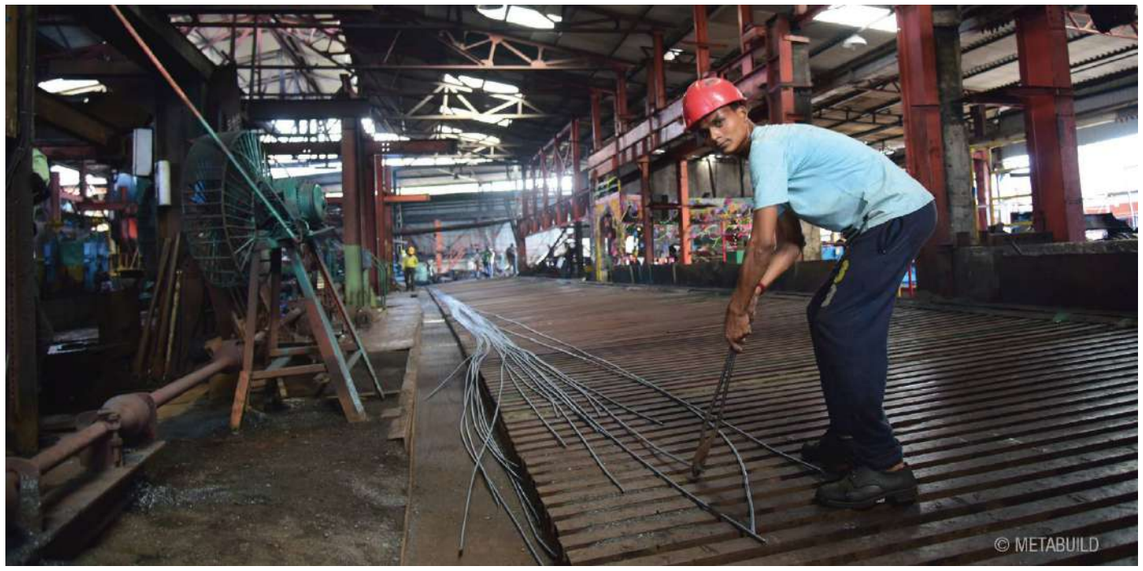
AGRI-FOOD

Ongoing Completed

TEXTILES AND LEATHER

SUSTAINABLE HOUSING AND BUILDING



WASTE MANAGEMENT

South-East Asia and East Asia

China

Mongolia

TOURISM

Central Asia

Kazakhstan

Kazakhstan, Tajikistan, Uzbekistan

Kyrgyzstan

Kyrgyzstan, Tajikistan, Uzbekistan

South Asia

Bhutan

Nepal

Sri Lanka

South-East Asia and East Asia

Lao PDR

Philippines

Thailand

Thailand, Philippines

PLASTICS

South Asia

India

India, Maldives, Sri Lanka

Sri Lanka

South-East Asia and East Asia

Cambodia

Mongolia

Myanmar

TRANSPORT AND LOGISTICS

South Asia

India

South-East Asia and East Asia

Cambodia, Lao PDR, Myanmar, Thailand, Vietnam

China

Philippines

Thailand

COOK STOVE

South Asia

India

South-East Asia and East Asia

Lao PDR

Myanmar

ELECTRICAL AND ELECTRONICS

South Asia

India

South-East Asia and East Asia

China

MULTI-INDUSTRY

South Asia

Bhutan

India

AGRI-FOOD

REAP - Resource Efficiency in Agri-food Production and Processing

TAJIKISTAN, UZBEKISTAN ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 2,958,871 (EU Contribution 89.84%)

CHALLENGE

While agriculture plays a major role in Uzbekistan and Tajikistan, food insecurity and a strong dependence on food imports increases vulnerability to climate change and geopolitics. In Uzbekistan, the share of small businesses (micro-, small and medium-sized enterprises, MSMEs) in gross agricultural production is 98.1%. The export of Uzbek agricultural products is increasing from year to year. As for processing and intermediate storage, Uzbekistan is in the top twenty countries worldwide in terms of cold storage. In Tajikistan more than 60% of the population lives in the rural areas. The country's natural resource base is weak and, due to the lingering agricultural inefficiencies of the Soviet system, declined productivity poses severe challenges for the country's food security. Business is constrained, and a key condition for improving economic growth and investment involves improving the business environment in agri-food processing by introducing more efficient production techniques.

OBJECTIVES

The goals are to promote SCP practices in the agri-food production and processing industries along the entire supply chain by

- Developing business cases for resource efficiency measures by MSMEs, while promoting eco-efficiency based on international standards and supporting companies in presenting bankable projects to financial institutions
- Providing training to MSMEs on suitable financial instruments for SCP solutions

The action seeks to improve sustainability in the agri-food production and processing industries in two ways:

- Targeting fast, cost-efficient SCP measures, showcasing the business cases of such measures and creating a win-win mind-set among the MSMEs
- Building MSMEs capacity to deal innovatively with challenges in the context of natural resource shortages and creating ecosystems for SCP and supply-chain integration

OUTCOMES

- Introduce and improve SCP measures and technologies in 400 MSMEs in agri-food production and processing
- Increase efficiency by 20% for energy, 10% for resources (including water) and 15% for waste generation within participating companies
- Support 10% of participating companies in applying for funding for bankable projects
- Build capacity for 40 local experts on SCP practices for replication
- Build capacity for 20 consultants and experts from financial institutions on suitable financial instruments for SCP solutions
- Build capacity for 20 national or regional policy makers, advisors and government bodies and institutions on SCP policy mechanisms
- Improve clusterisation and ecosystem development for SCP involving all stakeholders

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

The Regional Environmental Centre for Central Asia (CAREC)

PARTNERS

adelphi Research gGmbH

Austria Recycling - Verein zur Förderung von Recycling und Umweltschutz in Österreich (AREC)

Chamber of Commerce and Industry of the Republic of Uzbekistan

National Association of Small and Medium Business of Tajikistan

STENUM Asia Sustainable Development Society (STENUM Asia)

The Energy and Resources Institute (TERI)

Jute Diversified Products

BANGLADESH ● AGRI-FOOD

IMPLEMENTATION PERIOD: 3/2013-8/2016
BUDGET: EUR 2,222,170 (EU Contribution 90%)

CHALLENGE

Jute (known as the Golden Fibre) has always played a significant role in the economic development of Bangladesh. In recent years, Jute Diversified Products (JDPs) have become more well-known because the natural character of jute fibre is attractive to consumers. However, the jute growers are facing problems to access good quality and high yielding seeds and appropriate technologies to reduce production costs. Moreover, due to the fragmentation of the rural market chain, the growers are not getting a fair price for their production. This situation results in less interest to cultivate jute. Finally, the workers engaged in production lack adequate skills for maintaining product quality, which decreases buyer interest.

OBJECTIVES

The project sought to contribute to the economic growth of poorer producers through social business promotion, with an emphasis on sustainable agriculture-sector growth and poverty reduction in Bangladesh. Specifically it aimed at strengthening the export competitiveness of Bangladesh jute through the promotion of environmentally friendly and diversified jute products.

OUTCOMES

- Workforce empowerment of poor men and women working in the jute supply chain through skill development, micro-enterprise training, business and professional training
- Mobilisation and promotion of groups of producers and small entrepreneurs to improve productivity and market access
- Development of producers' groups for technology transfer for obtaining high-yield jute variety and retting
- Value addition processing, diversification and packaging of jute products through the engagement of business and market intermediaries
- Marketing and development of jute supply chain
- Promotion of efficient public–private partnerships
- Partnership with and engagement of public–private institutions

> *Through this project, major changes are occurring in the jute sector. Farmers have benefitted directly through trainings and practical advice. The poor were also trained and this has provided them with an entirely new income source and possibility to expose their products to local and international markets.*
>
> **Md. Julficker Islam**
> PM, ESDO, Kurigram

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

CARE France

PARTNERS

Debi Chowdhurani Palli Unnayan Kendra (DCPUK)

Eco Social Development Organisation (ESDO)

Sheba Manab Kallyan Kendra (SMKK)

UTTARAN

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Tomato and Mango Value Chain - Improving consumer awareness and access to certified safe tomato and mango products

BANGLADESH ● AGRI-FOOD

IMPLEMENTATION PERIOD: 1/2016-12/2019
BUDGET: EUR 1,999,811 (EU Contribution 90%)

CHALLENGE

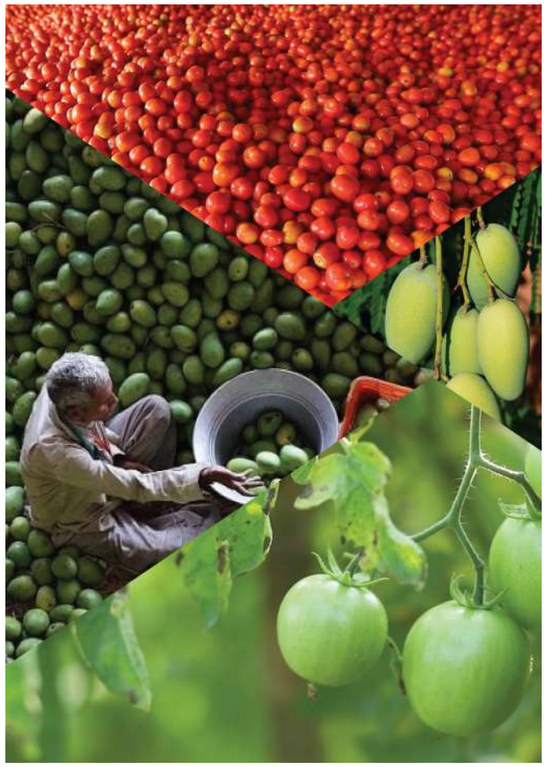
Food safety in the Bangladeshi fruit and vegetable sector is an area of increasing concern. The consumers have lost confidence in locally produced foodstuffs. The current intense political and consumer pressure on the horticultural industry has urged the sector to adhere to food safety levels. With the legal framework for food safety in place and a strong market demand for sustainable and safe produce, there is now a conducive environment for change.

OBJECTIVES

The project sought to increase consumer confidence in domestically produced processed horticultural products, reduce food-safety problems caused by domestically processed horticultural products, and promote business development in the fruit and vegetable processing industry. At the end of the four-year project at least 50% of the domestically processed tomato and mango products marketed and consumed in Bangladesh were certified as safe.

OUTCOMES

- Surveys were conducted and consumer awareness raised on safe domestically produced mango and tomato products
- A public-private agreement on a transparent and independently verifiable food safety assurance system was established
- Food safety standards were set up
- The capacity of supply chain actors was built up using the 'train the trainers' approach based on need assessment
- Certifications were applied and results communicated
- A transition towards sustainable and safe food markets from 'field to fork' in Bangladesh was promoted and given support



The results attained from this project were unique in the context of Bangladesh. For the first time, beneficiary farmer groups attained HACCP food safety certification and a Covenant on Food Safety was signed by public-private entities in the country.

Mahbub Ullah
Project Coordinator, SNV

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PARTNERS

Centre of Excellence Agro Food Skills Foundation (CEAFS)

Consumers Association of Bangladesh (CAB)

SEID - Sustainable and Efficient Industrial Development in Bhutan and Nepal

BHUTAN, NEPAL

AGRI-FOOD

IMPLEMENTATION PERIOD: 2/2012-11/2015
BUDGET: EUR 2,160,000 (EU Contribution 90%)

CHALLENGE

The landlocked countries of Nepal and Bhutan are classified among the least-developed countries (LDCs), with 77% of the population in Nepal and 49% in Bhutan living under the poverty line (2010 data). Urban and rural dwellers in Nepal suffer from an acute energy crisis. Nepal also faces challenges to revive its tourism industry, which has been affected by the recent earthquake. Bhutan's economy depends heavily on imported goods and services, and local enterprises have difficulties in creating their own competence, which will be pivotal for the future sustainability of the countries' economies and their societies. In both countries, there is great potential for development in agriculture and tourism, considering the climate and topographical conditions, as well as both countries' rich cultural and historical heritage.

OBJECTIVES

The project aimed to contribute to the sustainable development of Nepal and Bhutan by reducing the environmental impact of industry, by generating employment, and through poverty alleviation, particularly in the tourism and agro-based industrial sectors. The specific objectives were:

- To reduce costs by saving resources with more efficient production and operation processes
- To lower pollution by encouraging companies to implement appropriate treatment measures
- To improve health and safety standards for workers
- To enhance the capacity of national consultants through training and field work
- To provide access to existing knowledge and practice for sustainable consumption and production (SCP) from international initiatives, as well as green financing schemes

OUTCOMES

- More than 40 local consultants and representatives from industries and academia received intensive training on resource and energy efficiency, waste management, renewable energy and building energy performance
- Ten Green Clubs (with 745 members in Bhutan and Nepal) were established to promote the concept of environmental conservation
- More than 200 MSMEs received SEID's consultation services and most are benefitting from reduced operational costs and optimised resource efficiency, as well as improved working environments
- Appropriate technology solutions such as solar water heaters for hotels, dust collection systems for beaten rice mills, and improved cook stoves for restaurants were developed
- Strategic networks were established, and formal agreements were signed with a number of selected academic, governmental and business institutions
- Renewable energy (RE) and renewable power (RP) were mainstreamed in government policies; governmental bodies and business associations have been provided with practical suggestions on how to implement and/or revise the existing policy documents, such as hotel rating standards and a cleaner production policy paper in Nepal; and green building guidelines and a subsidy programme for RE technology have been developed in Bhutan

We have learned energy and resource efficiency techniques that allowed us to minimise our energy and resource consumption, resulting not only in cost savings, but also in more market competitiveness.

Saguni Singh Shakya
Manager
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Austria Recycling (AREC)

Bhutan Chamber of Commerce and Industry, Bhutan

Federation of Nepalese Chamber of Commerce and Industries (FNCCI), Nepal

STENUM Asia Sustainable Development Society (STENUM Asia)

Agribusiness Access to finance

INDIA

AGRI-FOOD

IMPLEMENTATION PERIOD: 4/2014-3/2018
BUDGET: EUR 1,258,496 (EU Contribution 79.45%)

CHALLENGE

Micro, small and medium-sized enterprises (MSMEs) make an important contribution to India's economy, and have the potential to catalyse an important shift towards green and fair production by supplying consumer markets with green and fair product options. Agribusiness MSMEs in India are strongly motivated to adopt sustainable production practices. However, many constraints prevent them, namely technical ability, a consistent market for green products and available working capital.

OBJECTIVES

The project promoted an increased adoption of sustainable technologies by MSMEs. It specifically targeted three challenge areas: promotion of sustainable practices across the supply chain, access to finance for adopting sustainable procurement and production practices, and promotion of sustainable consumption through certified production.

OUTCOMES

- Providing capacity building for 30 agribusiness MSMEs to enable the adoption of sustainable post-harvest production practices
- Creating access to working capital for 30 MSMEs agreeing to adopt sustainable production with the commercial banking sector
- Facilitating market linkages for 30 MSMEs with at least 20 corporate buyers of certified products
- Conducting consumer campaigns targeting 10 million urban middle-class Indian consumers of certified products from the 30 MSMEs

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The Humanist Institute for Development Cooperation (HiVOS), Netherlands

PARTNERS

Friends of Women's World Banking (FWWB), India

International Resources for Fairer Trade (IRFT), India

Bhoomi Ka - Promoting sustainable consumption and production systems for safe and organic foods in India

INDIA

AGRI-FOOD

IMPLEMENTATION PERIOD: 1/2018-10/2022
BUDGET: EUR 1,146,098.40(EU Contribution 80%)

CHALLENGE

The right to safe, uncontaminated and nutritious food is a fundamental human right. In India, the Food Safety and Standards Act of 2006 provides necessary safeguards to citizens in order to maintain the quality of food. However, dangerous toxins in food have been threatening human and environmental health over the past few decades due to an ever-increasing use of pesticides, agrochemicals, antibiotics, hormones, ripening chemicals, chemical additives, and synthetic flavours. India uses at least 48 pesticides/herbicides that have been banned in other countries. It therefore becomes extremely important on the one hand to regulate the indiscriminate use of agrochemicals in agriculture by giving alternatives to farmers, and on the other hand, to educate and inform consumers on the choices available to them.

OBJECTIVES

The overall objective of the project is to contribute to sustainable local food systems that safeguard public and environmental health and promote sustainable smallholder agriculture. The project aims to achieve this through an increased demand for and supply of clean, green and fair foods in selected Indian towns, promoting the switch to sustainable food consumption and production patterns.

OUTCOMES

- Enhance access to available and trustworthy organic and local foods through sustained information campaigns targeting consumers
- Provide identified retailers and brand owners with extended outreach, and improve organic producer collectives by enhancing their value addition as well as their market access
- Undertake policy advocacy to create an enabling environment for protecting consumers and promoting the domestic market for local organic foods

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

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PARTNERS

Indo-Global Social Service Society (IGSSS)

VAAGDHARA, India

Green Retail India

INDIA

AGRI-FOOD

IMPLEMENTATION PERIOD: 1/2013-8/2016
BUDGET: EUR 2,383,517 (EU Contribution 80%)

CHALLENGE

The Food & Beverage (F&B) sector constitutes about 60% of the retail sector, and the energy consumption by retailers accounts for 15% of their operational cost. The F&B sector also generates large amounts of waste. Around 40% of food production in India is estimated to be wasted due to improper handling, transportation and storage, and retailers can play a role in reducing the waste. The sector also contributes towards environmental pollution (transportation of goods and the carbon footprint of the small and medium-sized enterprise (SME) suppliers).

OBJECTIVES

The project aimed at instilling sustainable thinking and adoption of sustainable approaches in a large retail chain's strategy, operation and marketing; driving sustainable practices in the supply chain of retailers; and educating consumers on sustainable consumption and creating a favourable climate for the adoption of sustainable practices across the retail value chain.

OUTCOMES

- Development and implementation of customised Sustainability Business Models for retailers
- Enabling SME suppliers to adopt approaches, techniques, tools and technology to align SCP practices into the core of their business practices
- Linking up Indian retailers with major European retailers by visits to Europe for trade fairs/forum and business networking sessions
- Development and implementation of a Go-Green Strategy to sensitise and educate consumers on green products and choices towards creating a market demand for sustainable products
- Promotion of policy action to promote sustainability in the Indian retail sector through measures such as formulation of enabling instruments and policies for demand-side pull

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Collaborating Centre on Sustainable Consumption and Production GGMBH

Retailers' Association of India (RAI), India

STENUM Asia Sustainable Development Society (STENUM Asia)

Promote Bamboo MSME Clusters for Sustainable Development

INDIA

AGRI-FOOD

IMPLEMENTATION PERIOD: 1/2018-10/2022
BUDGET: EUR 2,499,824 (EU Contribution 90%)

CHALLENGE

There are more than 5 million people, half of them women in the tribal regions across 18 of the 29 states of India, where an abundant quantity of bamboo is available as a resource for their livelihoods. However, in the bamboo processing and product manufacturing sector, the number is likely to be only around 3 million. While bamboo has been augmented by a range of public initiatives, it is not sufficiently harnessed in terms of its market applications. There is a huge potential for replacement of less sustainable resources like timber, plastic, steel, etc. and for creation of green jobs in effectively harnessing bamboo by upgrading existing products and introducing new products duly linked with markets.

OBJECTIVES

The overall objective of this project is to promote bamboo as a sustainable resource and generate green jobs. The activities are designed to help local communities and other stakeholders to collaborate for the promotion of a green economy, sustainable growth, economic prosperity and poverty reduction in India along with mitigation of climate change.

OUTCOMES

- 2250 micro, small and medium-sized enterprises (MSMEs), of which 40% are owned by women, start or expand bamboo product supply worth EUR 25.3 million to existing or new markets, affecting 10,000 livelihoods (more than 50% women) through new income worth as much as EUR 13 million
- Improved occupational health and safety along with social security
- At least 20 new buyers undertake sourcing of 5 high-potential bamboo products in each of the targeted clusters through 20 successful business start-ups
- 9 local facilitating agencies (FAs) provide services beyond Action, 50 producer networks (PNs) created, 9 common funds for communities (CFCs) created and strengthened, and 20 equipment or input suppliers and 140 business development support plans (BDSPs) provide strategic services sustainably
- At least 10 financial institutions (FIs) provide credit through cluster financing instruments to 2250 MSMEs worth EUR 9 million
- 200 policy makers from at least 3 South Asian Association for Regional Cooperation (SAARC) countries are sensitised and 9 Indian states initiate replication of similar intervention models

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

Foundation for MSME Clusters (FMC)

PARTNERS

Common Wealth Educational Media Centre for Asia (CEMCA)

Copenhagen Business School (CBS)

Small Industries Development Bank of India

HP Cogen-PAK - Empowering sugar mills and stakeholders in the sugar sector to adopt energy efficient technology

PAKISTAN

AGRI-FOOD

IMPLEMENTATION PERIOD: 2/2014-1/2018
BUDGET: EUR 2,161,785 (EU Contribution 79.80%)

CHALLENGE

At project inception, Pakistan's sugar sector had an annual availability of 4.4 million metric tons of bagasse (sugar mill waste). To generate heat and electricity for its energy needs, the sugar sector used inefficient low pressure cogeneration (LPC) systems, consuming 46% more bagasse compared to high pressure cogeneration (HPC). However, adoption of HPC was hampered by high upfront costs, technology risks, low capacity among technology providers, a non-responsive financial sector and a non-conducive regulatory regime.

OBJECTIVES

The objectives of the HP Cogen-Pak project were to build the capacity of the sugar sector, focusing on promotion of high pressure cogeneration (HPC) technology among sugar mills classified as small- and medium-sized enterprises (SMEs) and improving access to finance, leading to reduction of GHG emissions. The specific objectives included:

- Promoting sustainable production of energy, and exporting surplus electrical power to the national grid, through replication of existing HPC technology in the sugar sector
- Promoting sustainable consumption of bagasse by supporting sugar mills in the adoption HPC technology, through technology standardisation, enabling access to finance, and mobilising relevant public sector authorities for the formulation of a conducive regulatory regime for bagasse-based energy projects

OUTCOMES

- The project successfully developed an excel-based model/study for determining the cost of power generation for bagasse-based cogeneration projects, which was shared with the National Electric Power Regulatory Authority (NEPRA)
- The National Bagasse Power Support Cell (NBPSC) was created at the HP Cogen-Pak Project office in Lahore. The NBPSC reached out to the 85 sugar mills (the main beneficiaries of the project), providing them support in the adoption of the limited time option of an Upfront Tariff for Bagasse Cogeneration offered by NEPRA, and of 85 sugar mills, 72 registered in the project
- The NBPSC completed the development of the detailed bankable feasibility studies for HPC for 10 sugar mills; furthermore, pre-feasibility studies (business cases) were developed for 50 sugar mills registered in the program
- A total of EUR 8.38 million was saved per SME, per year on average
- Compared to LPC technology, HPC technology consumes 45% less bagasse, thus increasing resource and energy efficiency; thus HPC saves 60 m^3 water/hour for 120 days of crushing season, which equals 172,800 m^3/year for a single 30 MW HPC plant
- The HP Cogen-Pak project estimated a reduction of 2.125 million tonnes of CO_2 equivalent per year once all the mills switch to HPC technology

The project developed a conducive environment for sugar mills to export surplus energy to the grid with HPC technology. Given the energy constraints faced by Pakistan, promotion of this technology not only helped with energy security, it did so in a sustainable way, generating electricity from abundant fuels.

Omar Malik
Project Director
HP Cogen-Pak

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LEAD PARTNER

Iqbal Hamid Trust (IHT)

PARTNERS

Pakistan Sugar Mills Association (PSMA)

sequa gGmbH

The Energy and Resources Institute (TERI)

IREET - Implementation of Resource and Energy Efficient Technologies in the Sugar Sector

PAKISTAN

AGRI-FOOD

IMPLEMENTATION PERIOD: 2/2018-1/2022
BUDGET: EUR 1,436,160 (EU Contribution 79.77%)

CHALLENGE

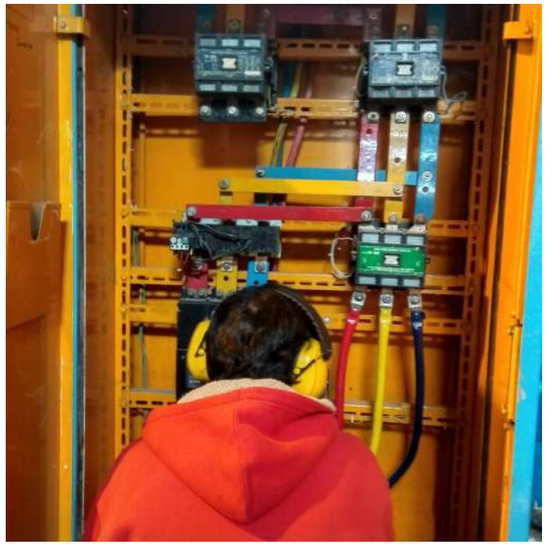
Most sugar mills in Pakistan use outdated technologies and practices (i.e. use of Robert type evaporators, 3-5 roller mills, inefficient low-pressure boilers) for sugar production, resulting in high inefficiencies, waste of resources and increased cost of production. The majority of the sugar mills have a high specific energy consumption of over 1250 MJ/ton of sugarcane (due to high steam-on-cane ratio on the order of 52% and high electricity consumption at the rate of 24 kWh/tons of cane crushed). Moreover, these mills are using low-pressure boilers which typically have efficiencies in the range of 65-75%, as compared to over 90% for modern high-pressure boilers. There is significant potential for upgrading the milling processes in the industry to prevent bagasse, which is generated as a by-product of the cane crushing process, from being burnt inefficiently as fuel in boilers. Approximately 70% of the bagasse produced is currently consumed by the sugar industry itself to meet its energy requirements. Bagasse consumption of sugar mills can be significantly reduced by introducing energy-efficient technologies and adopting best practices and appropriate retrofitting. The saved bagasse can be utilised for power generation with subsequent exportation of the surplus power to the national grid. This project targeted the provinces of Sindh, KPK, and Punjab in Pakistan.

OBJECTIVES

The project aimed to promote sustainable production of sugar through reduction in specific energy consumption of the sugar mill. In addition, it aimed to promote sustainable consumption of bagasse (renewable sugar mill waste) by supporting sugar mills in the adoption of energy efficient technical innovations along with resource efficient technologies through technology standardisation; enabling access to finance; and mobilising relevant public sector authorities for the formulation of a conducive regulatory regime for the promotion of resource and energy efficiency (R&EE) in the sugar sector.

OUTCOMES

- 70 sugar mills owners were supported in adopting R&EE technology through business cases developed by the action plan
- 30 sugar mills were trained to select R&EE technologies based on standardised technical specifications developed by the action plan
- 5 local solution providers were enabled to offer standardised R&EE technology to the sugar industry
- 5 service providers were enabled to provide auditing services to the sugar sector
- Improved availability of capital for R&EE technology through 5 participating financial institutions (FIs) offering concessional loans using the State Bank of Pakistan's R&EE Financing Scheme
- Revised National Energy Conservation Policy
- 10 R&EE projects achieving financial closure/ implementation by sugar mills
- 12% reduction in energy consumption (steam-on-cane ratio reduced from 52% to 46%)
- 10% reduction in water usage
- 600,000 tCO_2/year were avoided



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Collaborating Centre on Sustainable Consumption and Production GGMBH

World Alliance for Thai Decentralised Energy - Thailand (WADE THAI)

Sustainable Production in the Food and Beverage Industry in Sri Lanka

SRI LANKA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 1/2009-12/2012
BUDGET: EUR 1,985,191 (EU Contribution 80%)

CHALLENGE

The food and beverage (F&B) industry is an important sector of the Sri Lankan economy. However, F&B producers, in particular the small and medium-sized enterprises (SMEs), are experiencing increasing difficulties in maintaining their market shares due to the increasing costs of production, largely resulting from the extensive use of materials, energy and water. Reasons for the inefficient and unsustainable production practices include poor awareness of the issues on the part of SMEs and a lack of necessary expertise and resources to address them.

OBJECTIVES

The main objective of the project was to improve the performance of the food and beverage sector in Sri Lanka through promotion of cost-effective production techniques and best practices of sustainable production among SMEs. The activities:

- Integrate environmental sustainability with economic growth and welfare by promoting best practices of SCP among SMEs
- Assist SMEs to comply with international food safety standards and regulations
- Improve the enabling conditions for successful implementation of sustainable policies in Sri Lanka
- Conduct environmental assessments for collection of base-line information for optimisation of resource utilisation and benchmarking
- Form Green Business Clubs for networking among businesses

OUTCOMES

The project aimed to have an impact on the environment by producing more with fewer natural resources. This reduced the consumption of energy, water and raw materials and also resulted in reduction of solid waste, pollutants and gas emissions. The goals that were reached:

- To achieve success stories on SCP from 500 SMEs within 4 years
- To make 150 SMEs comply with international food safety standards
- To build local capacity for effective delivery of services on SCP
- To improve the enabling environment for effective enforcement of national policies and regulations including food safety standards

SWITCH-Asia has largely assisted us to obtain the ISO 22000 Certification which we have now received. Our work has significantly changed. We are more effective and are wasting less.

S. Fernando
Proprietor
New Monis Bakery

SCAN FOR MORE PROJECT INFORMATION

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Industrial Service Bureau, Kurunegala, Sri Lanka
Industrial Technology Institute (ITI), Sri Lanka
IVAM UvA BV, the Netherlands

Switch to Solar

CAMBODIA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 2,560,000 (EU Contribution 89.84%)

CHALLENGE

Despite Cambodia's success in expanding access to the grid, electricity tariffs are among the highest in the region, and businesses in rural areas tend to pay up to twice as much as in urban, grid-connected areas (from USD 0.14 kW/h in the capital compared with up to USD 0.25 kW/h charged for diesel-powered mini-grids). Expensive and unstable electricity access negatively affects micro, small and medium-sized enterprise (MSME) operations by raising their operational costs and incurring financial losses caused by unpredictable power outages. Despite the potential return on investment for shifting to solar, MSMEs have limited access to capital, with 60–90% using informal channels. In light of growing investments in the agri/fishery sector and forecasted expansion of economic activities, commercial diffusion of solar solutions for productive use can curb GHG emissions, while reducing MSMEs operational costs and improving their competitiveness.

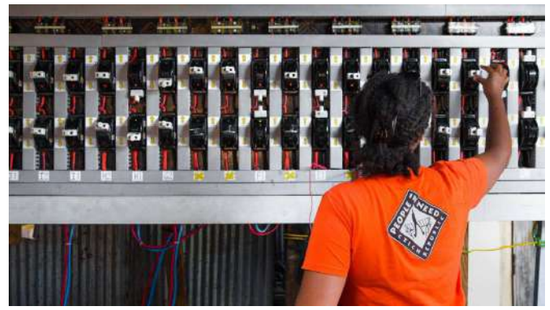
OBJECTIVES

The project will promote sustainable consumption patterns in the Cambodian agriculture/fisheries sector with a focus on agro-processing by encouraging MSMEs to adopt Sustainable Consumption Practices (SCP) through increased access to solar solutions, as well as fostering replication through demonstration and access to finance. Awareness raising on SCP will also be promoted, policy dialogues organised, line ministries involved in SCP demonstrations, and interactions between MSMEs and financial intermediaries will be supported.

The main objective of Switch to Solar is to contribute to sustainable and inclusive economic growth in Cambodia's rural areas by reducing the environmental impact of MSME energy consumption and generating green employment opportunities. More specifically, the project aims to improve consumption patterns and behaviours in rural areas of Cambodia by supporting MSMEs to switch from unsustainable energy to solar energy.

OUTCOMES

- Business models and technology solutions will be designed, demonstrated and promoted to scale up the specific needs of agri/fishery MSMEs
- Local solar technology providers/entrepreneurs strengthen their capacity and expanded their operations to better reach MSMEs, and provide new technologies that bring added value to the agri/fisheries sector
- Targeted MSMEs and consumers improve awareness of and access to a range of solar energy devices, financing options and customer services
- Improved business environment for solar technology solutions and established synergies among main stakeholders



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LEAD PARTNER

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PARTNERS

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Sevea Consulting

Waste to Energy in Rice Milling Sector

CAMBODIA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 1/2012-12/2015
BUDGET: EUR 2,152.546 (EU contribution 89%)

CHALLENGE

In Cambodia paddy is either exported raw or processed through diesel-powered engines because of high electricity prices, limited access to technology and logistics, resulting in high rice prices in the regional markets. Very few rice millers have access to efficient drying and other processing technology. Access to finance is also another major problem for the rice milling sector. There is a potential to convert rice husk into energy by utilising rice husk gasifier technology. However, there exist no standards for gasification equipment, making it difficult for rice mills to decide on the appropriate technology. The price of imported gasifiers is high and many millers do not trust locally manufactured gasifiers. All these factors result in higher processing costs, low quality and low volumes of production.

OBJECTIVES

The overall goal of this project was to contribute to economic prosperity and poverty reduction and mitigate the effect of climate change by enhancing competitiveness of the rice sector through increased uptake of environmentally responsible waste-to-energy (WtE) technologies. The specific objectives of the project were:

- Sustainable production of milled rice through replication of existing WtE rice milling technologies
- Sustainable transformation and consumption of rice by consolidating fragmented guidelines into a single operational industry standard with policy makers, small and medium-sized enterprises (SMEs) and financial sector actors together in a multi-stakeholder platform

OUTCOMES

- The project established a training package through National Polytechnic Institute of Cambodia (NPIC) for rice millers, SMEs, local technology manufacturers as well as importers
- Worked on the supply and demand side by building capacity of 4–5 local SMEs manufacturing rice husk gasifiers (RHGs) and 120 rice millers as potential users: a local manufacturing facility was established to manufacture and develop a business unit, and a local technology provider was assigned to operate the facility
- Collaborated with Nexus and developed a revolving fund of which the objective is to positively impact the agrifood value chain through provision of affordable clean energy, and it was expected that barriers and challenges would be overcome through partnerships with organisations in the agrifood sector
- Collaborated with the Ministry of Industry and Handicraft and Institute of Standards of Cambodia (ISC): ISC produced an occupational health and safety (OHS) Baseline Standard at The Work Place and a final draft for the National Standard of the Safety Manufacturing of RHG

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LEAD PARTNER

SNV Netherlands Development Organisation (SNV)

PARTNERS

Federation of Cambodian Rice Millers Associations (FCRMA)

National Polytechnique Institute of Cambodia (NPIC)

CAPACITY - SCP models and certification tools in Chinese food supply chains

CHINA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 4/2013-3/2016
BUDGET: EUR 1,563,635.76 (EU contribution 80%)

CHALLENGE

In China, the food industry represents a crucial motor for the development of local economies and society. However, several factors are threatening the sustainability of the sector: a) environmental impact (water and energy consumption and emissions of highly organic wastewater); b) globalisation and changes in consumers' preferences contributing to the demise of traditional production systems and small companies; c) ethical, health-protecting and safe working conditions are not always ensured due to insufficient occupational health and safety measures, limited employment for women and young people, obsolete training programmes; and d) consumers' concerns about food quality.

OBJECTIVES

This project aimed to provide small and medium-sized food enterprises (SMEs) in Sichuan, Henan and Qinghai Provinces with the necessary tools to implement sustainable production and consumption (SCP) practices, especially in the meat processing sector.

The specific objectives included the following goals:

- To assist SMEs in adopting best practice in SCP and complying with international food safety regulations and standards, enhancing their integration into global supply chains and markets
- To ensure the replication of successful approaches and methodologies by increasing the capacity of business membership organisations (BMOs) and government agencies
- To promote consumers' informed choices regarding sustainably and responsibly produced foods

OUTCOMES

- Building the capacity of food supply chain actors
- Creating awareness
- Supporting SCP policy implementation
- Design for Sustainability Method (D4S)
- Framework for certification and eco-label schemes
- European-Asian cluster
- Guideline for best manufacturing practices
- Improving the regulatory framework

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

Association of Industries for Electronic and Information Technologies in the Basque Country (GAIA)

PARTNERS

China Agricultural University

China General Chamber of Commerce

China Meat Association

China Society of Commodity Science

Chinese Institute of Food Science and Technology

Institute of Quality Standard and Testing Technology for Agroproducts, Chinese Academy of Agricultural Sciences

Edible Bamboo Shoot - Greening food production and consumption

CHINA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 3/2013-2/2017
BUDGET: EUR 2,482,103 (EU contribution 80%)

CHALLENGE

Currently, overuse of preservatives, water pollution and low resource efficiency are pervasive throughout China's agro-food processing industry, including packaged vegetable, fruit and meat products. In the preserved food industry, these unsustainable practices are rife, especially with bamboo shoot preservation and processing. In the Sichuan province, preservatives are often used in concentrations much higher than the maximum allowable limit regulated by China's national standards. This phenomenon not only frustrates consumers and threatens market share, but also affects the development of sustainable livelihoods, environmental protection and food safety in China.

OBJECTIVES

The project aimed at increasing bamboo shoot markets with economic benefits for 300 bamboo SMEs through a more resource-efficient and less polluting food-processing industry; building a green standardised production value added chain for safe foods in the bamboo industries of Zhejiang and Sichuan Provinces; and replicating successful experiences to 600 other SMEs where the use of polluting preservatives is prevalent.

OUTCOMES

- Conducting market surveys on the quality of preserved bamboo shoots and other preserved food products
- Conducting laboratory tests and analysis of food samples from the market
- Enabling consumers to identify eco-friendly bamboo shoot products through workshop and awareness raising events
- Building the capacity of 300 SMEs to apply green and clean technologies
- Demonstrating eco-friendly bamboo and vegetable farming practices to farmers by applying organic farming and offering certification
- Developing standards for processing green and safe bamboo shoot products

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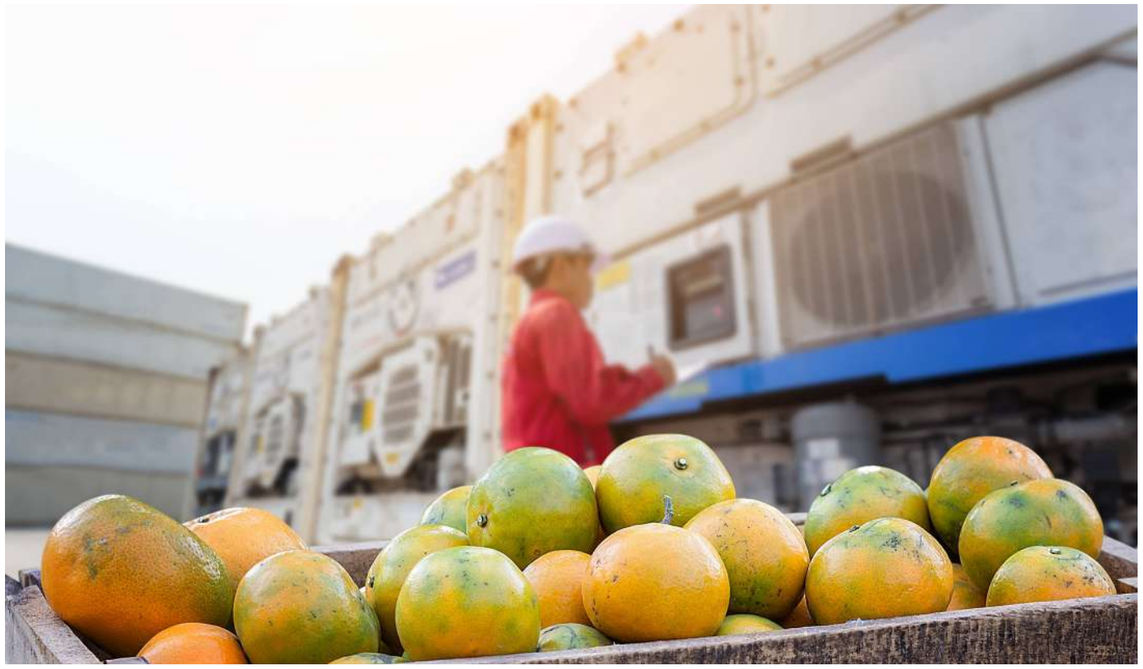
International Federation of Organic Agriculture Movements (IFOAM), Germany

Zhejiang A and F University (ZAFU), China

eECHO: Towards Energy Efficiency in AgriFood Cold Chain Logistic in China

CHINA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 2,050,132.50 (EU contribution 80%)



CHALLENGE

AgriFood Cold Chain Logistic in China has the potential for improvement due to its growing market and its environmental impact. The lack of appropriate cold-chain management facilities entails a loss of perishable food in China: 20–30% for fruit and vegetables, and 12% and 15% for aquatic products and meat, respectively. Logistics costs amount to 18% of GDP in China, compared to 8–12% in the EU. Against this background, the needs and constraints of AgriFood Cold Chain Logistics in targeted regions are: 1) extremely fragmented, poorly organised with little fundamental infrastructure or technology, especially in Tibet and Shandong, where few local companies can provide industry-specific logistics services; 2) predominance of fuel-inefficient fleets, inadequate logistics management and poor driving skills; 3) green logistics solutions to reduce energy use/emissions are not being adopted at scale because of low levels of confidence in their viability, and low levels of capacity, skills and cooperation; and 4) impossibility of investing in technology/fleet upgrades due to the lack of micro, small and medium-sized enterprise (MSME) access to financial capital.

OBJECTIVES

Enhance the resource-efficiency and sustainability of AgriFood Cold Chain Logistic in Tibet, Jingjinji and Shandong by providing MSMEs involved in Cold Chain Logistic with mechanisms to reduce energy use and greenhouse gas (GHG) emissions of logistic services, while ensuring food quality and safety and reducing food wastage. The specific objectives are to:

- Provide MSMEs with technical advisory services on logistics resource efficiency schemes
- Support MSMEs for access to finance management
- Reinforce business service providers' capacities on existing tools/mechanisms to support SCP uptake by MSMEs
- Increase market demand for low-carbon logistic services
- Engage policy makers and financing institutions for an enabled business environment for SCP

WAY FORWARD

- Improving the energy-efficiency of MSME AgriFood Cold Chain Companies and Logistic Services Providers (LSPs) through the use of a Carbon Footprint and GHG Emissions Calculator to identify carbon hotspots in 200 MSMEs, and implementing focused measures to reduce energy consumption and GHG emissions in 100 MSMEs
- Increasing the market pull of low-carbon AgriFood Cold Chain Logistic Services by promoting the certification of LSPs in conformity with recognised schemes to demonstrate their commitment towards low-carbon logistic services
- Stimulating the development of a Green Financing Landscape in the targeted regions by building the capacities of public authorities and financial institutions on the fundamentals of resource efficiency in the Logistics Sector
- Developing replication strategies capable of engaging MSME LSPs and AgriFood in energy-efficiency and sustainability practices and tools for low carbon Cold Chain Logistic Operations in China

Ultimately, the eECHO project will ensure:

- MSMEs are equipped to seize opportunities for green business development
- Conscious/green procurement of logistics services and better-informed consumers
- Clearer and more efficient SCP policies are enacted
- Green financing is made more accessible to MSMEs

SCAN FOR MORE PROJECT INFORMATION

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Supporting Scheme for MSMEs by Building Sustainable Agricultural Fresh Food Production and Logistics in China (SAFE)

CHINA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 3,156,248.12 (EU contribution 80%)

CHALLENGE

Agriculture is very important in China, with an annual production of 2.2 billion tons of agricultural products, the majority of which (70%) is circulated along the food supply chain. Around half of the production is fruits and vegetables. However, the agricultural product supply system cannot keep pace with the fast development of consumption and industrialisation. Due to the low capacities of farmers, a non-standardised and un-regulated cultivating, harvesting, processing and distribution system, high distribution costs, lack of comprehensive standards and few innovative logistics solutions/technologies, the agricultural supply in China is still not well organised, which is hindering Chinese agricultural development. This inefficient and un-standardised situation also creates risks of food safety, food loss and waste, increases various types of environmental pollution (such as through overuse of pesticides and fertilisers) and climate change impact, and places pressure on biodiversity. This project will take European experiences and integrate them via training into a system of Cooperative Agency of Farmers (CAF) composed of micro, small and medium-sized enterprises (MSMEs) and farmers, in order to reduce the use of pesticides, fertilisers and water; and set up a verification system as well as innovative logistics solutions such as fruit and vegetable returnable plastic crates (FVRPC) to be promoted among retailers, CAFs and farmers along with relevant guidelines, standards and policy proposals.

OBJECTIVES

Increase the overall fresh food supply chain and improve resource utilisation and efficiency and food safety from production to distribution in the context of the circular economy, guaranteeing sustainable agriculture production and logistics along the supply chain. The specific objectives aim to:

- Raise the capacities of farmers and Cooperative Agencies of Farmers (CAFs) via 'train the trainers' in more eco-efficient agricultural production, improved processing and packaging, better food safety oversight with a consistent verification system including the relevant guidelines and standards
- Demonstrate and validate excellence, as well as promote the utilisation of innovative logistics solutions – for example, fruit and vegetable returnable plastic crates (FVRPC)
- Provide relevant policy recommendations to guarantee the catalysts and incentives, remove the barriers, and provide the supports for transformation to sustainable agriculture production and logistics

WAY FORWARD

- Increased capacities of farmers and CAFs with higher production skills; less use of fertilisers, pesticides and water; better processing, storage and packaging; better understanding and performance with respect to food safety; and a consistent verification system including farmers' self-checks validated by chain retailers
- Demonstrated excellence of the FVRPC system in cost-savings (life-cycle costs), effect on the environment (life-cycle impact) and logistics efficiency through development of usage guidelines and case analysis
- Promotion and widespread acknowledgement of a food safety verification system for food safety leverage to link farmers and CAFs (MSMEs) with retailers and distributers
- Promotion and widespread acknowledgement and increased usage of the FVRPC system among retailers and distributers
- Systematic standards, specifications, as well as policy proposals on guaranteeing the incentives, removing the barriers, and providing support to system implementation
- Less pollution and waste from agricultural production (fruits and vegetables) and the logistics process, and a more resource-efficient and more food-safety conscious process

SCAN FOR MORE PROJECT INFORMATION

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Local Harvest - Promoting sustainable and equitable consumption and local food systems

INDONESIA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2018-2022
BUDGET: EUR 1,999,951.95 (EU contribution 80%)

CHALLENGE

The current food system in Indonesia often ignores the environmental and social aspects, which causes a negative impact on biodiversity, ecosystem resilience and human well-being. Furthermore, the growth of 'middle income' consumers presents a clear opportunity to promote healthy, local, sustainable food. As Deloitte's 2015 Indonesian consumer report notes, even consumers with very limited incomes are now less price-sensitive and are more motivated by factors like quality, trust and taste. Women in particular are concerned about healthy diets and are willing to pay more for organic produce. In this context, the Indonesian government has adopted regulations to promote more diverse diets (not only rice) and encourage cultivation and consumption of local varieties, respecting the traditional knowledge of local and indigenous communities.

OBJECTIVES

The Project's main objective was to contribute to economic prosperity and poverty reduction in Indonesia by promoting a switch to sustainable consumption and production of green, healthy, fair and local food by consumers and MSMEs.

OUTCOMES

- Developed and disseminated information and educational materials on SCP to relevant stakeholders and the public
- Recruited trendsetters/influencers to deliver messages on SCP in public education and outreach activities
- Retained consumers through off-line marketing & educational events and online media, and including print media
- Built the capacity of producers on standards and the Participatory Guarantee System (PGS)
- Facilitated access to finance for producers and SMEs
- Recruited retailers and industry buyers for market linkages
- Conducted a lifecycle assessment for key products (rice, sago, salt, coffee, forest honey, coconut oil, palm sugar)
- Established and/or strengthened national and local multi-stakeholder platforms on sustainable food consumption and production
- Engaged national and local governments to support sustainable production and consumption initiatives including promotion and recognition of Participatory Guarantee System and standards
- Worked with the Government to ensure increased awareness about and adoption of government standards for eco-products

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Low Carbon Rice

INDONESIA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2022-2024
BUDGET: EUR 2,680,847 (EU contribution 80%)

CHALLENGE

Indonesia is the third largest rice producer globally. Unfortunately, rice producers are among the most vulnerable to the impact of climate change: drought, floods, high temperatures, and rising sea levels are direct threats to their livelihoods. Some of the main challenges for rice producers – or rather rice millers – is their lack of access to financing for improved technology, the lack of awareness and technical knowledge on sustainable rice production methods, the inability to ensure higher prices for sustainable rice despite government control over prices and exports, and underdeveloped business models for new income streams from verified sustainable rice, sale of rice straw, and carbon credits from emissions avoidance/reduction. Other main challenges in terms of climate change include: 20 million ha of rice fields are prone to floods and another 20 million ha are susceptible to drought. Rice cultivation uses 40% of the world's freshwater, using on average 1432 litres of water to produce 1kg of rice in an irrigated lowland production system (the type of system used by most rice farmers in Java, Indonesia). This reduces freshwater availability for human consumption and other uses, contributing to increasing frequency and severity of water conflicts. Common practices for rice cultivation, such as overuse of agrochemicals, further degrades water quality, ecosystem integrity, and human health. This project aims to reduce poverty in Asia by enabling sustainable rice to be produced in Indonesia, which will allow for increased income for rice producers who currently live well below the poverty line.

OBJECTIVES

Reduce the climate impact of rice through the adoption of sustainable rice production (non-farm level). The specific objectives include:

- Enabling conditions and supporting policies for sustainable rice production created through facilitation of policy dialogue
- A more inclusive sustainable rice sector governance model to be developed through multi- stakeholder facilitation
- Increased market access opportunities for sustainable rice through facilitation of private sector engagement
- Increased access to finance opportunities for rice producers through technical assistance and new business models
- A well-managed project that reaches its objectives and is communicated to stakeholders and ensures best use of available resources

WAY FORWARD

- Introduce SMEs to sustainability concepts and benefits
- Provide capacity-building targeted toward the needs of each specific set of stakeholders
- Provide technical tools necessary to help switch rice milling operation to more sustainable methods
- Provide access to new markets and new finance mechanisms to encourage uptake of sustainable methods
- Coordinate all key stakeholders around a common sustainable approach
- Produce a baseline study to determine greenhouse gas (GHG) emissions from rice production in 5 districts; repeat the study at the end of the project
- Facilitate policy dialogue to enable sustainable rice to be recognised and sold
- Develop production policy and guidance on sustainable rice partnership models at district level
- Strengthen the institutional capacity of stakeholders on sustainable rice at the district level
- Develop standards criteria and indicators for the Indonesia Sustainable Rice platform
- Build the capacity of millers to improve quality and reduce loss
- Facilitate access to new markets and new finance mechanisms for rice millers to encourage uptake of sustainable methods
- Develop a sustainable rice business model for rice millers

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Persatuan Pengusaha Penggilingan Padi Dan Beras Indonesia (PERPADI)

MATA KAIL - Promoting SCP in the fish processing sector

INDONESIA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 3/2018-2/2021
BUDGET: EUR 1,999,951.95 (EU contribution 80%)

CHALLENGE

Accounting for 3% of the national GDP, the fishing industry is a major part of the Indonesian agricultural economy. In East Nusa Tenggara Province (NTT) the fishery sector is not only one of the main employment providers but also serves as the basis for consumption patterns of local communities. NTT province is one of the poorest in Indonesia with an unemployment rate of 30%, leaving out mainly young women as part of the workforce. Despite the huge potential as an income source, value-chain enhancement for the raw fish that is caught is lacking. Surveys conducted in the area also indicated the demand for an improvement in quality and fish product diversification. The low quality of fish products as well as the lack of awareness among caregivers on healthy nutrition for their children increases the risks of malnutrition. In the project's three target districts, namely Lembata, Nagekeo and Sikka, MSMEs lack technical capacity knowledge on how to use environmentally friendly technology and practices to develop a proper business plan that would meet the requirements set by the Ministry of Fisheries. Young women are particularly disadvantaged and they are facing unequal employment opportunities as well as problems in accessing funds for self-employment and/or skills training. Moreover, caregivers are lacking knowledge on food safety and quality. This greatly affects their daily consumption decisions, as well as those of their children.

OBJECTIVES

Micro, small and medium-sized enterprises (MSMEs) were empowered to provide environmentally friendly and sustainable processes, products and services in the fisheries sector which will promote employment opportunities for marginalised youth, particularly young women. Knowledge, skills and attitudes of parents and caregivers were also increased, particularly those of young women.

OUTCOMES

Based on the results of a market-demand research and a value-chain analysis, 160 MSMEs with experience in the fish processing sector were identified to be trained in environmentally friendly and sustainable technologies in fish storage, fish preservation and fish processing. A total of 1400 female and 600 male youths aged 15–29 participated in a training programme which included modules on: Life Skills, Technical and Vocational Education Training (TVET), Micro-Enterprise Development (MED), and Access to Financial Services. After completion of the training modules, the project team organised apprenticeships for youths in existing SMEs in order to develop the skills required to start their own businesses (MSMEs).

To promote simple messages for sustainable production and consumption, the plan developed an educational video on sustainable food consumption for families. Furthermore, staff of local health and education institutions were trained to function as multipliers for sustainable consumption as well as food quality and safety, particularly regarding fish and processed-fish products. Covering the supply side of consumption, a total of 600 youths, parents and caregivers were trained as retailers of safe and sustainable fish-based food products. To expand the awareness-raising campaign, the plan closely cooperated with government stakeholders. Local youth organisations produced video clips to be used in government events, schools and communities promoting the consumption of safe and sustainable food products.

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Bengkel APPEK

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Soybean Processing (SCoPE)

INDONESIA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2/2012-1/2015
BUDGET: EUR 900,000 (EU contribution 80%)

CHALLENGE

Indonesia's tofu and tempeh industry, with its vast number of micro, small, and medium-sized enterprises (MSMEs), still uses environmentally damaging production practices. The problems in the processed soy-based food industry are inefficiency, inadequate waste disposal, lack of hygiene, insufficient access to credit, and the low awareness of new technologies. Without business development services, support, or regulations, these enterprises suffer from avoidable inefficiencies that not only reduce profitability and productivity, but also lead to environmental damage.

OBJECTIVES

The project aimed at reducing energy consumption and increasing sustainable growth in urban food processing industries in Indonesia by promoting sustainable production and consumption of tofu and tempeh.

OUTCOMES

- Setting up 6 demonstration factories equipped with technology that met the national food standard regulation for hygiene and consumer safety
- 590 producers purchased new equipment used by 771 producers, with 181 producers renting equipment
- Assistance to 150 producers to obtain loans from financial institutions to acquire new equipment
- Developed training materials for SMEs, including financial literacy, cost benefit analyses, a hygiene manual and a manual on eco-friendly tempeh production
- Facilitated tofu and tempeh producers to gain the 'P-IRT' (household food industry) certificate from the Ministry of Health local offices
- Strengthened the market for hygienic and eco-friendly tofu and tempeh: the model factory of Rumah Tempe Indonesia (RTI), facilitated by the project, worked with an intermediary and distributed fresh tempeh to 78 modern market stores in the Greater Jakarta and Bandung area

I have produced tempeh for over 20 years using a rusty oil drum to boil the soybean and firewood as fuel. I always wanted to produce tempeh in a cleaner manner. This has been made possible through the equipment and knowledge acquired through this project.

Mr. Sudirin
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Eat Greener - Changing food consumption patterns

LAO PDR ● AGRI-FOOD

IMPLEMENTATION PERIOD: 4/2014-12/2015
BUDGET: EUR 1,238,069.18 (EU contribution 89.84%)

CHALLENGE

Lao PDR is a least-developed country (LDC), landlocked and surrounded by several competitive and fast-growing countries. To develop its economy the Lao government policy promotes high external input production models. Green and organic product development has become a priority as well, but few incentives are in place as support. This situation represents a threat in many aspects such as small farmers not being able to compete on the local market, promotion of non-sustainable agriculture, dependency on chemical inputs (with rising costs over time), and air and water pollution.

OBJECTIVES

The project sought to boost national, ASEAN and European consumption of Lao sustainable food products (organic rice, tea, etc.). Increased demand for Lao greener processed food products would increase their market share with a positive effect throughout the value chain for the stakeholders in a sector with high poverty alleviation while using environmental resources efficiently.

OUTCOMES

- Structuring a Lao Organic Products Promotion Platform
- Engaging in consumer awareness campaigns on sustainable food products
- Supporting green certifications, quality control and supply chain management
- Promoting eco-labels on local and international markets
- Linking up SMEs involved in processing, distribution and marketing of green food products with local and international markets
- Facilitating linkages between green value chain SMEs and financial institutions
- Reviewing organic promotion policies and supporting political dialogue

SCAN FOR MORE PROJECT INFORMATION

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SuPER WE Coffee

LAO PDR ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 2,000,000 (EU contribution 90%)

CHALLENGE

About 70% of Lao PDR's population are smallholder farmers with ill-defined land ownership that excludes them from access to collateral either for investment or transition to other livelihoods. In the uplands, most farmers still practice 'slash and burn' as the most convenient way to manage farmland. Unfortunately, this practice degrades the environment (carbon emissions, erosion, depletion of soil fertility and biodiversity, among others). These issues remain a challenge in most countries along the Mekong. In Lao PDR alone, it is estimated that nearly 170,000 ha/year of forestlands are affected. In response, the government has banned the slash and burn practice, though enforcing such a ban has yet to prove its effectiveness. Coffee-growing is increasing, becoming an important commodity for Lao PDR. After Vietnam and Indonesia, the country has become the third largest coffee producer in South-East Asia, making coffee the most valuable agricultural export commodity and fifth largest export earner for the country. Coffee provides employment for 40,000 families in seven coffee producing districts of southern Lao PDR, where large traders and coffee growers ranging from smallholders to commercial plantations are located. The Ministry of Agriculture and Forestry aims to increase coffee production to 1 million tons by 2025. There is a promising market opportunity for the Lao coffee sector, as both local and regional demand for coffee is increasing. The coffee sector is considered strategic and was selected to be sustainably commercialised through green or organic production – one of the approaches put forward in the Lao Coffee Sector Development Strategy 2025 to improve marketability through quality improvement. The current growing areas in Dakcheung are growing warmer (which is leading to a decline in yield and quality) and there are more erratic weather patterns (longer droughts and heavier rainy seasons) as well. This project is intended to drastically reduce the risks related to climate-change as it affects coffee production.

OBJECTIVES

Improve the economic profitability, efficiency and sustainability of intensified coffee production by smallholder farmers. Coffee in Lao PDR is a commodity with high potential for poverty reduction and the climate change resilience of rural groups. The specific objectives include:

- Develop and adopt less polluting and more resource-efficient and circular products
- Enhance the processes and services provided by micro, small and medium-sized enterprises (MSMEs) that will allow their integration to global greener value and supply chains
- Support MSMEs in reducing the environmental impact of their industrial production
- Improve resource efficiency and adopt circular economy practices

WAY FORWARD

- A growing coffee sector, oriented toward quality and respect for the environment
- Sustainable and decent incomes for smallholder producers
- Viable business conditions for the private sector

SCAN FOR MORE PROJECT INFORMATION

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Sekong Provincial Chamber of Commerce and Industry

Switching On the Green Economy (SOGE)

MONGOLIA ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 2,200,000 (EU contribution 80%)

CHALLENGE

Mongolia's national strategy has set the objective to cut greenhouse gas emissions by 22.7% by 2030. The Agri-Food and Beverage Sector has significant environmental impact; therefore adopting resource-efficient practices such as those of the Farm to Fork strategy is key to success in Mongolia's quest to transition to a low-carbon circular economy and accelerate poverty reduction. The project aims to mainstream eco-labelling and green certification, and link with existing digital payment products, which will increase the interest of agri-food and beverage micro, small, and medium-sized enterprises (MSMEs) and retailers to adopt circular economy practices and eco-labelling. MSMEs will be provided with the know-how and tools to introduce sustainable circular economy practices and have access to green financing opportunities, as this will enhance their environmental performance and allow them to effectively contribute to a faster transition to a resource-efficient economy and poverty alleviation.

OBJECTIVES

The project supports agri-food and beverage MSMEs and retailers in adopting circular economy practices through a market-based eco-labelling system, capacity-building, behaviour change and access to green finance. The specific objectives include:

- Contributing to the country's progressive transition to a low-carbon, resource-efficient circular economy
- Accelerating poverty reduction in Mongolia by supporting Mongolian Agri-food and beverage MSMEs and retailers
- Adopting circular economy practices through a market-based eco-labelling system, tailored technical assistance, behaviour change and access to green finance

WAY FORWARD

- Eco-labelling and green certification are to be mainstreamed and linked with existing digital payment products
- Agri-food and beverage MSMEs and retailers will adopt circular economy practices and eco-labelling
- MSMEs are to be provided with the know-how and tools to introduce sustainable circular economy practices and have access to green financing opportunities, which will enhance their environmental performance and allow them to effectively contribute to to a faster transition to a resource-efficient economy and poverty alleviation

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Nurturing Green Aquaculture in Myanmar (NGA-Myanmar)

MYANMAR ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2022-2024
BUDGET: EUR 1,950,341.04 (EU contribution 80%)

CHALLENGE

With Myanmar's expected aquaculture exports of up to USD 1 billion in fiscal year 2020–21, the greening of aquaculture value chains in Myanmar is a priority. Due to unsustainable practices, aquaculture in the target area is degrading the Delta ecosystem by discharging polluted effluent, and it is common for aquaculture enterprises of all sizes to discharge polluted fishpond wastewater into natural water bodies. Due to the unregulated use of fish feed and fertilisers for increasing production, aquaculture activities add nutrients, metabolites, and other wastes to the water column, which creates the potential for water quality deterioration. The negative effects include the creation of eutrophic zones, fluctuations in dissolved oxygen, algal blooms, changes in species composition, and more. Water management is therefore of primary importance in aquaculture. NGA-Myanmar promotes the access and adoption of cleaner production practices and green technologies, including solutions such as micro-circular economies to return nutrients to the ecosystem and the application of both the 'internet of things' (IoT) smart devices and lower-end green tech. This will help the target MSMEs to increase their productivity and to better manage waste from commercial and farm-produced fish feed, fertilisers and chemicals, thereby reducing water pollution and carbon emissions in the Ayeyarwady Delta ecosystem. NGA-Myanmar will incentivise MSMEs' adoption of green aquaculture practices (GrAqP) and facilitate linkages between green tech companies, financial institutions (FIs) and fish producing enterprises to create new opportunities for accessing financing to invest in green solutions in Myanmar's sizeable aquaculture sector.

OBJECTIVES

Improving resource efficiency and reducing environmental degradation in Myanmar's aquaculture industry, while ensuring improved economic returns in the value chain. The specific objectives include:

- Addressing the link between Myanmar's aquaculture sector and high levels of water pollution and other environmental issues
- Supporting aquaculture MSMEs to adopt more resource-efficient and greener production practices

WAY FORWARD

- EUR 100,000 in commercial loans will be channelled to kick-start the adoption of green tech and GrAqP by early adopter champion MSMEs
- Champion aquaculture MSMEs will carry out trials and demonstrate solutions for green aquaculture across different geographic clusters
- Ensure that 75% of target MSMEs in the Yangon-Ayeyarwady aquaculture corridor have the knowledge and awareness to adopt solutions for green aquaculture
- Facilitate MSMEs taking adaptive action to reduce water pollution in response to environmental data generated by the project
- Ensure that viable and bankable business cases for replicating the green aquaculture model across the sector are developed and promoted

SCAN FOR MORE PROJECT INFORMATION

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Village Link

Tha Bar Wa - Catalysing sustainable water and energy management in food and beverage industries

MYANMAR ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2018-2022
BUDGET: EUR 1 800 314.51 (EU contribution 89.38%)

CHALLENGE

Myanmar industries are at a crossroads. While industrial development is critically important for economic growth, if not managed responsibly it could have significant impact on Myanmar's natural environment and undermine the country's long-term growth. Lessons from across Asia show us that, in the long term, cleaner production benefits both people and the industries themselves. So far, systematic barriers have prevented Myanmar's industries from adopting cleaner production practices. For example, of the 24,000 registered food and beverage industries (F&B) in the country, fewer than 5% possess functioning wastewater treatment systems. This is a huge concern and, based on a survey, industrial wastewater pollution is considered as the biggest risk to the freshwater ecosystem in many of Myanmar's states and regions. Similarly, data suggest that achieving energy efficiency of 20–30% for industries is possible even with low-cost measures. In order to address these systematic barriers, different stakeholders must work together to enable and empower industries to adopt cleaner production practices.

OBJECTIVES

Tha Bar Wa project aims to promote cleaner production practices in small and medium-sized enterprises (SMEs) in the F&B industry. It strives to create an enabling environment by providing technical knowledge and skills, facilitating access to finance and advocating for policies that incentivise sustainable water and energy-management practices. The project will organise industries to build their technical understanding and facilitate access to finance and technology to adopt cleaner production practices. The project will also leverage replication tools to ensure tangible, on-the-ground, positive improvements of the natural environment.

OUTCOMES

- Produce two policies and two sector-wide guidelines for cleaner production practices
- 200 SMEs of the F&B sector and associated business intermediaries will gain knowledge and the capacity to implement cleaner production technology
- 30 SMEs will implement cleaner production measures and processes and benefit from a 20% improvement in water and energy consumption and discharge performance
- A pool of 10 local consultants will be trained so as to provide high quality services to SMEs on implementing cleaner technologies
- 3 financial institutions will enhance their capacity for providing SME loans for green technology investments
- 60 bank officers will trained and adequately equipped with theoretical and practical skills on SME lending
- The cleaner production model will be replicated in other regions, and lessons will be shared across South-East Asia

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Mindoro Strait Sustainable and Equitable Tuna for Bankability (MS-SETB)

PHILIPPINES ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 1,562,500 (EU contribution 80%)

CHALLENGE

The Philippines is one of the largest fish producers in the world. In 2015, total fish production was estimated at 4.65 million metric tonnes, and the fisheries sector, employing an estimated 1.6 million people nationwide, contributed 1.5% of Gross Domestic Product, at almost USD 4.3 billion. Tuna is a top export commodity of the Philippines, earning approximately USD 2.31 million a year. Despite the demand for tuna, and the prevalence of fisherfolk and micro, small, and medium-sized enterprises (MSMEs) engaged in tuna fishing livelihoods, the fisheries sector is one of the poorest in the country, with a poverty incidence rate of 21.6%. The MSME trade and exporting companies in three different industry associations face a number of challenges:

1. Competing with much larger companies, the MSMEs lack the relevant certification and food-safety standards compliance to be able to compete effectively
2. A lack of suitable post-harvest processing techniques and equipment means industry associations are not abl to sell quality A-grade seafood, and again are unable to compete effectively
3. Exacerbating these problems is climate change that is tangibly altering the distribution stocks and the resilience of ecosystems, and also destroying important habitats for key species
4. The COVID-19 pandemic has also taken its toll on fisherfolk who resorted to quick cash flow sales in local markets or urban areas as result of continuous lockdowns, since small-scale handline fisherfolk could not sell their tuna to the usual export traders
5. COVID-19 has also resulted in reverse migration, putting more pressure on in-shore fisheries for subsistence, increasing the risk of unsustainable practices
6. While the role of women in small-scale fisheries is crucial and dominates particularly in the post-harvest domain, their work is devalued and 'invisible'

OBJECTIVES

Support the development of a green, low-carbon, resource-efficient economy to advance small-scale fishers and MSME trade and export companies in Occidental Mindoro. The specific objectives include:

- Increasing capacity to conduct resource-efficient fishing and aquaculture operations that meet international standards
- Reducing post-harvest losses and equipping the target groups to achieve green trade certification standards
- Enabling certification and compliance with international standards for yellowfin tuna
- Supporting sustainable supply chain management for medium-sized trade and exporting companies and small-scale handline tuna fisherfolk
- Supporting women working on post-harvest processing and ancillary activities
- Developing livelihood systems that address the need for resilience and adaptability, and attracting innovative financing

WAY FORWARD

- New and innovative approaches for reduction on post-harvest losses, quality improvement, and resource-efficient fisheries are developed
- The livelihoods and supply chains of MSMEs and small-scale fishers in Occidental Mindoro are diversified and become more resilient
- Financing mechanisms for sustainably-led investments in the small-scale fisheries and aquaculture industries in Occidental Mindoro are established in a portfolio of bankable projects
- Best practices and learned experiences in achieving sustainable fisheries and management in Occidental Mindoro are transferred to existing local and regional knowledge platforms

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Consumers and Retailers Driving Sustainable Food Market in Thailand

THAILAND ● AGRI-FOOD

IMPLEMENTATION PERIOD: 1/2018-12/2021
BUDGET: EUR 2,000,000 (EU contribution 80%)

CHALLENGE

The government of Thailand has incorporated sustainable consumption and production into its 5-year national plans and put in place rules and regulations on green industry and green procurement. Industrial standards, awards and green labels to promote responsible consumption and production have also been set up. However, the investment cost of environmentally friendly manufacturing to produce 'green' goods is still high in Thailand, calling for more tax and credit incentives to make them affordable to smaller businesses and ordinary people. Despite strict laws and policies to regulate the industries and protect consumers, implementation remains a big challenge. Although more consumers are opting for organic produce, the heavy use of toxic farm chemicals is still widespread due to aggressive promotion from agro-giants, outdated laws and conflicting interests among different state agencies.

OBJECTIVES

- An overall food market transformation in Thailand that requires environmentally sustainable and socially ethical production and food safety as standards of production
- Urban consumers and retailers in Thailand driving the development of a food market system that increases sustainable food consumption, particularly in the seafood, banana and chicken chains

OUTCOMES

- Women and men urban consumers in the target cities and online platforms are increasingly demanding specific food products that meet sustainable and equitable sourcing standards from retailers
- Retailers have introduced more sustainable and equitable sourcing standards in the target food supply chains
- MSMEs of food producers and suppliers have strengthened their production capacities and sustainable sourcing for supplying retailers and traditional wet markets
- Existing and new multi-stakeholder platforms (MSPs) have been strengthened to influence large agribusiness practices and government policies for SCP in target food supply chains

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Biomass Gasification Technology (BEST)

VIETNAM ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 3,041,814 (EU contribution 80%)

CHALLENGE

Huge agricultural residue resources in Vietnam are being dumped and burned as wastes, causing environmental pollution. According to the statistics of the Ministry of Industry and Trade (MOIT) in 2017, agricultural production in Vietnam annually generates 79 million tonnes of agricultural residues, mainly rice husks and straw, corn plants, corn cobs, cassava plants, coconut and sugarcane fibres. Residues of wood processing factories are around 5.3 million tonnes.

For agri-micro and small enterprises (MSEs), switching to a cleaner and cheaper source of energy has become an urgent need. A proper biomass-based energy technology which could transform agricultural residues into fuel for heat generation will not only meet the need, but also contribute to reducing rural pollution. Although several biomass energy equipment models have been introduced to the Vietnam market, none of them have been widely adopted by businesses. Even though the government has policies to encourage investments in biomass energy, they have not achieved strong buy-in from investors. The root cause of the situation is lack of biomass technology design and comprehensive solutions that are tailored to the scattered dispersal of biomass sources in Vietnam and to the financial and technical capacity of local enterprises.

OBJECTIVES

The project aims to promote sustainable production and sustainable energy consumption among agri-food processing MSEs and also to contribute to waste management in Vietnam, by scaling up the deployment of environmentally friendly and low-cost volumetric continuous biomass gasification (VCBG) technology. The VCBG technology has been piloted with success in Thai Nguyen province since 2017 by Oxfam in Vietnam and the Centre for Creativity and Sustainability (CCS). Beyond merely introducing the technology to local agri-MSEs, the project will develop the whole ecosystem for VCBG deployment among thousands of agri-MSEs in the four Northwest mountainous provinces of Thai Nguyen, Son La, Tuyen Quang and Yen Bai, including the promotion of low-cost and high-quality VCBG to thousands of agri-MSEs, development of local mechanical and biomass service systems, and advocacy for further replication to other industries, other regions in Vietnam and through national policies and mechanisms.

WAY FORWARD

- Agri-MSEs in four provinces (Thai Nguyen, Tuyen Quang, Son La and Yen Bai) achieve improved product quality and efficient energy consumption and contribute to managing rural waste
- Increased availability of mechanical and biomass supply services at the local level, and access to finance not only for agri-MSEs to deploy VCBG consistently but also for mechanical and biomass supply service providers
- Buy in and support from relevant government agencies for further adoption and replication of VCBG in agri-food processing and other industries

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Circular Economy Cocoa: From Bean to Bar

VIETNAM ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2022-2026
BUDGET: EUR 1,939,438 (EU contribution 80%)

CHALLENGE

Circular economy is increasingly recognised as a way of reducing the environmental footprint of production and consumption, attracting increasing attention from consumers, businesses and policymakers around the world. While the approach is an emerging topic of discussion for government and business in Vietnam, awareness remains low and has not yet triggered a systemic transition from a conventional linear economy to a more sustainable circular economy. The cocoa sector was selected because it is large and prominent enough to convincingly prove these concepts and achieve meaningful results, but small and cohesive enough to be a pioneering case. Like other agri-food subsectors, challenges exist at the production level (soil degradation and erosion, water pollution, poor product quality), in processing (use of fossil energy, water use, generation of waste), and later in the lifecycle of the products (harmful packaging choices). All of these are driven by a business and policy environment that does not yet recognise or prioritise circular economy models.

Cocoa production has the potential to do no environment harm if properly managed, but best practices are not widespread. Regenerative and circular economy approaches are needed to decouple the growth of Vietnam's cocoa subsector from increases in carbon emissions, soil erosion and landslides, water pollution, use of hazardous chemicals and solid waste from environmentally unfriendly packaging. Cocoa enterprises are still not aware of the circular economy, but they are willing to make the necessary changes if shown how it can be done productively and profitably. It is therefore essential to have successful circular economy case studies that convincingly demonstrate how regenerative agriculture and the circular economy can be implemented across product lifecycles. A well-documented example, backed by policy, economic and technical research, is a precondition for the adoption of the circular economy by businesses, financial institutions, and policymakers.

OBJECTIVES

To develop and adopt less polluting and more resource-efficient and circular products, processes, and services by micro, small, and medium-sized enterprises (MSMEs) allowing their integration to global greener value and supply chains. The proposed action will deal with numerous issues facing the Vietnamese cocoa and the wider agri-food sector. These include phasing out the use of hazardous chemicals in production, reducing the resource intensiveness of production and processing, introducing environmentally friendly bio-based packaging, and recirculating cocoa waste products as energy sources and raw material for agricultural inputs and packaging. Digitalisation of traceability will also contribute to the growth of efficient, environmentally sound cocoa supply chains. The specific objectives include:

- Transitioning the cocoa/chocolate subsector to regenerative and circular economy approaches at key points of the product lifecycle
- Leveraging change in the cocoa subsector to trigger the uptake of circular economy approaches in the wider agri-food sector
- Proving the feasibility of closed-loop and circular production, providing an example for others to follow, along with supportive and informative policies.

WAY FORWARD

- Transitioning the cocoa and chocolate subsector to a regenerative and circular economy business model will trigger uptake of the circular economy in the wider agri-food sector and policies of Vietnam, leading to equitable economic growth decoupled from harmful environmental impacts
- Establishing circular economy business models for companies early in the product life cycle will create the ecosystem the cocoa sector needs to reach its growth targets while decoupling itself from the negative environmental consequences of conventional cocoa production
- Enabling efficient energy and water consumption, bio-based packaging, and an environmental management system for chocolate processors via digitalised traceability systems will reduce the environmental impact of cocoa processing and demonstrate a circular economy later in the product life cycle
- Implementing activities will incentivise the expansion of circular economy models in the wider Vietnamese agri-food sector; these activities include communicating data and case studies, supporting policies, and investment business model for the agri-food sector

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Community Development Centre (CDC)

Establishing a Sustainable Pangasius Supply Chain in Vietnam (SUPA)

VIETNAM ● AGRI-FOOD

IMPLEMENTATION PERIOD: 4/2013-3/2017
BUDGET: EUR 2,372,437 (EU contribution 80%)

CHALLENGE

The significance of Vietnam's aquaculture sector for the country cannot be overestimated. The sector supplies over 90% of world pangasius exports and hundreds of thousands of Vietnamese depend on this fish for food. Due to the rapid growth of pangasius farming, there are huge concerns about the environmental and social repercussions of these farms and their processing facilities. Uneaten feed, unused medication and untreated chemicals often escape from the ponds and enter the rivers. The producers' general lack of knowledge results in poor-quality products, leading processors and producers to compete on price rather than on quality or added value.

OBJECTIVES

The project aimed to ensure that at least 70% of the targeted middle-sized to large pangasius producing and processing SMEs, and 30% of the feed producers, hatcheries and small independent production SMEs would be actively engaged in resource efficiency and cleaner production (RECP); and at least 50% of targeted processing SMEs would be providing sustainable products with Aquaculture Stewardship Council (ASC) standard quality to the EU and other markets.

OUTCOMES

- The model farm was defined and training centres set up
- Potential buyers were identified and awareness raising was promoted in the EU
- Capacity-building training on market requirements was conducted
- Study tours to model farms and leading companies were conducted
- Capacity was built for Vietnam national experts on international legislation regarding seafood markets
- Advisory support for developing 'bankable' investment proposals was provided
- One-on-one support for ASC certification was provided
- Synergies between feed producers and producing and processing SMEs were established

Through SUPA project assistance, we have achieved cost savings in our production, specifically, a reduction in energy consumption by 7–8% per year, which is equivalent to VND 1 billion (EUR 40,000). We also reduced water consumption by 5–6%, which is equivalent to VND 50 million (EUR 2,000) per year.

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Promotion of supply and demand of Eco-Fair Agri-food processing products in Vietnam

VIETNAM ● AGRI-FOOD

IMPLEMENTATION PERIOD: 2020-2023
BUDGET: EUR 11,838,256.24 (EU Contribution: 80%)

CHALLENGE

In many countries, eco-agriculture and Fair Trade are emerging as promising agricultural development strategies, particularly in areas whose socioeconomic development lags behind and that are not within the Mekong corridor. The newly signed EVFTA (European Union Vietnam Free Trade Agreement) between the EU and Vietnam has a specific clause related to promoting eco-fair products; nonetheless many challenges remain. The barriers to a certified eco-fair supply chain in agri-food processing in Vietnam are threefold: first, the capacity of micro, small and medium-sized enterprises (MSMEs) on fair trade and eco-development are still limited. Most MSMEs have no strategic plan for sustainable development, and there is limited capacity for producing and marketing eco-fair products, as well as accessing green technology, sustainable design, and green financing. Second, the awareness of MSMEs, consumer groups, civil society stakeholders, and the public sector is still limited. Third, there is no existing cost-effective service provider to help provide consumers with access to eco-fair agri-food processing products from Vietnam.

OBJECTIVES

The project addresses sustainable supply chain management with a focus on green trade and facilitating the integration of MSMEs into supply chains. It will support sustainable consumption and consumer awareness on SCP, and will build the capacity of eco-fair MSMEs, creating an enabling environment to strengthen the implementation of national SCP policies. More specifically, the project will:

- Enhance the capacity of MSMEs to implement sustainable production and product innovation practices in the agri-food supply chain
- Raise awareness within a large consumer group about sustainable consumption behaviours and build a network to promote the eco-fair label
- Use a sustainable E-platform to build an eco-fair retailer network
- Enhance the capacity of eco-fair MSMEs to access financing
- Support policy development on eco-fair production and consumption in Asia

OUTCOMES

- Facilitated effective outreach to a large number of MSMEs
- Enhanced the readiness of sustainable production on the supply chain through a strategic transition toward circular economy, by increasing the production capacity and marketing of sustainable consumption opportunities, specifically eco-fair label products
- Promoted effective outreach to large consumer groups (500,000) by raising awareness among consumers on eco-fair labels and the benefits of adopting sustainable consumption practices
- Established a sustainable E-platform and an eco-fair retailer network to promote and replicate eco-fair practices among producer MSMEs, consumers and civil society organisations in Vietnam, as well as in trade associations and other export organisations to reach EU importers
- Increased the capacity of eco-fair MSMEs to improve their access to finance
- Created an enabling environment to strengthen the implementation of national eco-fair policies in Vietnam and to assist stakeholders in harvesting the benefits of eco-fair consumption and production

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Funzilife Oy Ltd (Funzi)

Vietnam Cleaner Production Centre Co.Ltd (VNCPC)

Sustainable and Equitable Shrimp Production and Value Chain Development in Vietnam (SusV)

VIETNAM ● AGRI-FOOD

IMPLEMENTATION PERIOD: 3/2016-3/2020
BUDGET: EUR 2,006,198.84 (EU contribution 80%)

CHALLENGE

Shrimp is an important source of livelihood to more than one million people in Vietnam, of whom over 80% are small-scale shrimp producers. The project focused mainly on three Mekong Delta provinces (Ca Mau, Soc Trang and Bac Lieu), which together contribute to 93% of shrimp farming area and 84.4% of Vietnam's shrimp production. The development of aquaculture in these provinces is crucial to the development of Vietnam shrimp industry as well as the development of policies at the national level.

OBJECTIVES

The project aimed to reduce the negative impact on biodiversity and water sources. In addition, it aimed to increase resource efficiency (water, energy and feed), ensure sustainable livelihoods and improve the economic condition of SME shrimp processors and small scale shrimp producers, especially women. At the same time, through responsible standards compliance, the project sought to improve labour and working conditions, especially for women workers.

OUTCOMES

- 600 shrimp producers (from 30 collaborative producer groups) complied with the p-SIA and B-EIA standards of ASC; 50% of these producers complied with VietGAP (Vietnam Good Aquaculture Practice) and 30 SME shrimp processors adopted CSR norms
- 600 shrimp producers and 30 processors improved management practices and/or technologies leading to more efficient production and a better utilisation of available natural resources
- 200 shrimp producers/processors obtained access to loans facilitated by Government policies or other sources to promote sustainable aquaculture development
- 4 small-scale shrimp producer groups were strengthened and have enhanced responsible production practices with equitable benefits sharing
- The Government's policy on the value-chain development model was developed in a participatory manner and implemented effectively in the shrimp value chain in 3 provinces

Vietnam SusV has substantially contributed to the transformation of shrimp aquaculture toward a more sustainable and responsible industry. Almost 2500 small-scale producers and 30 processing enterprises have adjusted their business practices to become more environmentally friendly, socially responsible and resource efficient.

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International Collaborating Centre for Aquaculture and Fisheries Sustainability (ICAFIS)

TEXTILES AND LEATHER

RUTSIS - Reviving Uzbekistan's and Tajikistan's Sustainable Ikat and Silk

TAJIKISTAN, UZBEKISTAN

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2020-2022
BUDGET: EUR 2,012,796.40 (EU contribution: 80%)

CHALLENGE

Tajikistan and Uzbekistan are linked by a long and common history, culture and religion. Since ancient times, the silk production and processing traditions of Uzbekistan and Tajikistan have shaped the Central Asian region, making the two countries an integral part of the Great Silk Road. Silk has remained the trademark of many contemporary home-grown designers and fashion brands in Uzbekistan, which uses Central Asian Ikat, a unique textile which is patterned by dyeing the threads before weaving. Having been separated from Western markets for over 200 years, high-end fashion houses have started showing increasing interest in the unique, high-quality designs and colour combinations of Ikat from Central Asia. While Uzbekistan inherited a few silk production sites, Tajik sericulture has almost vanished after the turmoil following the dissolution of the USSR and the long-lasting civil war. Due to the continuous emigration and destruction of traditional textile production, much of the knowledge about traditional sericulture and Ikat textiles was largely lost. In addition, industrial textile production processes, especially dyeing methods, have replaced traditional textile production in Tajikistan and Uzbekistan, thus contributing to pollution of the environment and community water sources.

OBJECTIVES

- Promotion of sustainable growth along the Great Silk Road in Central Asia
- Contributing to the revival and upgrading of the local silk and Ikat value chains
- Integration of sustainable production approaches in an ethically and environmentally friendly way
- Strengthening cross-cultural dialogue between Uzbek and Tajik societies
- Creation of new education and employment opportunities, safeguarding ancient silk and Ikat production techniques, and developing innovative sustainable design
- Enhancing recognition of Central Asian sustainable silk and Ikat products

OUTCOMES

- Sustainable production issues and improvement potentials along the Ikat value chain were identified, and a regional strategy is developed
- Local and cross-regional relationships for building new supply chains established
- Supportive training and advisory capacities of local educational/vocational institutions were enhanced: tailored training modules launched
- Ikat products aligned with sustainable performance criteria
- Policy dialogue was initiated, and product labelling was introduced
- Awareness was raised among local and international buyers of Ikat on sustainable consumption and production of Uzbek/Tajik silk/Ikat products

SCAN FOR MORE PROJECT INFORMATION

Central Asian Ikat

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NGO Tourism Development Center, Republic of Tajikistan

Burg Giebichenstein University of Art and Design Halle, Germany

ECOLEBAN - Environmental management systems and eco-labelling in SMEs of the leather sector in Bangladesh

BANGLADESH ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 3/2014-3/2018
BUDGET: EUR 2,089,982 (EU contribution: 90%)

CHALLENGE

The leather industry is a fast-growing and vital component of the Bangladesh economy. However, the leather sector is very polluting, with harmful effects on both the environment and human health. A deep analysis to identify the needs and constraints of the sector showed that the core of the problem is that the leather industry in the country is dominated by small and medium-sized enterprises (SMEs) with a critical lack of expertise or the capacity to respond to environmental problems.

OBJECTIVES

The project promoted resource efficiency and sustainability within the leather sector in Bangladesh throughout the entire value chain of leather related products such as footwear and other leather goods.

OUTCOMES

- Implementing a Life Cycle Assessment (LCA) to identify the key hotspots along the leather goods value chain and a Best SCP Practices Programme in 20 leather-sector SMEs
- Certification of 20 leather sector SMEs in Environmental Management Systems (ISO 14001)
- Creating a panel of 100 national experts in SCP practices and certification models to assure the continuation of the project outcomes
- Designing and developing an Eco-label Scheme for the leather footwear sector
- Creating market demand for eco-labelled leather footwear among consumers and intermediate agents
- Training 50 policy-makers in sustainability practices
- Facilitation of the access to green financing for SMEs by engaging financial institutions
- Disseminating the outcomes through the elaboration and implementation of a Communication and Visibility Plan

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Bangladesh Tanners Association (BTA)

Leathergoods And Footwear Manufacturers & Exporters Association of Bangladesh (LFMEAB)

Re-Tie Bangladesh - Reduction of environmental threats and increase of exportability of Bangladeshi leather products

BANGLADESH ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2/2009-11/2012
BUDGET: EUR 2,071,001 (EU contribution: 90%)

CHALLENGE

Tanneries in Bangladesh trigger three categories of waste: wastewater, solid waste and gas emissions, and in addition the overuse of resources is completely unacceptable. Water consumption is unnecessarily high due to free access and limited resource control. Chemicals, energy and other inputs are also being consumed at excessive levels due to poor control mechanisms and lack of awareness. The leather industry in Bangladesh is situated in the midst of a densely populated residential area and where the inhabitants are unaware that it is one of the worst-polluted areas in the world. The incentive for small and medium-sized enterprises (SMEs) in this area to clean up their production practices lies in the improved exportability and competitiveness of products that would result when input levels have been reduced.

OBJECTIVES

The project aimed to promote more economically and ecologically sound practices among SMEs in the leather industry and to increase the use of more sustainable technologies. As such, it addressed employment and income opportunities through:

- More efficient use of resources, thus reducing waste and emissions
- Better exportability by adhering to international standards such as occupational health and safety (OH&S), corporate social responsibility (CSR), etc.
- Support for a policy framework promoting sustainable consumption and production (SCP)
- Strengthened institutional structures and outreach of SCP to SMEs

OUTCOMES

- Training for 15 national experts on cleaner production in the areas of water, energy, chemicals and OH&S
- Support for the application of cleaner production practises facilitated by the trained local experts and supervised by international experts like: hair-saving unhairing, solar water heating full-scale chrome management, strict water management systems, float recycling, segregation of streams (especially chrome bearing), segregation of solid waste, avoidance and monitoring of banned/hazardous substances, desalting of wet salted hides and skins, non-ammonium salt deliming, low-energy drying, water-based finishing etc.
- Business Membership Organisations (BMOs) in the leather sector are now capable of promoting SCP matters at policy and membership level
- Technical assistance was provided to influence the control-point (CP) relevant physical infrastructure of the new industrial site for the leather industry in Savar, and exports were promoted through business match-making, participation at trade fairs, development of an Export Promotion Guide and producing a CSR Guide

The government is establishing a new tannery estate outside of Dhaka. Cleaner production practices implemented through this project will definitely be in our construction plans before moving to the new estate.

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Berufliche Fortbildungszentren der Bayerischen Wirtschaft (bfz), Germany

Dhaka Chamber of Commerce and Industry (DCCI)

United Nations Industrial Development Organization (UNIDO), Austria

ECO-JUTE - An eco-friendly alternative for a sustainable future

BANGLADESH, INDIA

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 3/2010-2/2014
BUDGET: EUR 920,569 (EU contribution: 80%)

CHALLENGE

Jute is vital to the economies of India and Bangladesh. It is biodegradable, absorbs CO_2 and releases O_2 and N_2 into the atmosphere. However, during jute cultivation, jute plants are soaked in water for several days (a process called retting) in order to separate the fibres. This retting process destroys the quality of the water and affects fish farming. Additionally, during production of jute diversified products (JDPs), producers use dyes and chemicals that can cause negative environmental effects. Addressing these challenges and encouraging production and consumption of eco-friendly JDPs will help to develop the jute industry in Bangladesh and India, to alleviate poverty and to ensure environmental sustainability.

OBJECTIVES

The project aimed at reducing poverty and promoting economic prosperity by encouraging a switch to more sustainable production and consumption of eco-friendly jute diversified products (JDPs) in Bangladesh and West Bengal, India. Specific objectives aimed to:

- Support 500 JDP-producing SMEs in Bangladesh and West Bengal, India
- Promote eco-friendly production processes (reducing water and energy consumption, chemical residues and greenhouse gases emissions)
- Increase the use of environmentally friendly dyes
- Increase the demand for and sales of eco-friendly JDPs from Bangladesh and India (in Bangladesh, India and Europe)
- Increase sales for the target SMEs by 20%
- Receive orders from at least 50 wholesalers for eco-friendly JDPs

OUTCOMES

- Addressing supply and demand of JDPs
- Advocating policy changes
- Establishing service capacity
- Enabling more business linkages
- Setting up a JDP SME
- Associating policy uptake with these actions

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PARTNERS

Margdarshak Development Services

Training, Assistance and Rural Advancement Non-Government Organization (TARANGO)

Effective waste management and sustainable development of the MSME tanning companies in the Kolkata Leather Cluster

INDIA

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2020-2023
BUDGET: EUR 3,124,992 (EU contribution: 80%)

CHALLENGE

Kolkata Leather Cluster is one of the largest leather clusters in India, home to around 350 tanneries and more than 4000 leather goods manufacturing units (mostly micro, small and medium-sized enterprises, or MSMEs). The cluster produces leather goods and accessories such as shoes, gloves, wallets and belts for the domestic and EU markets, providing direct employment to around 60,000 workers. The West Bengal government has ambitious plans to expand the Kolkata leather complex and facilitate the MSME business growth to further explore the European market. Despite the sector's huge growth potential, it is plagued with various environmental and public health issues due to lack of clean and green technologies. In addition to effluent water, the tanning industry, which falls into the red category (critically polluting) of the Central Pollution Control Board, Government of India also produces much high-polluting solid waste such as fleshings, off-cuts and sludge, which currently gets dumped at municipal landfill garbage sites, thus provoking a public outcry. The health and safety conditions of the workers in the tanneries are also not optimal, due to lack of awareness. Skin and respiratory problems are therefore common among workers in the tanning industry. Keeping these challenges at the forefront, the project aims to reduce the environmental footprint of the Bantala tanneries and improve the health and safety conditions for the workers as well as for public health.

OBJECTIVES

Improved waste management in the Kolkata tanning sector requires a two-pronged approach: (a) reduction of the effluent and solid waste levels to reduce the environmental burden, waste management menace and improve workers' conditions and (b) recycling or re-use of waste into useful by-products to generate additional livelihood opportunities. This implies the adoption by tanneries of new green technologies and tanning processes, and improved waste management practices. Thus, the key focus areas of the project are:

- Reduction in effluent load by adoption of green tanning processes and technologies by the tanneries in the Bantala Leather Complex
- Solving the solid waste problem through improved recycling methods
- Establishment of an effective public-private platform for improved waste management at cluster level
- Adoption of waste management and an occupational health and safety (OHS) framework

The project will enable the tanneries to meet increasingly high international quality and environmental standards and thus enhance the Indian leather industry's competitiveness as well as improve working conditions and the health of surrounding communities. More specifically it will:

- Introduce and promote sustainable production practices in the highly polluting tanning sector through technology transfer, provide capacity building of the tannery management and workers on better tanning practices and facilitate access to technical and financial services
- Create an enabling environment for efficient and effective public-private collaboration by establishing a round table/platform comprising representatives from the West Bengal Department of MSMEs, Calcutta Leather Cluster Tanneries Association, financial institutions, and leather manufacturing organisations, among others
- The practices established will be promoted to allow them to become more accessible for SMEs in other major Indian leather clusters in Tamil Nadu, Uttar Pradesh and Punjab as well

WAY FORWARD

- More sustainable production practices, improved technical capacities and access to finance
- Enhanced competitiveness through compliance with international market standards and reduction of production costs
- Better effluent and solid waste management leading to opportunities for further growth
- For employees: Reduced health and safety hazards
- Reduced public health risks and environmental hazards

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Going Green - Promoting economic competitiveness of the Indian textile industry and artisans' well-being

INDIA

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 1/2014-12/2017
BUDGET: EUR 1,197,779 (EU contribution: 80%)

CHALLENGE

The textile sector is critical to the Indian economy: it contributes 14% to industrial production, 4% to GDP, and 17% to export earnings. However, this sector also creates a high negative environmental impact such as degradation and depletion of natural resources and the use of toxic chemicals/ processes leading to pollution and health problems. There is also a lack of support, resources and incentives in the textile industry, especially for the small and medium-sized enterprises (SMEs), to implement eco-friendly solutions to address these issues.

OBJECTIVES

The project promoted the economic competitiveness of the Indian textile industry and the well-being of textile artisans. The project aimed to build sustainable businesses of textile artisans and improve their working conditions through efficient eco-friendly processes, access to resources and increased demand for 'green' products.

OUTCOMES

- Organised 250 SMEs and 12,500 artisans producing textile products into at least 150 artisan-based collectives (30% women members) and 6 federations (one per district)
- Provided trainings for SMEs and advocating policy changes to encourage the uptake of eco-friendly practices in textile clusters
- Created collectives to empower artisans and SMEs
- Identified potential as well as existing schemes for finance and services to build efficient eco-friendly businesses
- Created consumer awareness and demand among buyers and consumers in India and abroad, building on the momentum already created by the previous SWITCH-ASIA project, SUSTEX (Sustainable Textiles for Sustainable Development in India)
- Promoting sustainable products certified under the 'Craftmark Green' label

This project has opened up new opportunities for tribal and rural women of Salumber in Udaipur by creating new businesses out of textile waste. We have created 700 new jobs and are supported by government officials and large businesses to build five new training centres for women in this area.

Shekhar Kumar
Director of Projects
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All India Artisans and Craftworkers Welfare Association (AIACA)

Promoting circularity in the Tamil Nadu leather clusters for solid waste management

INDIA

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 2,800,323 (EU contribution: 80%)

CHALLENGE

Leather tanning is one of the most polluting chemical manufacturing processes. Although the Tamil Nadu clusters use common effluent treatment plants (CETP), high waste levels (organic and chemical) are a serious sustainability challenge to the industry. Solid waste is currently dumped at secured landfill sites. However, these are now filled to above capacity and pose serious environmental pollution and public health hazards.

The main target group of the action are 500 MSME tanning companies in Tamil Nadu, employing approximately 40,000 workers. Noncompliance with international environmental standards and more stringent pollution controls endangers the business future of these small tanners. Without significant improvements to tanning practices and waste management, many of them risk loss of competitiveness and forced closure.

A circular approach is needed that is economically and environmentally viable. This requires innovation and the adoption of profitable and scalable circular leather tanning and waste treatment practices. Concepts like 'waste to value' and its corresponding technologies, operational capacities, and equipment developed in Europe and in India for solid waste management need to be adapted to Tamil Nadu Leather clusters. Currently, micro, small and medium-sized enterprises (MSMEs) lack technical and market awareness on waste management, and have limited access to funds for the required changes. Limited collaboration and knowledge-sharing among clusters and companies in India is further slowing down wide-scale adoption and the creation of synergies.

OBJECTIVES

SME tanneries in Tamil Nadu are being supported by facilitating adoption of circular practices, thereby meeting international sustainability standards, promoting the production of commercially attractive 'waste to value' products, and enhancing their access to finance and markets.

The overall objective of the project is to establish pilot demonstrations on circular market-based models for processing solid waste generated from leather tanning and finishing practices in the Tamil Nadu leather clusters. These pilots hold the potential to be scaled up in the long run. The project thereby enables the reduction of amount of solid waste that ends up in the open spaces/ landfills, improves the public health situation for workers and people living near leather clusters in Tamil Nadu, and enhances international competitiveness and market access of leather export from Tamil Nadu.

WAY FORWARD

- More sustainable production practices, better effluent and solid waste management and improved technical capacities of leather tannery MSMEs
- Enhanced competitiveness of MSMEs through compliance with international market standards and creation of additional business through 'waste to value'
- Improved access to finance though business-case development and liaison with financing institutions
- For employees and surrounding communities: reduced health and safety hazards and more job and income security, and reduced public health risks and environmental hazards

The project will include, among others, the following priority actions:

- Introduction of improved tanning and waste treatment practices and technologies
- Creation of the capacities of SME tanneries and their industry partners for wide-scale adoption
- Incentivisation for SME tanneries to adopt circular tanning and leather finishing practices which are linked to value creation from solid waste
- The support of the Government of Tamil Nadu which will facilitate the adoption of these circular tanning and leather finishing practices
- By increasing the availability of circular products in domestic and regional markets, the project also indirectly contributes to the promotion of more sustainable consumption patterns in Asia

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PISIE

SUSTEX - Sustainable Textiles for Sustainable Development in India

INDIA

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 1/2009-7/2013
BUDGET: EUR 2,091,181 (EU contribution: 80%)

CHALLENGE

The textile industry holds a very special place in the Indian economy, as it is one of the largest and the oldest manufacturing sectors in the country. It employs about 35 million people, second only to agriculture, and is one of the most chemically intensive of all industries, producing the most hazardous waste when proper disposal facilities are not available. On an average, it takes about 1893 litres of water to produce just enough fabric to cover one sofa. The growth of small and medium-sized enterprises (SMEs) has led to altered production processes, resulting in a range of environment and health hazards.

OBJECTIVES

The project sought to promote the production and consumption of eco-friendly textiles and to improve the employment and working conditions of artisans.

OUTCOMES

- The Common Effluent Treatment Plant (CETP) has been set up at the Jaipur Integrated Texcraft Park Pvt. Ltd. (JITPPL)
- The state-of-the-art infrastructure at JITPPL includes STP (sewage treatment plant), rain water harvesting and solar electricity provisions
- A toolkit on sustainable textile production has been prepared and is being disseminated and a database of sustainable raw materials has been developed that includes a list of suppliers of organic cotton and natural dyes
- Skills development training of 1000 artisans, oh whom 807 are women, has been completed in block printing, sewing machine operator and tie and dye skills
- Three Effluent Treatment Plants (ETPs) as models demonstrating low cost ETP technology have been set up at Bhuj, Gujarat, at Lunkaransar, Bikaner and at Balotra in Barmer, Rajasthan
- Policy briefs on environmental and occupational health and safety (OHS) issues and the Scheme for Integrated Textiles parks (SITP) have been developed and were submitted to the relevant governmental departments
- The project's OHS recommendations for artisans have been accepted by the Planning Commission and will be considered in the Government's 12th five-year plan

This project became a role model for similar craft-based industries in India. Adopting cleaner production practices, gave me a new direction and energy when contributing to this industry.

Vikram Joshi
Textile technologist and SME owner

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Switching to Green & Fair Fashion

INDIA

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2022-2026
BUDGET: EUR 1.983.563 (EU contribution: 80%)

CHALLENGE

Asia is the world's largest textile producing region, where India's textile industry exports more textile-based products than any other country except China. More than 300,000 registered micro, small and medium-sized enterprises (MSMEs) operate in the Indian textiles and apparel sector. India's cotton textile industry is subject to severe ecological and social problems throughout the supply chain. Addressing sustainability is becoming increasingly pressing for the Indian cotton textile industry to meet the demands of global brands and retailers and sustainability-conscious consumers, as well as legislators worldwide.

The key challenges for improving sustainability are a lack of reliable data and transparency to enable sustainable value chains; limited awareness and knowledge about sustainable production practices and technologies; doubts about a valid business case for switching to sustainable and circular production processes and their perceived high investment requirements; low market demand for sustainable products and buyers' price sensitivity in India; and missing market linkages to Europe and access to finance to fund the adoption of greener production systems.

OBJECTIVES

The project's objective is to promote the adoption and mainstreaming of sustainable production systems in India's cotton textile sector by creating an enabling framework, supporting green business development and improving access to green finance.

The project works with multiple stakeholders on adopting sustainable processes including reduction of water and toxic chemical use, as well as assuring product traceability and adherence to certification schemes. By establishing innovative pilots on resource efficiency and reduced resource footprint as well as training on sustainability certification, cotton and textiles MSMEs will be equipped to adopt sustainable production practices. By working with buyers in India and the EU, market demand for environmentally sustainable textile goods is strengthened. Enabling frameworks will be created and access to finance facilitated.

WAY FORWARD

- Improve the capacities of MSMEs in the textile sector and cotton farmers in India to adopt more environmentally and socially sustainable production practices throughout the textile supply chain
- Establish market linkages with brands and retailers in India and the EU through events and direct contacts; develop campaigns to inform consumers in India and Europe, and improve the access to sustainably produced textiles
- Increase the integration of sustainability parameters in operational and reporting mechanisms to support greater adoption of sustainability practices by textile MSMEs and integrate ESG considerations and facilitate access to finance
- The Government of India is to support incorporating Green and Fair Public Procurement practices based on good practices achieved by Fairtrade at EU and member state level

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Sustainable Carpet and Pashmina

NEPAL

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 1/2014-7/2017
BUDGET: EUR 1,058,939 (EU contribution: 90%)

CHALLENGE

Carpet and Pashmina production are Nepal's second and third largest sources of export earnings, and provide the largest source of industrial employment. These industries, however, are constrained by outdated production methods that are inefficient and highly polluting, leading to reduced competitiveness and environmental impacts.

OBJECTIVES

The project aimed to increase resource efficiency, profitability, and sustainable growth by mobilising private sector and relevant public sector authorities to reduce fuel and water use, and water pollution in the Nepalese carpet and pashmina industries. The project promoted sustainable production and SME profitability in two of Nepal's highest-earning and yet most polluting industries.

OUTCOMES

- Cleaner production (CP) awareness campaigns that engaged the carpet and pashmina industry associations were conducted
- Training/workshops for the design, implementation and maintenance of CP techniques were held
- Model units for dyeing and washing sub-sectors and promoting cross-visits were developed
- Financial literacy and business plan training for SMEs and access to financing was provided
- Capacity was built among CP service providers and carpet and pashmina industry associations
- Support for the Ministry of Industry and the Ministry of Science Technology and Environment in developing enforcement mechanisms for existing regulations was provided

> *When buyers from European countries visited our industry, they were impressed with how we applied and improved occupational health and safety measures. The training also enabled us to save energy, chemicals and dyes.*
>
> **Ganesh Shrestha**
> Proprietor
> Ashirbad Pashmina Industry

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SCI-PAK - Modernising manufacturing industries in Pakistan

PAKISTAN

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 3/2009-2/2013
BUDGET: EUR 1,408,592 (EU contribution: 80%)

CHALLENGE

In Pakistan, several cleaner production initiatives have been undertaken in the past decade (assessment of needs, energy audits, technical assistance to adopt energy efficiency and waste water recycling techniques, raising awareness on cleaner production packages). Despite these initiatives, the target sectors leather and textile still lack the know-how and capacity to apply sustainable production technologies and be aware of environmental impact and associated potential financial benefits.

OBJECTIVES

This project sought to implement a range of energy and resource efficiency initiatives in the textile and tannery sectors in Pakistan, with the potential to adapt these initiatives to other manufacturing industries in the long term (e.g. sugar, pulp and paper, steel rolling).

OUTCOMES

- Defined knowledge has been disseminated on the manufacturing production chain and technological capacities
- The capacity of industrial equipment manufacturers (IEMs) to improve the energy and resource efficiency of production and implement SP practices in the targeted industries was improved
- Local educational institutes are now fostering academic-industrial partnerships to educate students in E&RE technologies
- Series of pilot energy and resource efficiency (E&RE) implementations are now available for replication by other SMEs, showcasing a complete model for SP in manufacturing processes
- IEMs on SP technology, implementation and business strategies, were trained and supported by knowledge acquired from the pilot initiatives
- Sustainable production network has been implemented and linkages between IEMs and EU environmental standard organisations were established
- An established and capable manufacturing sector focused on enabling the proliferation of E&RE technologies
- Strengthened and innovative policy framework for implementing and inciting SP practices in the manufacturing industries
- Increased awareness and access to know-how and training in SP technologies at the local and regional level

By adopting resource efficiency measures in our tannery processes, we have not only gained financial benefits in terms of resource conservation (water, chrome and other chemicals), we have also experienced an improvement in our work which has led to higher quality for our products, a healthier occupational environment and a reduction in wastewater pollution load at the source.

Ashfaq
MH Tannery

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Collaborating Centre on Sustainable Consumption and Production GGMBH

Iqbal Hamid Trust (IHT)

SPRING - Sustainable cotton production in Pakistan's cotton ginning SMEs

PAKISTAN

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 1/2012-12/2015
BUDGET: EUR 1,979,286 (EU contribution: 80%)

CHALLENGE

The cotton and textiles sector accounts for 40% of Pakistan's total labour force and nearly 60% of exports. Cotton is a natural fibre that breathes; it is also renewable, recyclable and biodegradable. Consumers, brands and retailers are becoming increasingly conscious about issues such as chemical and water use, child labour, gender inequality, low wages and other risks linked to cotton sourcing. Besides exploring choices for sourcing cotton sustainably, responsible businesses are looking to improve cotton-sourcing procedures through more traceability, control and transparency in their cotton supply chain. The cotton-ginning sector in Pakistan is characterised by negative direct environmental consequences resulting mainly from high-energy consumption and inefficient processes. Moreover, poor housekeeping and working conditions pose direct threats to the health and safety of the workers.

OBJECTIVES

The project aimed to have at least 500 cotton gin small and medium-sized enterprises (SMEs) in Pakistan recognise the benefits of sustainable cotton production and consumption, and to have 40% of these SMEs commit to more sustainable production practices, in line with the agreed better ginning practice guidelines and supported by the procurement practices of European retailers.

OUTCOMES

- Improving the Supply of 'Better Cotton'
- Developing Better Ginning Practice (BGP) Guideline
- Capacity Building
- Instilling Change in Retailers' Purchasing Practices
- Conducting In-depth Dissemination

The ginners frequently disclosed to us that prior to being part of the SWITCH-Asia SPRING project, they used to run their ginning facilities as a trading place for processed cotton, and they never considered the ginning business as an industry, let alone taking energy conservation, mechanical efficiency or productivity into consideration. SPRING highlighted not only the economic benefits of improving efficiencies, it also raised consciousness on improving working conditions and the environment in factories. We not only changed how SMEs work, but also the mindset of the industry, which in my opinion is a far bigger success.

Asad Imran
Senior Manager,
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Promotion of sustainable energy practices in the garment sector in Cambodia

CAMBODIA ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 2,995,748 (EU Contribution: 86.94%)

CHALLENGE

According to the Ministry of Industry, Science, Technology and Innovation, the garment sector is the industrial sector's largest employer in the Kingdom of Cambodia, employing 847,419 workers comprising 86% of the total industrial workforce in 2017. Exporting factories in turn account for more than 620,000 jobs (pre-COVID-19). The expansion of this sector is reflected in its growing energy demand, with total final consumption increasing by about 11% between 2010 and 2015. According to the draft Energy Efficiency (EE) Policy, steep growth in garment manufacturing has doubled GHG emissions due to energy consumption in the sector between 2002 and 2012. The predominant use of unsustainable, non-traceable cheap fuelwood in the factories of Cambodian garment suppliers contributes to the country's rapid forest depletion and further exacerbates the sector's ecological footprint. Cambodia's garment industry is losing its edge compared to other countries like Bangladesh, Myanmar, and Vietnam, given its high energy costs as well as recent increases in the monthly minimum wage, lagging infrastructure, productivity, and logistics. The cost of electricity from the national grid in Cambodia is the highest in ASEAN. The average energy cost per ton of garments is USD 560. Energy costs constitute a significant share of the total production costs, namely 16.7%, which is also higher than in neighbouring countries.

OBJECTIVES

There is an opportunity for Cambodian factories to use sustainability as a competitive advantage. An increasing number of international brands, for which Cambodian factories are supplying garments, have set corporate targets to lower the environmental footprint of their supply chains. Therefore it will be important to reduce production costs in the garment industry and green its production processes to improve competitiveness and reduce negative environmental externalities. The economic model of the Global Green Growth Institute (GGGI) projects that a 20% increase in energy efficiency (EE) in the garment sector would lead to an increase of 31% in energy productivity by 2030 and USD 2 billion of avoided energy costs. The team is proposing a holistic intervention to promote the adoption of sustainable energy practices in garment manufacturing in Cambodia by acting on multiple fronts: support to regulatory and enforcement measures, stimulating demand for sustainable energy technologies/services, and increasing the supply of technologies/services and financial solutions for this purpose.

The objective of this project is to increase the competitiveness and decrease the environmental impact of the Cambodian garment industry through sustainable production. More specifically, the project aims to increase the investment in sustainable energy practices (such as efficient technologies, switch to renewable energy and good operations management) in the garment factories in Cambodia.

OUTCOMES

- Relevant government institutions initiate a series of regulatory measures to incentivise private investment in sustainable energy practices
- Institutional arrangements and capacities are developed for adoption of enforcement measures and improved data availability supporting the sector's switch to sustainable energy practices
- Awareness is raised and demand for appropriate technologies and advisory services for sustainable energy practices increases among value chain stakeholders
- Garment factories have access to a range of appropriate technical and financial services, including a guarantee fund to support their switch towards sustainable energy practices

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Garment Manufacturers Association in Cambodia (GMAC)

GERES - Acting for Climate Solidarity

Transitions to circular economy practices in textile and apparel MSMEs along the lifecycle in Huzhou and Shaoxing

CHINA ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 2,973,263.38 (EU Contribution: 80%)

CHALLENGE

China's textile and apparel industry has been a traditional industry advantageously positioned in the national economy and closely linked with the international market. Most of the textile industrial clusters are concentrated in Jiangsu and Zhejiang Province, China. For instance, Shaoxing is an important textile production base and distribution centre in Zhejiang. According to statistical data, textile and apparel micro, small and medium-sized enterprises (MSMEs) account for 90% of all Shaoxing textile and apparel businesses. However, compared with mature foreign MSME clusters, China's MSME clusters are less developed and lack competitiveness. The textile and apparel industry now faces various challenges in achieving a complete transformation to a circular economy. The root causes of these challenges include: 1) Lack of innovation in key technologies for large-scale development of recycled fibres and bio-based synthetic fibres; 2) Existing policies such as the raw material optimisation strategy, green design, green consumption, waste textile recycling are mainly national guiding policies, more systematic and industry-specific supporting policies and standards are still needed; 3) Circular design, as a source solution, is still at the concept advocacy stage, and the circularity of products is not yet the priority in existing green design policies, standards and practices; and 4) Consumers' awareness of green consumption has improved, but currently consumption behaviour lags behind. There is insufficient impetus for industrial development. Although awareness of the importance of a circular transformation is increasing among key industry stakeholders, there is a lack of unified understanding of the vision and way forward for a circular transformation of the industry.

OBJECTIVES

Facilitate the transition to circular economy practices in the textile and fashion industry in Huzhou City and Shaoxing City, China, by 2025. The specific objectives include:

- Improved sustainable management, resource efficiency and adoption of circular economy principles by the local textile and fashion industry
- Enabling conditions for a conducive policy environment among key stakeholders for a circular textile industry in Huzhou and Shaoxing
- Increased access by the textile and apparel industry to financing for eco-design, recycling investments and clean technology transfer

WAY FORWARD

- Sustainable management, resource efficiency and adoption of circular economy principles will be improved by the local textile and fashion industry
- Capacities of the textile and apparel industry for the promotion and implementation of resource efficiency measures will be enhanced within selected textile and apparel value chains
- Capacities of MSMEs will be enhanced to develop and apply circular economy solutions in the textile and apparel value chains
- Enabled conditions will be built for a conducive policy environment among key stakeholders for a circular textile industry in Huzhou and Shaoxing
- Policy instruments and incentives will be developed by local governments and sector stakeholders mainstreaming the circular economy principles in the textile and fashion industry
- More access to financing for eco-design, recycling investments and clean technology transfer for the textile and apparel industry will be promoted
- Capacities of the textile and apparel industry will be enhanced to access to funding for installing a circular economy

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ICLEI - Local Governments for Sustainability

Regional Activity Centre for Sustainable Consumption and Production (ARC - SCP/RAC)

Sustainable Production in the Printing and Dyeing Sector in China

CHINA ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2/2013-1/2017
BUDGET: EUR 1,499,000 (EU contribution 79.97%)

CHALLENGE

China is the largest textile producing and consuming nation in the world. In 2010, national textile production was valued at EUR 570 billion and accounted for 6.56% of national industrial production. The development of the textile industry is vital to China's economic development. Printing and dyeing (P&D) is a key process (and an important sector) in the textile industry in China. In 2010, Chinese companies printed and dyed 54.8 billion metres of fabric. Of that, over 50% was produced in Zhejiang province and about 33% of total national production was produced in Shaoxing County in northeastern Zhejiang Province. Industry insiders know that P&D is by far one of the heaviest resource- and energy-consuming and of the most polluting stages of production in the textile industry, due to high water and energy use, and it creates very high levels of water pollution and high chemical oxygen demand (COD) load as well due to the use of dyestuffs and synthetic chemicals.

OBJECTIVES

The project sought to reduce the negative environmental impacts of the P&D industry in China, supporting Keqiao District in establishing a 'Green Printing and Dyeing Industrial Park', and promoting a level playing field through capacity building of small and medium-sized enterprises (SMEs) on the sustainable production requirements of the European Union (EU) and other developed countries. The specific objectives included:

- Reducing the negative environmental impact of the textile printing and dyeing industry by promoting sustainable production among 350 SMEs in Zhejiang Province, with Keqiao District as a demonstration area
- Supporting the creation of an enabling policy environment
- Promoting the replication of project experience

OUTCOMES

- Establishing Model Companies to show what the project can do for the companies in the P&D sector in China
- Providing SME owners in the P&D sector with corporate social responsibility (CSR) leadership training
- Offering environmental management trainings to top management and/or chief engineers of SMEs
- Encouraging SMEs to submit action plans to be followed up by experts
- Compiling case studies and giving recognition for successful SMEs
- Coordinating with other local governments in Zhejiang
- Undertaking stakeholder consultation with fashion groups (brands companies), energy service companies (ESCOs) and banks

This project has strengthened our technology, security and information management capabilities. It has also helped us improve our sense of corporate social responsibility.

Fu Jianlin
Chairman of Shaoxing
Shengxin Printing and Dyeing Co., Ltd

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Clean Batik Initiative

INDONESIA, MALAYSIA

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 12/2009-12/2011
BUDGET: EUR 2,316,792 (EU contribution 80%)

CHALLENGE

Batik small and medium-sized enterprises (SMEs) operate with excessive use of water, wax, chemical dyes and bleaching agents that are harmful to the workers and the environment. Carcinogenic wastes generated from batik production are generally left untreated and often pollute rivers and waterways, which is detrimental to the health and livelihoods of thousands of local residents. Low health and safety awareness also leave the workers exposed to hazardous substances on a daily basis. There is no demand-led stimulus for the batik SMEs to switch to a cleaner method of production due to low environmental awareness of the batik consumers.

OBJECTIVES

The project aimed to improve the environmental indicators of the batik industry in Indonesia and Malaysia and to create environmentally conscious consumers in order to drive the demand of eco-friendly products from batik SMEs that would, in turn, provide incentives for cleaner production. These aims were accomplished by:

- Increasing the use of environmentally friendly technologies by batik SMEs by promoting sustainable alternatives in production processes that used fewer materials and generated less pollution per unit of goods produced
- Promoting trade in clean batik and switching consumption behaviour of consumers or segmented consumer groups in favour of products that were less environmentally damaging
- Contributing to the development of an enabling policy environment to create a setting that would stimulate batik SMEs and batik consumers to change their behaviour

OUTCOMES

- Focus on capacity building
- Introduction of sustainable practices and environmentally friendly technologies
- Building a market for environmentally friendly products
- Setting up consultant networks
- Promoting showcases
- Saving resources and increasing productivity
- Reducing pollutants through increased use of environmentally friendly dyes
- Raising environmental consciousness

My SME has a high production volume, so I use plenty of firewood for the wax-removal process. This project introduced a blower system that was supposed to improve the efficiency of the burning process. At first I was sceptical, but having seen the results, I am truly amazed how such a simple solution works wonders. I have effectively reduced the use of firewood by half for every process.

H. Khusaeni
Batik SME from Pasirsari Village, Pekalongan

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LEAD PARTNER

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PARTNERS

European Business Chamber of Commerce in Indonesia (EKONID)

IHK-Akademie München

Handwoven Eco-Textiles

INDONESIA, PHILIPPINES

TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2/2013-2/2017
BUDGET: EUR 1,999,972.60 (EU contribution 80%)

CHALLENGE

Traditional hand-woven textiles are produced in one-third of the provinces in the Philippines and throughout Indonesia. However, poor product standardisation and limited technical capacity make it difficult for entrepreneurs to meet buyer demands for quantity, quality and deadlines. Limited access to supplies of quality natural dyes and eco-fibres also limit production. Moreover, low awareness of eco-labels or standards hinder the producers from realising a premium in wider markets.

OBJECTIVES

The project promoted sustainable consumption and production (SCP) of handwoven eco-textiles in Indonesia and the Philippines by scaling-up successful SCP practices throughout the market chain, and supporting the development of an enabling policy environment.

OUTCOMES

- Providing technical assistance to weavers, natural dye and fibre producers, and entrepreneurial groups and cooperatives to support adoption of product and quality assurance standards
- Providing technical assistance for hand-woven textile entrepreneurs on production techniques and eco-designing
- Conducting marketing training to improve awareness of marketing opportunities and requirements
- Supporting joint ventures between producer groups to establish and manage provincial shops and distribution centres
- Promoting business networking and sales through linkage of producers to wholesalers and retailers
- Linking producer groups and cooperatives to finance institutions

By documenting and teaching traditional methods of weaving and natural dye production, we also improve the environmental sustainability of textile production while helping to preserve community knowledge of these important cultural traditions.

Miranda
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The Indonesian Woven Textiles Association (CTI), Indonesia

STeP EcoLab - Sustainable textiles production and ecolabelling

MONGOLIA ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2018-2022
BUDGET: EUR 1,867,329.76 (EU contribution 80%)

CHALLENGE

Based on traditional pastoralist livelihoods, the cashmere and wool sector is a key driver of the Mongolian economy and second only to the extractive industry. It is, however, facing new challenges due to increased competition from foreign processors (sourcing and production). Hence the need to establish a more quality-driven production system as well as to promote the emergence of a niche market among end customers. The sector has recently been the focus of the Government of Mongolia and its Sustainable Development Vision in order to adopt more environmentally friendly production methods, thereby lowering GHG and overall pollutant emissions while increasing the share of nationally processed leather, wool and cashmere up to 80% by 2030. The 2018 National Cashmere Program has the objective to introduce eco-friendly technology and develop niche-competitive products to Mongolia. In parallel, various agencies have been working consistently with the upstream value chain by looking at the existing environmental impact and pasture degradation issues which are the key challenges faced by herders' communities in rural Mongolia. Within this conundrum, virtuous practices (among herders and within the banking sector, thanks to progressive legislation) have arisen, encouraging actors to adopt more sustainable and quality-driven practices.

OBJECTIVES

The STeP EcoLab project aims at supporting the supply chain and the textile industry in adopting more sustainable sourcing and production practices and simultaneously improving the branding for sustainable products, optimising cost-saving measures and reaching out to finance and diversify the portfolio of customers.

OUTCOMES

- Promote best practices on raw material sustainability, quality improvement and control, and sustainable certification
- Creation of a multi-stakeholder platform to foster and promote the convergence and extension of existing animal fibre eco-labelling schemes, and consolidation of sustainable raw material sourcing options for Mongolian textile processors
- Assessment of textile processors related to their social and environmental impact, including joint-identification of feasible improvements; creation of a platform to co-develop a sectoral roadmap and a Voluntary Code of Practice (VCP) embodying the commitments of the processors to switch to more sustainable production practices; and in parallel, analysis of the existing regulation in order to build the case for regulatory adjustments
- With the Mongolian Bankers' Association, sector-specific Environmental and Social (E&S) risk assessment, along with development of dedicated tools and guidelines; demand study for sector-specific green finance products; identification and development of a pipeline of projects for international and domestic green finance operators; and joint capacity building for MWCA members to access green finance
- Academic level support to the Mongolian Education Sector (MUST) in developing courses on environmental and social (E&S) management tailored for textile engineers, follow-up with Training of Trainers for MUST professors and integration of the content in the official curriculum
- With relevant expert support, study on expectations of Mongolian and European consumers. Sustainable products marketing and communication support for the Mongolian Wool and Cashmere Association (MWCA) and its members in Mongolia; organisation and participation in trade fairs (in Europe and Mongolia) in order to connect processors and suppliers to the market for sustainable products

SCAN FOR MORE PROJECT INFORMATION

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Collaborating Centre on Sustainable Consumption and Production GGMBH

Environment and Security Center of Mongolia

Mongolian Banking Association

Mongolian Wool and Cashmere Association

National Association of Pasture User Groups

Sustainable Yak Leather (SYL)

MONGOLIA ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 1,305,956.40 (EU contribution 80%)

CHALLENGE

The tanning industry is one of the most important industries in Mongolia; however, it is still based on traditional practices and old facilities, equipment and techniques, and there is a need for increased attention to environmentally friendly, green technologies and circularity of products. Most factories process only up to the wet blue stage, and about 20% produce processed leather, but this percentage is decreasing due to quality issues linked to resilience, odour and hide damage. Among the 10.4 million larger animals in Mongolia's domestic livestock herds, yaks amount to 1 million and all but 5% are located in 6 provinces. Yaks are especially suited to the local situation, providing a range of products such as milk, fibre wool, cashmere, hair, meat and hides, with fewer disadvantages than other cattle and they provide livelihoods for many households in the yak-raising provinces. Today, the manufacture of leather is dominated by mineral (chrome) tanning, which, along with associated finishing procedures based on synthetics, is very demanding in terms of requirements for energy and water, and polluting in terms of wastes that produce effluent discharges. Vegetable tanning in general, and the manufacture of full-grain vegetable leathers in particular, present a number of opportunities for reducing inputs and outputs, thereby contributing to greener and more environmentally friendly leather production. The limited numbers and distribution of yaks present an opportunity for the development of a sustainable and distinctive value chain. Moreover, upstream integration can offer leather producers the opportunity to agglomerate supply, reduce waste, and add more value to the items produced in Mongolia.

OBJECTIVES

The project supports the Vegetable Tanned Yak Leather Cluster in reducing the environmental impact of production, improving resource efficiency and adopting circular economy practices, enabling members' integration to global greener value and supply chains, and will accredit and empower the Vegetable Tanned Yak Leather Cluster by resolving problems in the following areas:

- Antiquated technology for processing leather
- Products not complying with international quality standards
- Outdated infrastructure for treatment of waste
- Lack of skilled human resources

WAY FORWARD

- Develop production of bio-leather and manufacturing of associated bio-leather products with greater scope for recycling
- Establish sustainable, quality and traceable supplies of hides of domesticated yaks, available as raw materials for the emerging vegetable tanning industry
- Reduce losses associated with existing (incomplete) collection of hides, and waste attributed to remediation and improper processing
- Improve efficiency and effectiveness of tanning, finishing, and leather products manufacturing operations improved
- Enhance skills within the Vegetable Tanned Yak Leather Cluster (and other leather micro, small and medium-sized enterprises – MSMEs) on sustainable production and marketing
- Increase production of sustainable and environmentally friendly yak leather products suited to export markets

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Hellenic Association of Footwear Manufacturers and Exporters (ELSEVIE)

INESCOP

Footwear Technology Centre

Mongolian Association of Leather Industry (MALI)

Mongolian National Chamber of Commerce and Industry (MNCCI)

Vakakis and Associates – Rural Development Consultants S.A.

SMART Myanmar I - SMEs for environmental accountability, responsibility and transparency

MYANMAR ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 1/2013-1/2015
BUDGET: EUR 1,996,942.07 (EU contribution 90%)

CHALLENGE

Since the US lifted its import ban on products from Myanmar in November 2012, followed by the European Union in April 2013, the country is re-entering western markets. In July 2013, Myanmar became part of the EU's Generalised Scheme of Preferences (GSP), further fostering growth with the abolishment of trade barriers to the European market. The garment industry has huge potential to contribute to national economic growth, both as a foreign exchange earner and a very significant job provider. Despite some progress, Myanmar's garment industry still lacks awareness of the principles of sustainable consumption and production (SCP) and social responsibility. This prevents small and medium-sized enterprises (SMEs) in Myanmar's garment sector from increasing their access to international markets.

OBJECTIVES

The overall objective of the project was to increase the competitiveness of SMEs in the garment sector of Myanmar and to set preconditions for replication towards other sectors. SMART Myanmar promoted the improvement of sustainably manufactured garments made in Myanmar, thus increasing market access to Europe for local factories. Specific objectives included:

- Relevant Business Support Organisations (BSOs) were capacitated to promote and channel SCP effectively, providing SCP services and green financing instruments
- An effective marketing strategy enhancing sales of sustainably produced garments in Myanmar
- The production of garments made in Myanmar becoming cleaner and more efficient
- Support for the Myanmar Garment Manufacturers' Association (MGMA) to develop a Code of Conduct, which was implemented by garment factories

OUTCOMES

- Built the capacities of business management & organisation (BMO) which included developing strategies with MGMA, joint identification of areas for improvement, and the preparation of action plans in the identified areas
- Organised workshops to create new SCP services (included matchmaking service offers between European buyers and Myanmar suppliers) for MGMA members
- Improved awareness of SCP in the industry and banks, with participants from 30 banks briefed on green financing and SC; garment entrepreneurs were shown the benefits of adopting quantitative SCP measures through case studies
- Facilitation for more than 300 business linkages, and new orders were received by the selected SMEs
- Myanmar garment factories were supported to move from the cut-make-pack (CMP) business model to a full-scale business model (free on board, or FOB) offering clients a larger range of services to attract more European buyers
- Training provided for 14 young engineers to further offer SCP consultancy, and 10 SCP consultants were employed by MGMA and given a hands-on training by international garment experts

Before participating in the project, a European client cancelled an order because our products did not meet the international standards. Now we are receiving orders from Japan, Germany and the Netherlands.

Thet Su Zin Win
Director of Maple factory

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Myanmar Garment Manufacturers Association (MGMA)

Sheffield Chamber of Commerce and Industry LBG, UK

SMART Myanmar II

MYANMAR ● TEXTILES AND LEATHER

IMPLEMENTATION PERIOD: 1/2016-12/2019
BUDGET: EUR 2,777,629.59 (EU contribution 90%)

CHALLENGE

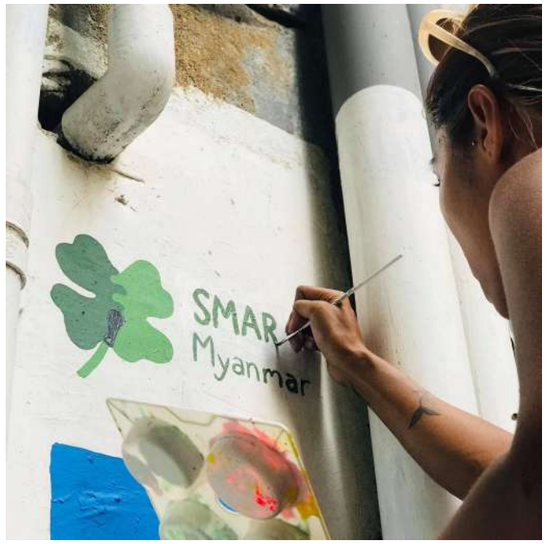
Despite some progress, Myanmar's garment industry still lacks awareness in the principles of sustainable consumption and production (SCP) and social responsibility. Garment companies need to comply with environmental and social standards to regain access to international markets. Thus, the social and environmental conditions, especially for workers in the sector, needed to be reviewed.

OBJECTIVES

The project sought to contribute to a switch to sustainable garment consumption patterns by promoting sustainable growth in Myanmar's garment sector. Specifically, the project aimed at institutionalising, up-scaling and replicating successful SCP practices in the garment sector developed and implemented during the SMART Myanmar I project.

OUTCOMES

- Training SCP consultants on sustainable production and compliance with international standards
- Developing social compliance academies to improve working conditions in garment factories
- Conducting workshops with banks on green finance
- Launching a branding and communication initiative 'Made in Myanmar' to inform European and Myanmar consumers
- Building the capacity of female workers to claim their rights
- Identifying good-practice companies and honouring the best ones
- Initiating public private dialogues on sustainable public procurement
- Advocating SCP-related issues with government institutions



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Foreign Trade Association of German Retail Trade (AVE)

Myanmar Garment Manufacturers Association (MGMA)

Stichting Made-by Label (Made-by)

SUSTAINABLE HOUSING AND BUILDING

Kabul Green Homes

AFGHANISTAN

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 1/2016-11/2020
BUDGET: EUR 2,161,785 (EU Contribution 79.80%)

CHALLENGE

Afghanistan is the 15th most vulnerable country worldwide in terms of climate change vulnerability (German Watch Global Climate Risk). Afghanistan experiences cold and snowy winters with extreme temperature variations between night and day, reaching -20 °C in winter in Kabul. However, much of the country is characterised by 300 days of sunshine yearly, meaning energy-efficient houses that reduce heat losses in winter and improve sun gain are well-adapted to the Afghan climate. Despite this high solar energy potential, Afghans rely on traditional solid fuels (firewood, animal dung cakes, crop residues and charcoal) for cooking and heating).

OBJECTIVES

The project aims to contribute to the Afghanistan National Development Strategy main pillars, particularly on poverty reduction through a private-sector, market-led approach. The project seeks to tackle the lack of access to finance for green consumption, to strengthen the emerging Energy Saving Solutions (ESS) value chain, and to engage networks of stakeholders.

OUTCOMES

- Built the capacity of institutions to monitor the effect of energy efficiency on fuel consumption and on climate, to identify the potential impacts of energy efficiency regulations and practical applications for buildings
- Promoted new markets for innovations and changes of lifestyle
- Supported the integration of new strategies for upgrading unplanned settlements
- Improved the living conditions of the households investing in ESS
- Provided access to home improvement loans to offer a sustainable financing solution for ESS while meeting large scale demand
- Strengthened dialogue with institutions to contribute to a favourable environment for scaling up a new SCP pattern and replicating in similar context

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

GERES - Acting for Climate Solidarity

PARTNERS

Afghanistan Microfinance Association (AMA)

Rural Movement Organisation (RMO), Afghanistan

SUSBUILD Bangladesh – Promoting sustainable buildings

BANGLADESH

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 1/2016-6/2019
BUDGET: EUR 2,000,000 (EU Contribution 90%)

CHALLENGE

In Bangladesh, brick-making is the largest source of greenhouse gas (GHG) emissions, as the industry consumes 2.2 million tonnes of coal and 1.9 million tonnes of firewood and emits 8.75 million tonnes of greenhouse gas (GHG) emissions for this activity annually. Brick-making is characterised by low energy efficiency, a prevalence of small-scale kilns with limited financial capacity, and dominance of a single raw material (clay) and product (solid clay brick). Transformative changes in the brick industry are required, not only switching to cleaner brick kilns, but also diversifying production inputs in order to save natural resources, reduce GHG emissions, and increase energy efficiency.

OBJECTIVES

The project aimed to contribute to a reduction in GHG emissions, deforestation and land degradation in Bangladesh. It specifically sought to promote sustainable and eco-friendly building materials and practices in Bangladesh within an enabling policy environment.

OUTCOMES

- Conducting research and design of sustainable building materials
- Strengthening environmental certification and eco-labelling schemes for building materials
- Organising multi-stakeholder awareness and marketing campaigns on sustainable building practices
- Providing capacity-building support to technical experts on sustainable building and for micro, small and medium-sized enterprises (MSMEs) to switch to alternative bricks
- Setting up replicable business models of green technology and engaging with financial institutions to improve access to finance
- Engaging with policymakers to promote and regulate green construction and public procurement

Eleven million wage earners consider a cosy home an important indicator of stability. The multi-stakeholder's Forum initiated under this project is working hard to bridge sustainable housing practices with the rising multibillion-dollar housing market. The changes we have seen at the policy level are already paving the way towards the path to green growth.

Anisur Rahman Chowdhury
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Oxfam

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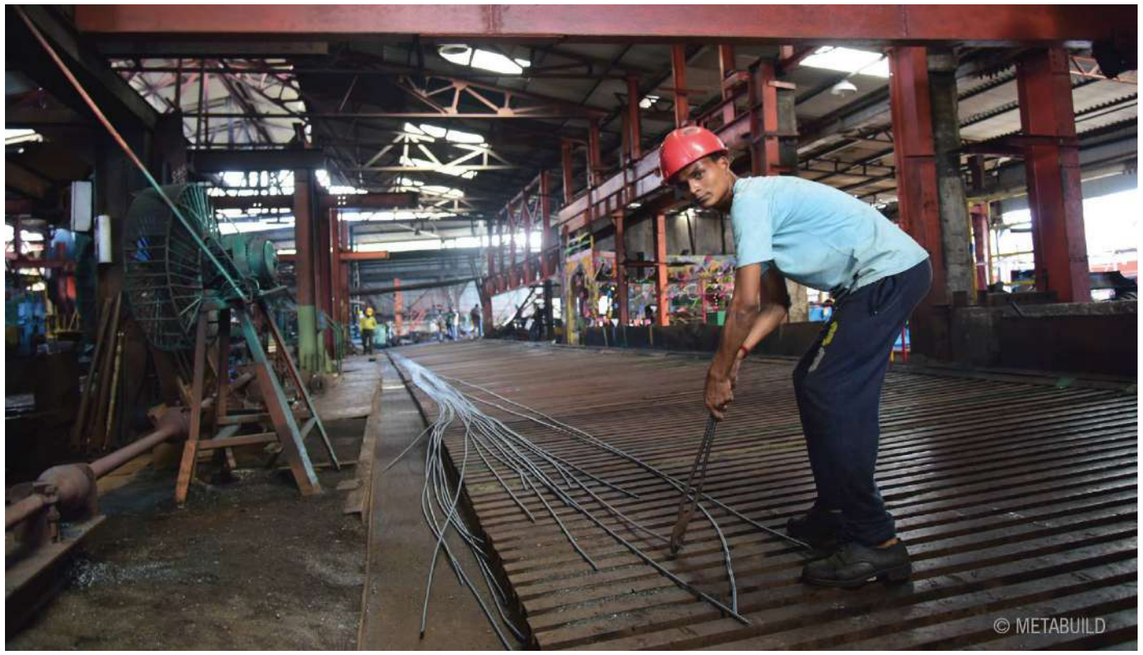
METABUILD - Resource efficient supply chain for metal products in the building sector in South Asia

BANGLADESH, NEPAL, SRI LANKA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 3/2016-2/2020
BUDGET: EUR 2,713,497.53 (EU Contribution 90%)



CHALLENGE

The construction sector uses various metals like steel, iron, aluminium and copper. In developing economies, more than 60% of the steel is consumed to create new infrastructure. Due to increasing pressure on energy and water resources, an economic edge can be sustained only through high-resource efficiency. Specific problems in metal product supply chains include lack of modernisation, sub-optimal operation leading to inefficiencies, lack of technical and financial support for improving operations, lack of skilled manpower and a traditional mind-set. Adopting resource efficient cleaner production (RECP) measures will improve economic and environmental performance, including reducing greenhouse gas emissions.

OBJECTIVES

The project aimed at implementing sustainable production processes and practices in 400 SMEs and creating a conducive environment for the further adoption of sustainable production processes in the metal products supply chain for the building and construction sector.

OUTCOMES

- Capacity building of 45 local RECP consultants
- Addressing a total of 1,000 stakeholders covering the entire value chain of metal products for the building and construction sector
- Stepwise implementation of RECP in 400 companies, with 5-10 ‘pioneer companies’ in each location covered in the first year
- Organising a technology fair in each of the three project countries, involving RECP technology suppliers
- Supporting companies to access funding and building their capacity on financial literacy, and in parallel, building the capacity of bank branches on RECP financing
- Organising round tables of customers who were construction corporations, covering a total 200 customers across three countries;
- Engaging with policymakers of the respective countries in a joint forum on RECP

We have achieved success by listening to the SMEs and addressing their pain points, using local language and easy to understand messages, always highlighting the business case of SCP and engaging with all stakeholders. In all three countries, the project is leaving behind trained teams, methodology, templates, showcases and new networks with different stakeholders.

Dr. Malini Balakrishnan
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Dhaka Chamber of Commerce and Industry (DCCI)

National Cleaner Production Centre (NCPC)

Society for Environmental and Economic Development Nepal (SEED Nepal)

STENUM Asia Sustainable Development Society (STENUM Asia)

Green Homes

NEPAL

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 1/2013-12/2015
BUDGET: EUR 1,015,525 (EU Contribution 85%)

CHALLENGE

The housing sector contributes significantly to the local economy but also causes pollution and promotes unsustainable living conditions. Some 18% of total urban employment in Nepal involves the construction industries, and there was an additional need of 1 million urban houses from 2011-2021. The sector imports most of its construction materials from India and China, thus creating large carbon footprints. To enhance sustainability, it is imperative to curb the energy consumption in the housing sector – both what is embodied in construction materials as well as during building operations.

OBJECTIVES

The project aimed at creating an enabling policy environment to promote sustainable housing, strengthening supply chains for sustainable housing and building capacity of SMEs to deliver household level green technologies and services, and stimulating demand for sustainable housing.

OUTCOMES

- Established partnerships with the Department of Urban Development and Building Construction (DUDBC), Ministry of Urban Development, Ministry of Federal Affairs and Local Development (MoFALD) and three selected municipalities – Lalitpur, Pokhara and Dharan
- Supported DUDBC in developing Nepal Green Building Guidelines which is currently under peer review
- MoFALD has included Green Homes standard and norms in recently developed Building By-laws and Training Curricula for New Municipalities
- The selected municipalities have developed incentive mechanisms to promote green housing in their plans and building byelaws, and these include subsidies in adopting green components, subsidies in building permit fee, and acknowledgements of Green Home owners and SMEs
- 35 SMEs producing hollow concrete blocks (HCB) in Pokhara and more than 60 SMEs working in the solar energy business have improved their products and services
- In Dharan, three SMEs started producing HCB, with two new SMEs in the process of establishing businesses; about 20 women's groups started implementing solid waste management and roof-top farming

SCAN FOR MORE PROJECT INFORMATION

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Federation of Nepalese Chamber of Commerce and Industries (FNCCI), Nepal

Shelter & Local Technology Development Center (SLTDC), Nepal

BUILDING Energy Efficiency in Nepal (BEEN)

NEPAL

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 2022-2026
BUDGET: EUR 2,715,000 (EU Contribution 90%)

CHALLENGE

A great majority of Nepal's population still lives rurally, and Nepal is now one of the fastest urbanising developing countries. It is estimated that 1 million homes will be built in Nepal in the next decade. In addition to housing, large new additions to the building stock are anticipated in the tourism and hospitality sector and in commercial buildings. Over the past few decades, market demands of space have resulted in buildings being designed without consideration of the local climate. Especially for heating and cooling, much energy is used and the overall operational energy requirement in buildings has therefore increased with Nepal's growing urbanisation. In addition, the use of building materials with high embodied energy is also resulting in a larger carbon footprint in the building sector in Nepal.

Nepal currently does not have standards, guidelines or regulations regarding energy efficient (EE) building design for new construction or for the retrofitting of existing buildings. Awareness and capacities among building sector MSMEs on EE buildings and service offerings remain low. While the structural stability of buildings has received attention in Nepal due to earthquakes, consideration of climate responsiveness and energy efficiency are lacking in most new building designs. Efficiency issues need to be addressed by integrating passive strategies to design climate-responsive buildings and use of EE space heating and cooling systems. In addition, materials that use low energy and are resource-efficient (RE) during production and over their lifetimes also need to be prioritised. Similarly, integration of renewable energy measures in building design and operation needs to be fostered to further reduce the carbon footprint of the building sector.

OBJECTIVES

Working with multiple stakeholders, the project promotes climate-responsive building designs and retrofitting, as well as use of EE space heating and cooling technologies, RE building materials and integration of renewable energy sources. The project aims to achieve results at multiple levels:

- Policy interventions, by providing advice on standards through local multi-stakeholder consensus processes, because favourable policies create an enabling environment for the scaling up of measures by builders/owners while also making policy incentives for MSMEs available to continue their services
- Improvement of the technical and business capacity of designers and architects to integrate passive design strategies, use RE materials or renewable energy sources
- Aim to integrate more than 400 MSMEs adapt their services to EE and RE design
- By improving building or retrofitting of at least 200 buildings in 60 municipalities and advising these on policies, the project seeks to decrease operational energy consumption by at least 25%, and by 10% for energy embodied in materials

WAY FORWARD

- Develop passive design guidelines, design tools, technical standards and manuals as well as training programs in collaboration with local governments and related associations
- Capacity building throughout the value chain of the building sector to utilise measures developed under the project
- Support building-MSMEs to prepare relevant communication and promote EE and RE in buildings
- Technical support or performance monitoring for showcase buildings
- Support awareness campaigns for the end-user on consolidated energy efficiency measures and RE materials
- Develop financing mechanisms to implement EE in cooperation with government, municipal and financial institutions
- Assist building- and construction-sector MSMEs to access fiscal and policy incentives
- Facilitate development and access of EE-friendly policy incentives in collaboration with municipalities to promote uptake of EE buildings
- Facilitate the recognition and implementation of European and international standards for EE and RE building products and support their translation and adoption at national level
- Disseminate information among municipality officials and the general public about municipal policies (guidelines, by-laws) on building energy efficiency solutions

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University of Innsbruck

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Asociación Española de Normalización (UNE)
Greentech Knowledge Solutions Pvt Ltd
MinErgy Pvt Ltd

VSBK - Vertical Shaft Brick Kilns and Sustainable Construction Practice in Nepal

NEPAL

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 1/2012-7/2015
BUDGET: EUR 2,146,750 (EU Contribution 90%)

CHALLENGE

The cotton and textiles sector account for 40% of Pakistan's total labour force, and nearly 60% of Kathmandu valley is viewed as one of the most polluted areas in Asia. Exhaust fumes have increased by four over the past decade. Poor dispersion conditions, due to high hills and low-velocity winds are predisposing Kathmandu for serious air pollution problems. An increasing number of vehicles and conventional brick kilns are worsening the situation. The construction sector, including conventional brick production, is a key source of CO_2 emissions.

OBJECTIVES

The project aimed at promoting sustainable production and consumption patterns in the construction industry, by raising awareness of private sector stakeholders for green building materials and solutions, and by providing consumer information on the benefits of clean energy and energy-saving building material. Specific objectives included:

- Reducing energy consumption and CO_2 emissions from the brick and building material production sector in Nepal
- Promoting SCP patterns in the construction sector
- Mobilising and capacitating the private sector for green building materials and solutions in cooperation with financial and public sector authorities
- Informing consumers about the benefits and choices of cleaner and low-energy building materials
- Creating an enabling policy and regulatory framework

OUTCOMES

- In Nepal, construction services are mainly provided by small and medium-sized contractors. Through the project, roughly 6,000 construction specialists, masons, engineers, architects, small contractors and entrepreneurs enhanced their skills in the application of well-tested sustainable construction technologies, such as concrete hollow block (CHB), micro-concrete roofing, reinforced cement concrete (RCC) door and window frames, and the use of natural round aggregate (NRA)
- Demonstration of the use and application of sustainable construction practices to consumers. The first behavioural changes have been observed: there was an increased use of locally available construction materials, such as NRA
- Project attracted private investment of roughly EUR 2.5 million for 22 new brick-producing VSBK shafts, creating more than 1500 green jobs
- An International Brick Symposium, involving nine countries ranging from Peru to Thailand, and Germany to South Africa was organised: this event facilitated knowledge exchange on VSBK technologies within and beyond the countries covered by the SWITCH-Asia programme

> *Now we can supply our district with 2 million bricks per year (with an estimated demand of 3 million per year) at half the former price, saving transportation and energy costs. We are optimistic that we can optimise the production process further and produce even more high-quality bricks.*
>
> **Ded Raj Khadka**
> Owner of Arun VSBK, Sankhuwasabha District

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Skat Foundation, Switzerland

Eco-friendly Bamboo Production

CHINA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 1/2010-1/2014
BUDGET: EUR 2,467,869 (EU contribution 80%)

CHALLENGE

In May 2008, a devastating earthquake hit Sichuan province. Bamboo resources have the potential to play a major role in the development of post-disaster reconstruction, and pro-poor, environmentally sustainable industries. However, the bamboo supply chain still includes challenges such as weak links among farmers, semi-processors, and end-product small and medium-sized enterprises (SMEs). Prior to the project, most farmers and producers lacked knowledge on cleaner production practices and did not possess sufficient market or management capacity.

OBJECTIVES

The project contributed to eco-friendly pro-poor economic growth in the post-disaster area of Sichuan Province, especially in earthquake-affected areas, and increased livelihood opportunities through the sustainable production of bamboo building materials for reconstruction. The specific objectives included:

- Setting up an integrated government monitoring system for bamboo SMEs to enforce environmental standards
- Building capacities of bamboo SMEs in sustainable bamboo production
- Improving bamboo supply chain management systems and enhancing resource efficiency
- Improving the policy and investment environment for the bamboo sector in Sichuan
- Developing a Provincial Bamboo Building Code (policy recommendation)
- Increasing consumers' awareness and market demand for bamboo building materials

OUTCOMES

- Integrated government monitoring system for SMEs to enforce provincial and national environmental standards set up
- Sustainable bamboo production ensured through improved resource efficiency and management by target bamboo SMEs
- Policy and investment f frameworks improved for sustainable pro-poor growth of the Sichuan bamboo SME sector
- Public awareness and demand for bamboo products from industry, retailers, and the general public in Sichuan increased

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Low Energy Housing

CHINA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 2/2012-1/2015
BUDGET: EUR 1,488,255 (EU contribution 80%)

CHALLENGE

Conventional buildings in China consume large amounts of energy due to of energy-efficiency measures. With 2 billion m^2 of mostly minimally efficient floor area added to the building stock every year, buildings require vastly more energy than is necessary. This results in more fuel burned, rising local pollution and GHG emissions, higher utility bills for consumers and reduced national energy security for government. The earlier this issue is addressed the better. Buildings have a lifespan of several decades, and each low-efficiency building constructed poses a long-term issue. Government, investors, suppliers and consumers have to act soon to prevent lock-in to excessive energy consumption by buildings for many decades to come.

OBJECTIVES

The Low Energy Housing (LEH) project aimed at increasing the sustainable use of resources in the building sector, especially energy efficiency, while improving the quality of life in the target areas and contributing to the mitigation of climate change. This was achieved by using ongoing large-scale construction projects in two target areas with different development histories, Shenzhen and Sichuan province, as case studies for best practice.

OUTCOMES

- Contributed to voluntary LEH cooperation agreements, signed by government and developers, and tied to financial subsidies through Ministry of Housing and Urban-Rural Development (MoHURD)
- Memoranda of understanding (MoU) were signed with 43 real-estate developers providing the project consortium with access to data and creating another communications channel, also providing developers with access to Chinese government subsidies
- A sector report was prepared, outlining not just good practice examples but also highlighting how the Chinese focused on technical solutions while the Europeans focused on policy frameworks enabling technical solutions to develop
- A comprehensive guidebook to energy efficiency in buildings was published and submitted to MoHURD
- A policy report to MoHURD for consideration in the creation of the next China's Five Year Plan was submitted

Energy efficiency in buildings is not just about benefitting from lower utility bills and lowering resource usage. It is about the quality of life. Urban city life in China can be stressful, so peoples' homes need to be places to retreat and recover.

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Sichuan Construction Technology Development Centre

RurEnergy: Promoting sustainable residential energy consumption in rural China

CHINA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 2022-2025
BUDGET: EUR 2,300,000 (EU contribution 80%)

CHALLENGE

The Chinese government aims to achieve carbon neutrality before 2060. Rural houses account for one-third of China's total building stock and for more than 20% of final energy consumption, where heating and cooking consume the most energy in rural houses. Energy consumption in rural areas has received little attention. Most rural houses are built by local construction workers and are not energy efficient. Dispersed coal and unprocessed biomass are the major sources for conventional heating and cooking. Such a combination makes rural energy consumption particularly carbon-intensive and causing adverse effects on people's health and well-being. Sustainable energy consumption in rural China is vital for decarbonisation and sustainable development. Building envelope energy retrofitting and sustainable heating and cooking technologies are available on the market and have already been piloted in rural China. Scaling up these pilots has encountered various barriers, ranging from lack of awareness among rural households to high costs and limited access.

OBJECTIVES

The project aims to drive the adoption of cost-effective systematic energy retrofitting solutions for rural houses, which will systematically integrate thermal integrity improvement and sustainable renewable heating/cooking. In addition, energy efficient behaviour changes among rural households in Province Henan and Province Gansu will be promoted.

WAY FORWARD

- 24,000 rural households in the target regions will adopt systematic energy retrofitting solutions along with increased awareness of energy-efficient behaviour through their involvement in co-creation during the pilots: the solutions are more convenient and cost-effective and will improve indoor air quality, save time for collecting firewood and ensure gender equality
- 29 awareness-raising campaigns, an easy-to-use APP platform to inform financing options and access to financing, enhancing the capacity of key stakeholders
- Creating enabling policy frameworks
- Developing, testing, validating, and replicating at least three scalable financing mechanisms and co-develop local green financing guidelines for rural households to access green financing of EUR 80 million
- Direct annual energy savings of 271 TJ and annual GHG reduction of 32,938 tonnes
- Creating job opportunities (estimated 6500-7000 jobs) and poverty alleviation
- The action will integrate the circular economy principle by promoting the sustainable use of agriculture waste as fuel and durable products and construction materials including recycled content
- A showcase for an innovative market transformation mechanism applied in China has been created that is replicable in other Asian countries

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Gansu Construction Technology and Building Energy Saving Association (GSBEA)

Henan Provincial Development Centre for Green Building Science & Technology and Industrialization (HNGBI)

SUS BIRD - Sustainable Building Interior Renovation and Decoration

CHINA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 12/2009-11/2013
BUDGET: EUR 2,122,828 (EU contribution 80%)

CHALLENGE

The building, construction, and decoration market in China is booming. Renovation and decoration can cause severe health problems for both the workers of renovation/decoration companies (exposure to dust, solvents, etc.) and the inhabitants of the buildings living with indoor air pollution. Because of the substantial number and types of materials used, the generation and inadequate disposal of waste, and hazardous emissions, renovation and decoration can result in serious problems. The absence of product information, insufficient capacity, and limited access to sustainable products, sustainable renovation and decoration services remain a challenge in China.

OBJECTIVES

The project sought to improve the health of inhabitants of newly decorated and renovated buildings and the employees of decoration companies, and a better environment, by reducing energy consumption and environmental impact related to the building interior renovation and decoration (BIRD) practices and production.

OUTCOMES

- Achieved adequate supply and easy access to healthy and environmentally friendly decoration products and appliances for consumers and SMEs
- Increased capability of SMEs to apply sustainable BIRD products, working materials and procedures
- Market pull created through increased awareness of and information for end consumers
- The seeds for incentives for sustainable BIRD have been set through an enhanced policy framework
- An institutional network of sustainable BIRD SMEs (TMSustainable BIRD Initiative) to promote (pilots, show cases) and support sustainable BIRD has been established
- A showcase for an innovative market transformation mechanism applied in China has been created that is replicable in other Asian countries

Now we realise that the sustainability of interior decoration highly relies on the products we choose. We should let more people know what kind of BIRD products are sustainable. We will promote this concept to our customers by providing them with comprehensive solutions.

Mr.Huan Qi
Marketing Director
Beijing LBY Office Environment Engineering Co., Ltd.

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China Quality Mark Certification Group Co., Ltd (CQM)

Collaborating Centre on Sustainable Consumption and Production GGMBH

IVL Swedish Environmental Research Institute Ltd, Sweden

Science and Technology Promotion Center of MoHURD (CSTC)

United Nations Environment Programme, Division of Technology, Industry and Economics (UNEP DTIE), France

Train the Trainers - Energy saving techniques and technologies

CHINA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 2/2009-7/2013
BUDGET: EUR 2,979,198 (EU contribution 80%)

CHALLENGE

The construction industry in China is known for building new structures quickly and cheaply. The construction boom has led to low-energy efficiency in many buildings, with poor quality construction materials and poor installation techniques. Many investors still have the mind-set that good quality, efficient buildings are not worth paying for. The Chinese construction sector contributes substantially to the country's CO_2 emissions. Construction itself as well as the daily use of buildings, i.e. heating and cooling within the residential sector, represent almost one-third of China's total energy consumption. Therefore, the building sector is an important link in the challenge of mitigating climate change in China.

OBJECTIVES

The project aimed to improve energy efficiency in the Greater Shanghai region, by constructing more environmentally friendly buildings. It empowered the Chinese construction sector to incorporate energy efficiency measures in the design and construction of buildings. The project shared European experience in energy efficiency, building material standards and installation techniques. The project addressed these issues through:

- Providing training courses to Chinese construction SMEs and government officials
- Promoting European building standards and best practice
- Contributing to the development of an enabling policy environment

OUTCOMES

- Established a permanent Sino-European Energy-Efficient Training and Research Centre that replicates, extends and scales up the original pilot project
- Expanded the range of services and target groups as well as the geographical outreach of the project
- Promoted European building standards, certifications and best practices
- Provided policy input at regional, national, supra-national levels certification
- Developed standards for processing green and safe bamboo-shoot products

The training has inspired me to develop a more systemic view on how our products relate to the whole energy consumption cycle. We can save energy starting from the very initial stage of production.

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Shanghai ABM Rock Wool

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WESTERN CHINA SUSBUILD - Upscaling and mainstreaming sustainable building practices

CHINA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 1/2016-12/2019
BUDGET: EUR 2,800,000 (EU contribution 80%)

CHALLENGE

China's unprecedented socio-economic growth drives expansion in the building sector, which has added about 2 billion m^2 annually over the past few decades. The building sector accounts for about 30% of the final energy consumption in China. The Chinese government issued its first green building standard in 2006 with the goal of having 50% of new constructions comply with this standard by 2020. Only 10% of the construction projects currently reach that standard, out of which 90% are located in the developed part of eastern China. In western parts of China, new construction of green buildings is still in a pilot stage.

OBJECTIVES

The project aimed to scale up sustainable building practices in less-developed parts of western China, reducing climate and resource impacts of the building sector and contributing to sustainable socio-economic growth in China. It sought to foster sustainable building practices among micro, small and medium-sized enterprises (MSMEs) in Chongqing City and Yunnan province with replication potential for western China.

OUTCOMES

- Providing capacity building and technical support for MSMEs in the building supply chain
- Raising MSME users awareness about energy saving and enhancing the capacity of facility managers with respect to energy management in large commercial buildings
- Developing concrete solutions to facilitate the access to finance for MSMEs producing building materials/components and for energy service MSMEs
- Supporting the development of policy instruments fostering the uptake of sustainable building practices
- Improving business networks fostering sustainable buildings
- Disseminating key lessons learnt from sustainable building practices to all of China and at the regional level in Asia

In China, the building and construction sector offers tremendous opportunities for the country to pursue resource-efficient and low-carbon development. For us, this means supporting an integrated multi-stakeholder approach by an effective combination of capacity-building facilitating SMEs' access to finance, enhancing business networks, and working with the government on an enabling policy framework.

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Chongqing Association of Building Energy Efficiency (CQBEEA)

Chongqing Economic Promotional Centre for Building Material Industry (CEPCBM)

Yunnan Development Centre for Building Technology (YNBTDC)

Yunnan Engineering Quality Supervision and Management Station (YEQSMS)

SUBUMA - Environmental declaration scheme for construction and building materials

MALAYSIA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 12/2012-12/2015
BUDGET: EUR 2,043,229.41 (EU contribution 80%)

CHALLENGE

Over the past two decades, Malaysia has undergone a rapid rate of infrastructure development that has continued to the present day. This growth is still evident in the region as demonstrated by a 4.1% expansion in the construction industry. However, a new trend is likely to negatively affect this sector, because buyers now take into consideration information on greenhouse gas emissions (GHG) as important for their procurement decisions. The majority of multinationals claim they would be prepared to source products from a different country if this reduced carbon emissions. This represents both a real opportunity and a significant risk for Malaysian construction and building materials small and medium-sized enterprises (SMEs).

OBJECTIVES

The project aimed at developing guidelines, tools and the supporting mechanism for product footprinting and labelling that meet the needs of the local and international market, and creating the recognition and preference for sustainable products from SMEs in the Malaysian construction and building materials sector.

OUTCOMES

- Developed a carbon footprint labelling scheme which was based on international standards, such as the ISO series of standards on environmental management, GHG protocol of the World Resources Institute and PAS 2050 guidelines on carbon footprinting, ensuring global market acceptance
- 13 companies had met the requirements of the audit process and received licenses to use the SIRIM carbon footprint logo
- 10 product categories that have been identified/labelled for the pilot programme, namely wall coatings, sanitary ware, plumbing pipes, ceilings ceramic tiles, floor finishing, wall panels, masonry units, structural steel, architectural steel and architectural roofing, providing impetus to other manufacturers to improve their environmental performance

The long-term synergetic business partnerships established during this project would not have occurred without the SWITCH-Asia programme.

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Federation of Malaysian Manufacturers (FMM)

Malaysia Green Building Confederation (MGBC)

The Carbon Trust, UK

Greener Construction Project

MONGOLIA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 3/2013-2/2017
BUDGET: EUR 2,482,103 (EU contribution 80%)

CHALLENGE

The construction industry in Mongolia has expanded rapidly in recent years, but little attention is being paid to environmental impact or to energy-efficiency considerations. One of the main materials used by the construction industry in Mongolia is concrete. The substitution of the aggregates (natural materials) used in concrete with fly ash would improve the insulation capacity of concrete, thus reducing energy use and reducing the use of natural resources.

OBJECTIVES

The project sought to promote SCP patterns and behaviour in the Mongolian construction industry by mobilising the private sector along with relevant public sector authorities to develop construction products using fly ash and through advocacy to facilitate the use of green construction products and practices.

OUTCOMES

- Project research and development activities designed cost-effective and eco-friendly products and established a regulatory framework based on related standards
- Three ash-based construction materials (AAC blocs, aggregate blocs and dry mortar mixture) were developed
- 100 small and medium-sized enterprises (SMEs) in the construction industry now make and sell fly ash construction products
- 14 vocational training schools (TVET) have signed a MoU with Caritas Czech Republic, and 176 teachers have received training. Currently, 5 schools have already started teaching ‘Green construction practices’ courses
- Signed 26 MoUs with state agencies, the labour departments of Erdenet, Darkhan and Ulaanbaatar districts (9 districts), and professional associations

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Mongolian National Chamber of Commerce and Industry (MNCCI)

Swedish Environmental Research Institute (IVL)

Recycling Building Materials - Improving resource efficiency and cleaner production in the construction sector

MONGOLIA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 3/2016-11/2020
BUDGET: EUR 1,562,500 (EU contribution 80%)

CHALLENGE

The booming construction industry in Mongolia has resulted in the production of massive amounts of construction and demolition waste (CDW). It is estimated that this waste accounts for 20-25% of all overall solid waste produced in Mongolia. CDW is thus one of the largest waste streams. In Ulaanbaatar (UB) and other cities, construction waste is dumped illegally. A huge part of the construction and demolition work is done by the contractors and subcontractors of small and medium-sized enterprises (SMEs). Thus, SMEs are producing most of the CDW, and their current unsustainable approaches have resulted in a negative impact on human health and the environment. CDW management represents a significant challenge because the performance of SMEs in construction and demolition debris management is still poor. There are difficulties prevent SMEs from using good CDW management practices. In addition, CDW recycling SMEs in Mongolia face a lack of knowledge and the technical capability to deal with negative environmental problems. Furthermore, there are no specific regulations or certifications for the proper demolition of an end-of-life (EoL) building, recycling or reuse of CDW.

OBJECTIVES

To promote sustainable production and consumption in the construction sector, by supporting SMEs to switch to more resource-efficient practices.

OUTCOMES

- Prepared key stakeholders in the construction sector to adopt sustainable construction and demolition waste (CDW) management practices
- Tested, verified, approved and prepared a CDW-based product for commercial production
- Raised awareness of the advantages of CDW-based products among SMEs and state administration bodies
- Created a more conducive legal framework to enable sustainable CDW management

We tried to put the techniques and methods of recycling and reusing of construction and demolition waste into practice after our engineers and employees participated in the project's training. For example, we demolished three facilities of the General Customs Administration and 85% of them were reused to build the Sports facility of the Selenge province. We separated wooden materials from around 38,000 tons of construction and demolition waste and delivered it to about 120 households for firewood usage. We also provided more than 200 trucks of soil from demolition waste to rehabilitate the broken dam in Khentii province. There are many such examples.

DMr. Lkhagvajav. M
Director of the construction and demolition company Kharvaach Mergen LLC.

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TUD Delft University of Technology

Sheep Wool for Building Material (SWBM)

MONGOLIA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 1/2013-5/2016
BUDGET: EUR 891,412 (EU contribution 80%)

CHALLENGE

The majority of Mongolian wool production (more than 90%) is coarse wool. There is very little demand for coarse wool and it is sold almost without any value for the pastoralists. This type of wool is used mainly for the production of carpets and felt, which is used mainly for ger insulation. Thus it is traditionally used as a construction material. Technology for the production of sheep wool building insulation (SWBI) and its usage within the construction industry exists in the Czech Republic and in other European countries. Additional know-how transfer to wool processing SMEs and to the Mongolian construction sector was one of the key outcomes of the project.

OBJECTIVES

The project sought to develop a sustainable supply chain of SWBI as a green, environmentally friendly innovative product improving resource efficiency, contributing to poverty reduction, economic development and reducing air pollution and greenhouse gas (GHG) emissions.

OUTCOMES

- Trained small and medium-sized enterprises (SMEs) on marketing of SWBI
- Facilitated funding for SWBI production start-up and linking SMEs with financial institutions
- Developed minimum quality standards for sheep wool suitable for insulation
- Train small-scale suppliers/pastoralists on minimum quality standards
- Linked producer SMEs with small-scale suppliers/pastoralists
- Designed marketing strategies and training on marketing of SWBI
- Conducted surveys on possible funding (green financing) for the construction sector
- Prepared drafts of prototype designs, containing technical condition description and the basic design concept including necessary construction details

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SEVEn - Energy Efficiency Center, Czech Republic

Switch off Air Pollution - Energy efficiency advisory and financial intermediation for sustainable housing

MONGOLIA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 2018-2022
BUDGET: EUR 2.191.896,24 (EU contribution 80%)

CHALLENGE

The Government of Mongolia declared air pollution in Ulaanbaatar a state emergency in early 2017, with renewed ambitions and openness to explore additional ways to tackle the issue. Despite many projects and actions conducted – including e.g. free electricity during night-time in ger areas and use of electric heaters and recharge heat accumulators for day-time use – addressing the issue of thermal efficiency of individual houses plays an important role when developing sustainable solutions for pollution challenges in Ulaanbaatar.

OBJECTIVES

This project sought to promote sustainable consumption patterns and behaviours in the individual housing sector of Mongolia through energy efficiency advisory and financial intermediation. It aimed to reduce pollution in Ulaanbaatar's ger areas through improved energy efficiency in housing, awareness-raising, technical training and technological support to micro, small and medium-sized enterprises (MSMEs) and households.

OUTCOMES

- The project estimated that 1000 energy-efficient houses would be retrofitted, saving 1600 mT of coal and avoiding the emission of 6000 TeqCO_2
- Appropriate technical solutions and recommendations for energy efficient dwellings were defined and prepared for dissemination to construction professionals and households
- Construction sector capacity to sell and set-up EE retrofit or building was strengthened through gender sensitivity
- Final households and SMEs wee pro-actively linked, through finance intermediation, to project relevant financing tools and subsidy mechanisms
- Energy efficient and gender perspective solutions and practices were disseminated with the support of energy advisors, finance officers and awareness raising actions
- Conditions for scale-up and replication of the project package tool are in place, including gender mainstreaming

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GERES - Acting for Climate Solidarity

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Ger Community Mapping Center (GCMC)
Mongolian National Construction Association (MNCA)
People in Need (PIN)

Switch-off Air Pollution in Mongolia's Cities (SOAP)

MONGOLIA

SUSTAINABLE HOUSING AND BUILDING

IMPLEMENTATION PERIOD: 2022-2026
BUDGET: EUR 2,874,937 (EU contribution 80%)

CHALLENGE

Rapidly urbanising, Mongolia has inherited the socialist inefficiencies and lack of awareness related to energy production and consumption leading to high costs, almost exclusive usage of fossil fuels, poor efficiency and major air pollution and health concerns in all urban areas. As a source and first victims of pollution, ger-district dwellers remain at the centre of the problem and the solution. Focusing on the building and construction sector, this project will address both energy efficient (EE) retrofitting of the existing stock of non-engineered individual houses in Mongolia and the construction of new houses, following the current trend of in-migration to cities. Involving women as agents of change, for instance engaged in advocacy, as awareness raising actors, entrepreneurs and technicians, will be key in achieving the desired changes in construction, housing and household energy management habits.

OBJECTIVES

Promote the transition to a low-carbon housing sector in Mongolia's cities, by working with consumers, households, companies, financiers, technicians and the public sector, leveraging finance and technical solutions, and increasing awareness. The project aims to diversify the offer of EE solutions, strengthen all levels of EE value chains, expand geographically to province capitals, and fine-tune and spread a replication mechanism for national handover and implementation, including the qualification of options for further access to finance.

The specific objectives include:

- Contributing to the uptake of less polluting and more resource-efficient practices in housing in Mongolia
- Improving air quality and reducing GHG emissions in urban Mongolia through the scale-up of conducive and inclusive access to finance and to EE solutions in the individual housing sector

WAY FORWARD

- Though capacity-building, women and men of the ger areas will become actors of change to tackle energy inefficiency in their houses, neighbourhoods, and at the national level
- A large range of technical solutions is made available to improve the energy efficiency of most individual housing situations: retrofitting, new house, or ger (felt tent)
- Households and micro, small and medium-sized enterprises (MSMEs) have access to appropriate financing options, in the form of green loans and subsidies, to support their transition to energy efficiency
- Craftsmen and women and MSMEs of the construction sector are trained in energy-efficient construction techniques, materials, and equipment, thanks to newly established MSME- focused and regional branches of the dedicated national professional association, Mongolian National Cooperative Alliance (MNCA)
- A comprehensive methodological and technical package is tested and available for replication in every city of Mongolia
- Ownership of the Project is handed over to a public-private body as a vehicle achieving nationwide scale-up with demonstrable effects on people's environment, economy, and well-being

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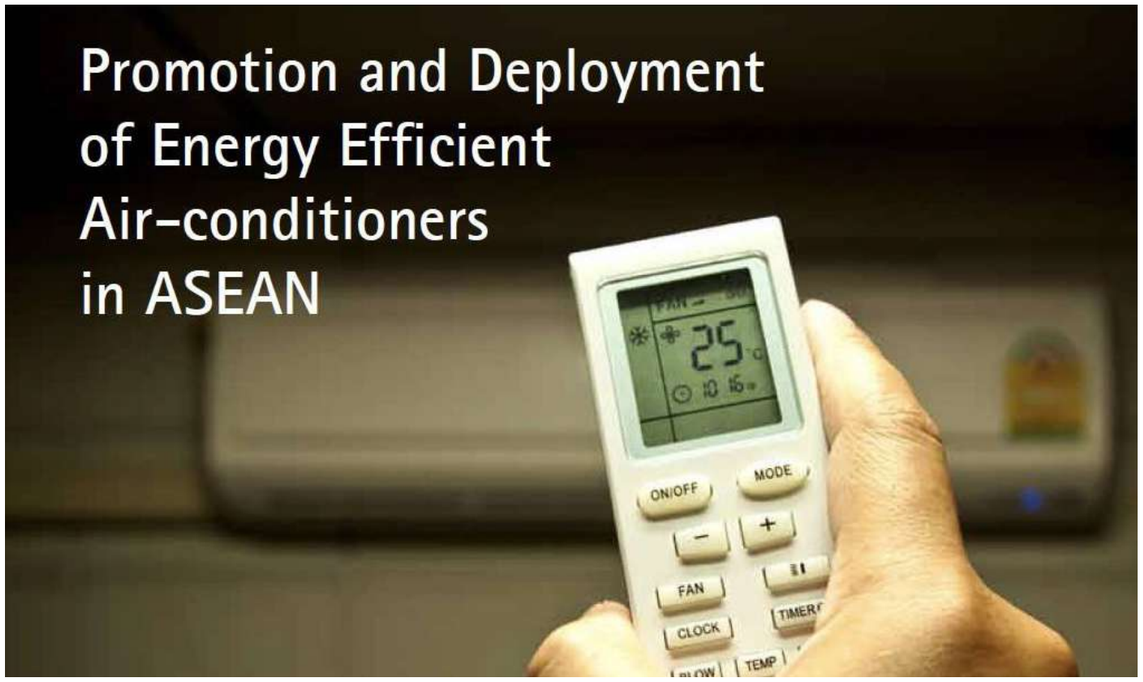
Mongolian Women's Fund (MONES)

ASEAN SHINE

INDONESIA, MALAYSIA, PHILIPPINES, THAILAND, VIETNAM

AIR-CONDITION INDUSTRY

IMPLEMENTATION PERIOD: 1/2013-12/2016
BUDGET: EUR 2,186,374 (EU Contribution: 80%)



CHALLENGE

Air conditioners (ACs) represent close to 50% of household electricity consumption in the Association of South-East Asian Nations (ASEAN). Currently, the market share of ACs with an energy efficiency ratio (EER) at or above 3.2 (which is China's EER for Minimum Energy Performance Standard/MEPS) is only around 25%. Assuming all ASEAN countries adopt a MEPS of 3.2, the electricity consumption of the residential sector would be reduced by 5373 GWh per annum, corresponding to a reduction of 2.7 million tonnes of CO_2 emissions per annum.

OBJECTIVES

The ASEAN SHINE project sought to phase out energy inefficient ACs and increase the market share of more highly efficient ACs within the ASEAN region. This led to a reduction in electricity consumption and GHG emissions, as well as an enhanced regional market integration through harmonised standards. The specific project objectives included:

- Harmonising standards for testing methods
- Developing a regional policy roadmap
- Developing national policy and regulatory roadmaps for an increase of minimum energy performance standards
- Building capacity of testing laboratories
- Building capacity of local small and medium-sized enterprises (SMEs) that manufacture ACs
- Changing consumer purchasing attitudes in favour of more highly efficient ACs and the electronics producing industry

OUTCOMES

- Harmonised standard for all ASEAN countries
- Establishment of a regional policy roadmap
- Direct scaling up to efficient lighting
- Expanding to other household appliances
- Creating country chapters
- Conducting awareness campaigns
- Creating the right conditions

ASEAN SHINE has paved the way for greater cooperation in ASEAN in terms of harmonisation of standards, contributing to the ASEAN Economic Community, as well as in promoting energy efficiency. ASEAN SHINE has become a public-private partnership under the United for Efficiency Initiative managed by the UN Environment Programme (UNEP) which expanded its scope to lighting, refrigerators, electric motors and distribution transformers. With the strong support of ASEAN governments, manufacturers and the international community, the project has become a platform to advance sustainable energy in ASEAN. The SHINE model is now being duplicated in Latin America.

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Research Center for Energy and Environment (RCEE), Vietnam

SIRIM QAS International, Malaysia

UNEP – Division of Technology, Industry and Economics (DTIE), Energy Branch

WASTE MANAGEMENT

Pride on our Plates - Strengthening China's MSMEs through food waste solutions and behavioural insights

CHINA ● WASTE MANAGEMENT

IMPLEMENTATION PERIOD: 2020-202_
BUDGET: EUR 2,369,535.05 (EU contribution 75.96%)

CHALLENGE

China has a population of 1.4 billion people; a sufficient food supply and a well-designed waste management system are essential to building a sustainable food consumption market in this vast country. If wealth continues to grow in China, food waste is likely to increase, which is a trend seen in many developing countries. But there is a change on the horizon: food service providers are beginning to understand the importance of combatting waste in order to reduce business costs, protect the environment, and meet increasing customer demand for more sustainable operations. Chinese government has been taking measures in recent years to improve its waste management system nation-wide by calling for 'Zero-Waste City' pilots. However, micro, small and medium-sized enterprises (MSMEs), which make up 97% of China's enterprises, fall into a critical 'gap' because they are not often the target audience for food waste reduction resources or campaigns. This project aims to close that gap by empowering China's MSMEs to respond to the food waste challenge. Simply put, reducing and better managing food waste is one of the easiest and most effective ways to mitigate the environmental impact of our food system and sustainably feed our communities.

OBJECTIVES

Catalyse the prevention, reduction, and diversion of food waste among MSMEs in China's hospitality sector. More specifically, the project aims to:

- Promote the adoption of more resource-efficient processes and services among MSMEs, including an actual reduction of food waste
- Develop a Food Waste Policy Proposal to increase awareness on Sustainable Consumption and Production (SCP) and distil knowledge for wider replication, enhance policy dialogues, and support strengthened policies related to curbing food waste
- Support sustainable consumption and consumer awareness on SCP by training MSMEs to use a behaviour-centred design (BCD) approach to food waste reduction, and widely disseminate the information to businesses and consumers.

WAY FORWARD

Targeted MSMEs in China's hospitality and food services sector will be empowered to implement solutions to reduce and better manage food waste, and momentum will be created for replication in the wider sector. The goal by 2024 is that at least:

- 350 MSME staff will be trained on food waste prevention, reduction and diversion practices
- 100 MSMEs will be applying SCP practices
- 50 MSMEs in the hospitality and food services sector will have reduced their food waste by 10% or more
- Industry associations in the wider hospitality and food services sector will endorse the MSME Food Waste Practical Guide, recommending its use to their members and inspiring wider replication

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3R4UB - The 3Rs for a sustainable use of natural resources in Ulaanbaatar

MONGOLIA ● WASTE MANAGEMENT

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 3,513,601.10 (EU contribution 80%)

CHALLENGE

The Government of Mongolia has undertaken a number of initiatives related to waste and the 3Rs (reduce, reuse, recycle) at different levels, which have already been or are being implemented. However, some of these initiatives have not suitably addressed waste management problems, and no overall coordinating system exists for waste management in the country. As a result, solid wastes continue to be dumped regardless of location and without any systematic sanitary treatment. For example, there is no regular waste collection and disposal schedule, no disposal options except for landfills in Ulaanbaatar (UB) and other aimags, and no special facilities for disposal of hazardous waste. These issues are causing a negative impact on both the environment and public health in the country. Furthermore, the lack of consolidated and comprehensive data on waste generation and its management is leading to a gap in future planning and the implementation of sound waste management strategies.

The 3R4UB project supports micro, small and medium-sized enterprises (MSMEs) in adopting and financing SCP practices from initial demonstration through to the practical replication of sustainable urban landscapes and waste management. The project is mobilizing the private sector, financial intermediaries, producers and consumer organisations and social groups to work in harmony with the Urban Landscape and Waste Management Department of the Mayor's office in the City of UB. The project will also be disseminating design tools and an integrated design approach on SCP and Circular Economy for UB and all stakeholders (government, MSMEs, citizens, civil society). It will follow an innovative design for a Smarter Consumption Plan through knowledge-sharing and co-design approaches involving a wide range of stakeholders and the wider community towards creating innovative and competitive solutions for UB's societal and environmental problems, as tested by a pilot demonstration.

OBJECTIVES

3R4UB will initiate reduction and reuse of waste, in accordance with the provisions of EU Directive 2008/98/EC, a robust model of separate collection, managed by MSMEs and the City of UB, through the Pilot Demonstration. It will build capacity within line-ministries and sub-national agencies to promote SCP, through the involvement of the Mongolian Government Agency Fresh Water Resources and Nature Conservation Centre (FWRNCC) and improve their expertise through technical training, workshops and field visits. The project will also facilitate interaction between MSMEs and financial intermediaries to create the necessary conditions for accessing finance for the SCP investments, forming a working group and financial framework for key stakeholders such as the Mongolian Banking Association (MBA). It will also assist collaboration among companies that collect recyclable waste, sorting and treatment plants, and industries that reuse waste as a second raw material for profitable economic investments to encourage a circular economy approach. An analysis of the infrastructure needed to allow sustainable management chains for municipal solid waste (MSW) will be backed by an economic analysis. More specifically, 3R4UB will:

- Promote the adoption of SCP practices among Local Authorities (LAs), citizens and MSMEs, notably in plan design, awareness campaigns and a pilot project
- Build capacity of line ministries and sub-national agencies to promote SCP, and improve their expertise through technical training, workshops and field visits
- Facilitate interaction between MSMEs and financial intermediaries to create the necessary conditions for accessing finance for SCP investments
- Change consumer habits, directed primarily at younger generations and future social actors
- Forge strong links between companies that collect recyclable waste, sorting and treatment plants, and industries that reuse waste as a second raw material

WAY FORWARD

- Conducive conditions for the implementation of a sustainable system of collection of MSW through urban planning
- Increased public awareness by encouraging the sorting of household waste
- Improved production process of MSMEs through the collection of materials selected at source and access to a waste sorting plant
- Income generation from the sale of recyclable material as a result of the higher quality obtained by the collection and sorting process as well as through greater cleanliness, homogeneity and uniformity

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

CNR IRISS

PARTNERS

Metellia Servizi srl

Municipality of Ulaanbaatar

The Freshwater Resource And Nature Conservation Centre (FWRNCC)


Grilled Bananas

SUSTOUKA - Implementation of SCP practices and sustainability schemes in the MSMEs of the Tourism sector in Kazakhstan

KAZAKHSTAN ● TOURISM

IMPLEMENTATION PERIOD: 2020-2023
BUDGET: EUR 1,545,547 (EU contribution 80%)

Travelife
Sustainability in tourism

CHALLENGE

The main needs and constraints that the tourism sector in Kazakhstan is facing right now are numerous. They include the absence of high-quality and sustainability standards, poorly planned facilities, climate change with devastating consequences on Kazakhstani natural resources, inadequate skilled human resources to manage the sector, among others. The government budget for this sector is still low, and opportunities for interaction with the private sector are scarce. There is limited understanding of the tourism industry by financial institutions, as well as insufficient destination marketing and promotion. If these challenges are not immediately addressed, the development and growth of the sector could result in the endangerment of natural resources of the country, one of its main tourist attractions.

OBJECTIVES

The project seeks to enhance the sustainability and competitiveness of the tourism sector through support to micro, small and medium-sized enterprises (MSMEs) and by developing green business approaches and access to green finance. It aims to contribute to resource efficiency in the tourism accommodation sector and supports the implementation of sustainability certification systems. The specific objectives include:

- Better equipping MSMEs to seize opportunities for green business development
- Promoting green consumption and better informed public and private consumers
- Advocating for clearer and more efficient sustainable consumption and production (SCP) policies
- Making green financing more accessible to MSMEs

OUTCOMES

- Improved sustainability and resource efficiency in 50 MSMEs within the tourist accommodation sector in Kazakhstan
- Promoted green commercialisation and consumption by implementing Travelife sustainability certification system in the MSMEs of the tourism sector (accommodations and tour operators) in Kazakhstan
- Increased awareness of and commitment to SCP practices and sustainable tourism benefits among government institutions and financing bodies
- Created a panel of experts on SCP practices, sustainability schemes and marketing strategies to foster the continuation of these practices once the project is finished

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Stichting European Centre for Eco and Agro Tourism - Nederland

Ule Kazakhstan Tourist Association

MOST - A Model for Sustainable Tourism in Central Asia

KAZAKHSTAN, TAJIKISTAN, UZBEKISTAN

TOURISM

IMPLEMENTATION PERIOD: 2020-2022
BUDGET: EUR 2,009,909 (EU contribution 80%)

CHALLENGE

The former Soviet Asian States have considerable opportunities to become major tourist destinations because of their unique cultural, historical, archaeological, and natural attractions. Uzbekistan, Kazakhstan and Tajikistan have strategically utilised tourism for driving economic growth. However, the sector faces various problems and challenges. The most important are the lack of supply chain and logistics facilities, underdeveloped infrastructure and low-standard services for tourists. In some of the countries, the visa regime and high prices are also inhibitory factors. Given that the tourism sector in these countries is still underdeveloped but with very high potential, setting up a sustainable tourism model is very crucial. Sustainable tourism has the potential to support growing local economies, by respecting communities and protecting cultural and heritage sites from risks of overcrowding and from damage caused by natural disasters. Destinations that are becoming increasingly popular today, as is the case in Central Asia, have the opportunity to sustainably develop their tourism sectors and become role models for other countries around the world.

OBJECTIVES

The project aims to promote sustainable tourism in Uzbekistan, Kazakhstan and Tajikistan through implementation of ISO standards related to green procurement and eco-labelling and the development of Guidelines on sustainable consumption, including usage of water, energy and recyclable waste.

It also seeks to promote the sharing of EU best practices such as legislative frameworks and regulations, while applying needed information and communication technology (ICT) and marketing tools.

The specific objectives include:

- Supporting tourism companies mainly in Uzbekistan, but also in Tajikistan and Kazakhstan to adopt sustainable consumption and production (SCP) practices by providing appropriate knowledge and ICT tools
- Supporting regional and local authorities to plan and implement policies that assist the development of sustainable tourism
- Raising awareness regarding sustainable tourism and consumer awareness about sustainable consumption
- Strengthening the dialogue between authorities, small and medium-sized enterprises (SMEs) and end-users for further promoting responsible consumption and production

most
Model for Sustainable Tourism in Central Asia

OUTCOMES

- 380 tourism MSMEs trained in the use of tools and SCP methodologies and standards (Global Sustainable Tourism Council criteria, Travelife and relevant standards, and green procurement)
- 440 tourism MSMEs in Uzbekistan, Tajikistan and Kazakhstan equipped with the appropriate ICT tools and knowledge for adoption of SCP practices
- At least 50 tourism MSMEs trained in marketing tools
- Dialogue strengthened between state actors and the business sector for sustainable tourism
- Recommendations formulated for the adoption of sustainable tourism in Uzbekistan, Tajikistan and Kazakhstan
- Local and regional authorities supported in policy planning and linking to investment and other support instruments
- Increased knowledge of and awareness about the sustainable usage of water and energy
- Access to finance facilitated for MSMEs
- Role of local and regional authorities in sustainable tourism strengthened
- SCP practices adopted in the tourism sector

SCAN FOR MORE PROJECT INFORMATION

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Tajik Association for Promotion of Tourism Development (TATO)

GREEN TOUR - Replicating tourism industry sustainability best practices into the Kyrgyzstan and wider Central Asian tourism supply chain through an integrated business led approach

KYRGYZSTAN

TOURISM

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 1,687,839 (EU contribution 80%)

CHALLENGE

The tourism sector in Kyrgyzstan faces numerous challenges, including the lack of supply chain and logistics facilities, poorly developed infrastructures, and low-standard services for tourists, among others. GREENTOUR responds to the objectives of the Kyrgyz government to advance a greener and more sustainable tourism in Kyrgyzstan, involving communities and diversifying tourism products in order to attract new target groups and clients. While the term 'sustainable tourism' is still not widely known and used in the region, terms such as 'nature tourism', 'responsible tourism', and 'green tourism' are increasingly being used, indicating the growing awareness of the need to switch to tourism models that will have a lower negative impact on the environment, natural resources and local communities' livelihoods.

OBJECTIVES

The project seeks to integrate green services and products in the tourism supply chain, and to develop waste management approach for hotels, restaurants and destinations, in particular for food waste and plastics reduction standards. It also aims to Foster the creation of new financial schemes and to promote access to finance instruments for micro, small and medium-sized enterprises (MSMEs). The specific objectives include:

- Improved capacity of travel associations to provide CSR advisory services
- Integrated SCP practices, green services and products within tour operators supply chain
- Support for 20+ MSMEs to access green finance
- Integrated SCP principles in Kyrgyz and Central Asian policies

OUTCOMES

- Kyrgyzstan tour operators and supply chain integrate SCP practices
- Green financing scheme created to support more than 20 MSMEs
- Increased number of green services and products enter the supply chain
- SCP mainstreamed in Kyrgyz and Central Asian policies

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Stichting European Centre for Eco and Agro Tourism - Nederland

PERETO - Promotion of energy security and sustainable growth through increased energy and resource efficiency in tourism SMEs in Kyrgyzstan

KYRGYZSTAN ● TOURISM

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 2,832,155 (EU contribution 80%)

CHALLENGE

In an attempt to shift the development of the tourism sector to a more sustainable path, the Kyrgyz Government has decided to include tourism as a priority sector in the National Programme for the Development of the Green Economy 2019–2023. This programme recognises the importance of tourism and includes environmental protection as a principal strategic direction. For businesses in the tourism sector, these general policies are unlikely to effect changes in their energy and resource use practices. The root cause for this is the often inconsistent and incoherent environmental legislation, which lacks provisions for sustainable consumption and production (SCP) and, combined with limited enforcement, encourages wasteful practices. In the regional context, despite its small size, Kyrgyzstan is only second to Kazakhstan in attracting foreign visitors (6.95 million in 2018). The country has several specific assets that make it a preferred destination, compared with its larger neighbours. Nevertheless, pollution is an emerging concern and, with growing numbers of tourists expected to visit the country, the problem is likely to become even more substantial. According to a recent survey, 25% of tourism companies perceive the tourist sites where they operate as polluted. Unless addressed, pollution at tourism sites, compounded by the wasteful practices of tourism businesses, will threaten the country's opportunities to secure an ever-steady influx of nature-loving visitors.

OBJECTIVES

PERETO seeks to foster the adoption of SCP and energy and resource-efficiency measures through the introduction of various tools and training while promoting the adoption of voluntary green certification; to develop an online Self-Assessment Tool for micro, small and medium-sized enterprises (MSMEs); to promote access to green finance for MSMEs in the tourism sector in order for them to adopt SCP and resource-efficiency measures; and all the while creating an appropriate enabling environment for related policies.

The specific objectives include:

- Raising the awareness of consumers and SMEs in the tourism sector about SCP and Environmental and Resource Economics (ERE) practices
- Build capacity and technical readiness of tourism SMEs to adopt SCP and ERE measures
- Develop new green financing products tailored to the needs of SMEs in the tourism sector
- Facilitate and advance the national policy dialogue and policy formulation on SCP and ERE implementation
- Promote industry commitments geared towards achieving the country's Green Economy goals by facilitating the development of voluntary ERE certification targeted at tourism MSMEs

OUTCOMES

- Increased awareness of the importance of SCP practices and ERE measures
- Increased local capacity among tourism SMEs to implement SCP and ERE
- Increased access to green finance for tourism SMEs to adopt SCP/ERE measures
- Increased awareness among company executives, consumers (travellers, citizens), local media, and educational institutions about the importance of SCP and ERE
- An improved policy enabling environment that favours the inclusion of SCP and ERE in national policy formulation and implementation

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The Collaborating Centre on Sustainable Consumption and Production (CSCP)

SET - Promoting energy efficiency and renewable energy production in the community-based tourism sector in Central Asia

KYRGYZSTAN, TAJIKISTAN, UZBEKISTAN

TOURISM

IMPLEMENTATION PERIOD: 2020-2023
BUDGET: EUR 2,699,863 (EU contribution 80%)

CHALLENGE

Countries in Central Asia are among the most vulnerable globally to the effects of climate change, while also being among the least resilient. The overuse of natural resources exacerbates the risk of natural disasters, conflicts, and rural poverty. Meanwhile, a United Nations World Tourism Organisation (UNWTO) study found that greenhouse gas emissions from tourism already contributed 5% of global emissions, with transport generating 75%. In the absence of either real awareness of sustainable consumption and production (SCP) practices or an enabling environment for the development of a strong energy efficiency (EE) and renewable energy (RE) sector, rapid tourism development seriously threatens to further increase greenhouse gas emissions and the carbon footprint, and further degrade the natural environment in Central Asia.

OBJECTIVES

The project promotes the transition of Kyrgyzstan, Uzbekistan and Tajikistan to a low-carbon economy by adapting and introducing new resource and energy efficiency solutions from technology providers, and facilitating access to green finance to scale up new technologies and SCP solutions in the tourism sector. It also seeks to develop a 'Green hostels' model through implementation of SCP practices such as local eco-standards, eco-certification schemes, a value-chain approach and resource efficiency. The specific objectives include:

- Promoting the adoption of SCP practices by MSMEs in the community-based tourism (CBT) sector through linkage with producers in the EE/RE sectors, as well as financial intermediaries
- Enhancing policy dialogue among actors in the sector to create a more enabling environment for EE/RE development
- Promoting sustainable CBT initiatives at the national, regional and international levels and increasing consumer awareness of sustainable tourism in Central Asia

OUTCOMES

- SCP practices and behaviours adopted by EE/RE producers and CBT consumers
- Policy dialogue was enhanced among actors in the EE/RE sector
- Sustainable CBT initiatives were promoted and consumer awareness was increased

SCAN FOR MORE PROJECT INFORMATION

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Uzbekistan National Association of Microfinance Institutions (NAMI)

SHINE - Sustainable Hospitality Industry Inclusive of Native Entrepreneurs

BHUTAN

TOURISM

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 2,075,965 (EU contribution 90%)

CHALLENGE

Bhutan has a thriving tourism industry with a significant increase in visitors. The tourism sector is one of the largest employers and the second highest revenue contributor in the country. However, tourism activities and income are largely concentrated in the three most popular destinations in the west. Thimphu, Paro and Punakha received more than 75% of the total visits, while the six eastern provinces – Lhuentse, Monggar, Pemagatshel, Samdrup Jongkhar, Trashigang and Trashi Yangtse – altogether received fewer than 4% of all tourists in 2018. While tourist hotspots are becoming overcrowded and attaining capacity limits, rural districts barely benefit from any tourism income. The tourism industry relies heavily on imported resources to meet overwhelming guest demands, whereas poverty in rural areas remains almost 10 times higher compared to urban areas. Young workers leave their homes to find jobs in Thimphu, Paro and Phuentsholing, resulting in a labour shortage in the hinterland, and many of these workers suffer from social dislocation and a lack of belongingness. The livelihood of people in rural areas is dependent mostly on subsistence agriculture, and irresponsible harvesting of timber and non-wood forest products is one of the causes of overexploitation of natural resources. These informal groups/producers need to be brought into the tourism value chain, and micro, small and medium-sized enterprises (MSMEs) need support to enhance their production capacity and service quality. The substantial potential for tourism in the eastern and southern regions – exceptional landscapes, unique natural assets, rich cultural heritage and a diversity of ethnic minorities – has yet to be explored.

OBJECTIVES

- Focus on mitigating the imbalance between the tourist hotspots and the marginalised rural districts, by supporting the producers of agro-products and handicrafts as well as homestays to make use of their unique environmental, cultural and ethnic properties and stories to create added values for the visitors, who seek authentic experiences in Bhutan.
- Provide the beneficiary groups with technical assistance and support for innovation: better design, higher quality, appropriate technology, energy efficiency, eco-friendly materials, rediscovery of traditional knowledge and skills, plans for waste management, etc. Tourism products and services will be diversified and quality will improve.
- Facilitate direct supply of food products and souvenirs from the east to the west, in order to increase and sustain the resilience of the tourism industry.
- Develop inclusive and sustainable tourism models especially in the marginalised eastern/southern part of Bhutan, by engaging native self-help groups in the supply chain of goods and services for the growing tourism industry in the west and by showcasing regional- and community-based ecological tourism models. Thereby the project contributes to a low-carbon, resource-efficient and circular economy, and to generating income opportunities for the rural communities and MSMEs.

WAY FORWARD

- Rural tourism products become diversified and visitors to the rural areas of Bhutan increase
- Uptake of local food products and indigenous handicrafts in the tourism sector increases
- Production volume and quality of food and handicrafts improves through efficient resource management, better processing and appropriate technology (AT) solutions
- 20 new products are developed that meet the market demand (handicraft, food products, homestays, tourism packages)
- A model village is established as a learning centre for SCP practices
- Replication of best practices through finance programs and policy dialogue, ensuring sustainability of the results

SCAN FOR MORE PROJECT INFORMATION

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Handicraft Association of Bhutan (HAB)

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SUSTOUR Bhutan - Replicating EU tourism industry SCP best practices into a Bhutanese sustainable tourism model

BHUTAN

TOURISM

IMPLEMENTATION PERIOD: 2020-2023
BUDGET: EUR 1,302,895 (EU contribution 90%)

CHALLENGE

The tourism sector is a priority in Bhutan's 12th Five Year Plan (2018–2023). A sustainable tourism sector is strongly dependent on the behaviour and operations of local actors in the destinations visited as well as those of tour operators from visitors' countries. Products and services from sectors such as transport, agri-food processing, energy, waste management and trade need to be available for the tourism sector to function sustainably.

This project is set up in three pilot destinations in partnership with local tourism development committees to green the local suppliers and to foster sustainable destination management. A wide range of micro, small and medium-sized enterprises (MSMEs) in the tourism sector are targeted, covering several Bhutanese sustainable consumption and production (SCP) priorities, including energy efficiency and waste management. The project works at all levels of the value chain with the Bhutanese tour operators as the central actors, who will be the prime focus of capacity-building and implementation. This is in line with the Bhutanese policy that all dollar-paying visitors have to be routed through local tour operators. More than 500 suppliers of tour operators are trained and supported to implement and comply with relevant standards. A pilot destination approach allows for an optimization and replication approach. A Green Financing Scheme supports businesses taking up these practices. The project forges partnerships with EU and Asia travel associations and tour operators. It also supports the development of a supportive policy environment and the integration the developed standards into Bhutan and South Asian policies. Further, the project promotes child rights, gender awareness and waste management (e.g. plastics) among tourism MSMEs and local communities.

OBJECTIVES

The project promotes sustainable destination management using a business-led approach, working closely with tourism MSMEs, consumers and host communities as well as policy stakeholders and enablers. More specifically:

- It supports the capacity of Bhutan travel associations to provide relevant and effective services
- Bhutan-specific standards, tools, trainings and local SCP support capacity are built so that stakeholders can engage with producers, retailers and consumers
- Bhutan tour operators are enabled to work with their suppliers in a proven sustainable supply chain approach

OUTCOMES

- Higher capacity of Bhutan travel associations to provide relevant and effective services for improved SCP practices
- Bhutan tour operators committed and able to work with their suppliers in a proven sustainable supply chain approach
- Suppliers of tour operators are trained and supported to implement and comply to relevant standards
- Strengthening linkages with other sectors, following a (pilot) destination approach in three regions
- Establishing an enabling financial environment by creating a Green Financing Scheme
- Integrating sustainable consumption practices of proven sustainable suppliers and tour operators into the South Asia-EU value chain in close partnership with EU travel associations and tour operators
- Supporting the development of a supportive policy environment and integration the developed standards into Bhutan and South Asian policies and sharing experiences with other South Asian countries

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Sustainable Tourism in Bhutan

BHUTAN ● TOURISM

IMPLEMENTATION PERIOD: 1/2012-6/2015
BUDGET: EUR 1,205,654.60 (EU contribution: 90%)

CHALLENGE

The tourism industry in Bhutan is the country's second largest revenue earner and the highest foreign exchange earner. The sustainability of this sector, however, depends on broader expansion and responsible business practices. In a bid to maximise profits, tourism beneficiaries have increased their consumption, thus intensifying the negative impact from tourism. It is crucial to infuse responsible practices and low carbon tourism products to sustain the benefits of tourism. This requires partnership and cooperation within the tourism industry as well as between the industry, government, tourists and local people. The main hurdle is a lack of awareness of the overall consequences resulting from the tourism sector and the behavioural changes required to stimulate responsible practices. The lack of crucial data, tools and knowledge about green practices and the absence of benchmarks are identified barriers that discourage behaviour change and responsible tourism.

OBJECTIVES

The project sought to contribute to economic prosperity, poverty reduction and climate change mitigation in Bhutan by promoting sustainable tourism development through the encouragement of sustainable production and consumption (SCP) practices across the tourism value chain of Bhutan coupled with the development of sustainable livelihoods.

OUTCOMES

- Environmental impact statement (EIS) database created after a comprehensive environmental baseline survey covering 160 tour operators, 221 guides, 134 hotels, 41 restaurants, 45 shops, 4 campsites and eco-lodges surveyed covering major tourist regions of the country
- Sector reports to facilitate strategic decision making and planning now can be generated using the EIS; a carbon calculator specific and relevant to Bhutan was developed to measure carbon footprint for tourism products and individuals
- More than 30 Champion members were identified as drivers of change, where companies received special training and one-on-one technical support
- All sectors and entities wishing to acquire a carbon label and support must calculate the carbon footprint of their products and services using the carbon calculator. The entities acquiring carbon labels will be included in the Low Carbon products and services, receiving promotional benefits and low carbon branding
- 20 low carbon products and services were developed and launched at a major international tourism fair (ITB); after an initial conservative survey of only just 3 of the 20 products, sales had already surpassed the project target of 5000 units to be sold by end of the project

Persuading stakeholders to invest for a greener future was difficult; nevertheless, crucial steps to facilitate green initiatives and promote SCP in the tourism industry have been taken and are showing results.

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PARYA Sampada - Sustainable tourism and green growth for heritage settlements of Kathmandu Valley

NEPAL

TOURISM

IMPLEMENTATION PERIOD: 2/2018-11/2022
BUDGET: EUR 2,181,560 (EU contribution 80%)

CHALLENGE

Kathmandu Valley has been experiencing unprecedented urban growth in the past several decades. This has greatly threatened traditional settlements. The devastating earthquake of 2015 caused further extensive damage. This project was designed to revitalise the settlements in the Kathmandu Valley, more specifically those of Bungamati and Pilachhen in Lalitpur Metropolitan City, through heritage conservation, green growth and creating livelihood opportunities through the tourism industry.

OBJECTIVES

The overall objective of this project sought to promote Sustainable Tourism and Green Growth in Heritage Settlements of Kathmandu Valley. More specifically, the project aimed to promote sustainable consumption and production (SCP) with heritage tourism sector stakeholders through demonstration in the Bungamati level, and policy advice, dialogue and advocacy at the Kathmandu Valley level. In Bungamati and Pilachhen, it also aimed to develop and implement tools for green growth with a focus on sustainable rebuilding, entrepreneurship among women and youth, small and medium-sized enterprise (SME) engagement and investment, product innovation and sector campaigns.

OUTCOMES

- Heritage Settlement Recovery Plan of Bungamati
- Private building reconstruction
- Public building infrastructure development
- Enhancement of Bungamati Museum
- Heritage recovery plan for 10 other settlements
- Capacity enhancement for local technicians in traditional brick masonry structure
- Capacity-building of stakeholders on Green Growth and Tourism in Heritage Settlements
- Entrepreneur development of local youth and women

SCAN FOR MORE PROJECT INFORMATION

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Centre for Integrated Urban Development, Nepal

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Lumanti Support Group For Shelter, Nepal

Greening Sri Lankan Hotels

SRI LANKA ● TOURISM

IMPLEMENTATION PERIOD: 11/2009-11/2013
BUDGET: EUR 1,829,828 (EU contribution: 80%)

CHALLENGE

Exporting cars to international markets requires the industry to also adopt international standards. In Sri Lanka, the hospitality sector ranks as one of the most energy-intensive activities and has a high energy cost. Similarly, the use of water and other natural resources and the generation of waste, are all high. Becoming resource-efficient, while meeting the diverse requirements of customers, is a challenging task for hotels, resorts and tour operators.

OBJECTIVES

The project sought to enhance the environmental performance of Sri Lankan hotels and to increase their market acceptance by promoting them as low carbon-footprint green hotels and by improving energy, water and waste management systems and reducing operation costs.

OUTCOMES

- The project has been promoted among target groups, stakeholders and selected SMEs
- Baseline surveys and baseline setting carried out
- Advisory services, support and training for hotels in natural resource management and implementation of resource efficiency measures were delivered
- Resource Management Circles, monitoring the progress and dissemination of success stories were set up
- Suppliers for hotels and customers have been engaged to improve the enabling environment
- Recognition awards, a local sustainable tourism forum and participation in international sustainable tourism forums were organised
- The greening of Sri Lanka hotels has been promoted in international markets

After the project team visited our hotel we were able to implement 'greener' measures across 80% of our operations. The project gave us many ideas to apply to our operations and is helping us make changes without reducing the quality of our services. I have already seen some behavioural and attitude changes among our staff.

Marius Perera
General Manager
Sigiriya Village PLC Sigiriya

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Institute of Environmental Professionals of Sri Lanka
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Sri Lanka Sustainable Energy Authority
The Travel Foundation, UK

Sri Lankan Renewable Energy

SRI LANKA ● TOURISM

IMPLEMENTATION PERIOD: 1/2014-12/2016
BUDGET: EUR 831,931.42 (EU contribution: 80%)

CHALLENGE

The Sri Lankan tourism industry is booming, with the number of tourists increasing every year. Hotel and restaurant facilities need to deal with increasing amounts of waste and growing energy costs. Biogas production is a sustainable win-win solution to manage their waste while contributing to their energy needs and reducing energy costs. However, development of biogas technology requires strong technical capacity among constructors of biogas units. The lack of after-sale service and maintenance for biogas units as well as the lack of appropriate entrepreneurial capacities among small and medium-sized enterprises (SMEs) has hampered the sustainability of past projects.

OBJECTIVES

The project aimed to create an enabling environment for a largescale dissemination of biogas technology for SMEs in tourism industry and households. To achieve it, the project targeted the demand side as well as the supply side by mobilising the manufacture and construction private sector, micro-finance institutions (MFIs), the tourism industry and society as a whole.

OUTCOMES

- Conducting awareness workshops to promote the biogas technology
- Providing capacity-building to SMEs in the construction and manufacturing sectors
- Designing and developing accreditation schemes for masons and designers of biogas units
- Developing quality assurance and after-sale services for biogas unit maintenance
- Facilitating access to micro-finance institutions (MFIs) and 'green' finance for SMEs
- Linking MFIs with SMEs to broaden and facilitate investment possibilities
- Strengthening the institutional framework by establishing an umbrella institution, the Sri Lanka National Biogas Program (SLNBP)

SCAN FOR MORE PROJECT INFORMATION

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Luang Prabang Handle With Care – Sustainable destination development

LAO PDR ● TOURISM

IMPLEMENTATION PERIOD: 5/2016-4/2019
BUDGET: EUR 1,800,000 (EU contribution 90%)

CHALLENGE

Tourism is an important growth sector in Laos, contributing significantly to the country's gross domestic product (GDP), about 7–9% of GDP, and generating employment as well. Unsustainable tourism causes deterioration of the environmental, social, and cultural heritage of Laos. In particular, Luang Prabang as a world heritage site is in danger and needs more sustainable tourism.

OBJECTIVES

The project sought to cultivate sustainable tourism products in a fragile destination. It targeted the increased provision and consumption of sustainable tourism products to preserve the destination with regard to 1) the guarantee of private sector uptake and benefit, 2) responsible utilisation of natural resources, and 3) protection of cultural heritage, minorities and inclusive economic participation.

OUTCOMES

- Building the capacity of business membership organisations (BMOs), entrepreneurs and employees in the tourism sector and relevant government officials to develop sustainable tourism products
- Strengthening communication concerning sustainable tourism between tourism stakeholders through public-private dialogue
- Developing and offering new sustainable tourism products adhering to the practices of sustainable consumption and production (SCP) with the inclusion of local communities, retailers and craft producers
- Adapting the ASEAN sustainable tourism standards, harmonising them with the national framework, and preparing certification schemes
- Raising awareness on the benefits and acceptance of adapting to sustainable tourism, and promoting sustainable Lao tourism

Our project engaged an astonishingly diverse set of public and private stakeholders, ensuring that all aspects of sustainability were considered. Only such a detailed and holistic approach will ensure Luang Prabang becoming a responsible, sustainable and, most of all, a resilient destination.

Dr. Andreas Hofmann
GIZ Team Leader,
Luang Prabang Handle with Care

SCAN FOR MORE PROJECT INFORMATION

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Luang Prabang Travel Agent Association (LUTA)
sequa gGmbH

SUSTOUR Laos - Promoting sustainable tourism

LAO PDR ● TOURISM

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 2,223,857 (EU contribution 90%)

CHALLENGE

The Lao tourism value chain study conducted by the European Centre for Eco-Agro Tourism (ECEAT) and the Netherlands Government supported Centre for the Promotion of Imports from developing countries (CBI) demonstrates that growth in the tourism sector creates challenges related to sustainable consumption and production (SCP), including: environmental degradation; resource inefficiency; poor waste management; carbon emissions; income inequality; zero-dollar tourism; and social issues that arise as a result of tourism (e.g. child labour, sex tourism). Hence there is an urgent need to promote sustainable production and consumption methods in all sectors of the Lao tourist sector in a manner that utilises market incentives.

Through an integrated business-led approach, SUSTOUR Laos will mobilise and mentor Lao tour operators and hotels in Vientiane Capital, Vientiane Province and Luang Prabang Province to adapt and promote sustainable consumption and production (SCP) practices throughout their supply chains and business processes. This includes using local suppliers, purchasing environmentally friendly products, conserving natural resources and applying socially responsible ways of interacting with local communities. Adaption of sustainable practices will be certified and awarded by the Travelife program which has been developed by the ECEAT in partnership with EU travel associations (e.g. ABTA-UK) and recognised internationally as the leading sustainability system in the tourism industry. The project will trigger market demand for sustainable tourism by marketing Laos as a green destination and by raising consumer awareness to identify sustainable Lao tourism and supplier micro, small and medium-sized enterprises (MSMEs), and sharing the data among tourists and international travel agents. This will ultimately reward tourism SMEs and supplier MSMEs adapting sustainable practices with a competitive advantage resulting in increased income and employment opportunities. With the Lao national Chamber of Commerce and Industry (LNCCI) as local partner, the project attempts to create an enabling policy environment and dialogue through sustainable local structures supporting SCP practices in the tourism sector.

SUSTOUR Laos builds on the SWITCH-Asia Luang Prabang Handle with Care project implemented by GIZ through scaling-up relevant SCP practices. The project will collaborate with the Greater Mekong Subregion Tourism Infra structure for Inclusive Growth Project by utilising the National Destination Management Network to enhance policy dialogue on SCP in the tourism sector. Linkages will also be built with the Brand Lao-For Better Livelihoods project, implemented by LNCCI.

OBJECTIVES

Contribute to the Laos National Green Growth Strategy, 8th Five-Year National Socio-Economic Development Plan, and the National Tourism Strategy by promoting SCP through sustainable supply chain development in the Laos tourism sector. Specifically the project objectives are the following:

- The Lao tourism supply chain is more sustainable, having adopted and replicated Travelife-certified SCP practices among tourism SMEs by developing greener products for local supplier MSMEs, as well as sustainable settings for host communities
- The economic and environmental value of sustainable tourism in Laos is promoted, and consumer awareness is raised, creating competitive advantages and incentives for Lao tourism SMEs applying SCP practices
- SCP in the tourism sector is advocated by leveraging existing institutions and structures in Laos as well as relevant regional networks and outbound tour operators

OUTCOMES

- Lao tourism MSMEs are supported to undertake the Travelife Certification process
- Green supply chains are optimised by fulfilling Travelife requirements through development and promotion of green solutions meeting the market demand of target SMEs
- Options for access to finance for sustainable MSMEs have been identified and promoted to tourism MSMEs
- Tourism readiness for Communities is promoted through improved awareness of benefits, costs and their responsibilities for sustainable tourism
- Sustainable tourism in Laos, and Laos as a Green Destination, is promoted among international travel businesses (international and online travel agents)
- Sustainable tourism in Laos, and Laos as a Green Destination, is promoted among Free and Independent (FIT) travellers
- Government institutions, iNGOs and international companies in Laos support sustainable SMEs for their business travel
- SCP in the tourism sector is promoted in the Destination Management Network
- The SUSTOUR Laos approach and Travelife certification has been promoted on a regional level bridging towards replication in other South-East Asian countries

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Zero Carbon Resorts (ZCR)

PHILIPPINES ● TOURISM

IMPLEMENTATION PERIOD: 11/2009-4/2014
BUDGET: EUR 2,108,859 (EU Contribution: 80%)

CHALLENGE

The tourism industry in the Philippines is growing fast, bringing employment and strengthening the economy of the country. Tourism has, however, a high demand for energy in providing guest services, and is responsible for a large amount of CO_2 emissions. Due to the poor electricity supply infrastructure and wasted energy from inefficient appliances, energy costs are escalating for small tourist businesses. Carbon neutral, appropriate local and environmental technology solutions are required and call for a revision of environmental policy by the regional government.

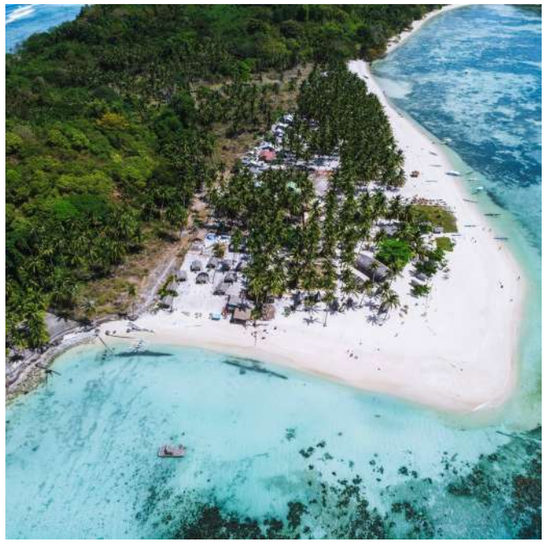
OBJECTIVES

The project sought to enable small and medium-sized enterprises (SMEs) in the tourism sector, such as hotels and resorts in Palawan and other parts of the Philippines, to provide their energy services in an efficient, cost-effective, and environmentally sound way through training courses and direct consultations with the companies. Specific objectives included:

- To reduce carbon footprints by increasing energy and resource efficiency and switching to renewable energy resources
- To increase the availability of energy services
- To stimulate the local economy by producing and using renewable materials and low-carbon technologies for buildings and appliances
- To decrease dependence on fossil fuels
- To provide local engineers with the skills and knowledge, theoretical and practical, to improve the generation and use of energy

OUTCOMES

- Establishing simple measures that are easy to implement by SMEs and tourists in order to improve energy performance
- Investing the savings gained from the reduce carbon footprints strategy to substitute outdated and inefficient appliances with green and efficient technologies, and promoting this action
- Creating a new design for a zero-carbon resort (flagship cottage) embracing sustainable buildings and energy services based on renewable resources
- Training local engineers, builders, designers, and SMEs
- Embedding results from the 3R approach (reduce, replace, redesign) in regional law and disseminating them for replication in other regions



The ZCR Project was a catalyst for sustainable development and innovation through the tourism sector. There is no need to wait for a big, global change to suddenly happen; every individual action matters and will make a difference.

Dr. Robert Wimmer
Project Lead
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Executive Director - GrAT

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Palawan Council for Sustainable Development (PCSD), Philippines

TOURLINK - Moving Thai tourism towards sustainability through a business-led supply chain approach

THAILAND ● TOURISM

IMPLEMENTATION PERIOD: 2020-2024
BUDGET: EUR 1,800,000 (EU contribution 80%)

CHALLENGE

Rapid growth of the Thai travel sector over the last decade has led to environmental and social challenges. TOURLINK aims to support the Thai travel sector to become more sustainable by providing: capacity-building training to tour operators and their suppliers (hotels, transport companies, activity providers), common standards, and an international certification facilitating market benefits and international recognition of Thailand as a leading sustainable tourism destination.

By transforming comprehensive supply chains, a wide range of micro, small and medium-sized enterprises (MSMEs) in the tourism sector will be targeted, covering several Thai sustainable consumption and production (SCP) priorities, including food processing and waste management. As a sub-theme, the project will develop and implement standards and guidelines to avoid food waste and use, or the improper disposal of plastics among tourism MSMEs and local communities. As part of the consumer awareness activities, the visibility of the project will be communicated among a wide audience of stakeholders.

OBJECTIVES

The main project objective is to promote inclusive sustainable growth, to contribute to the economic prosperity and poverty reduction in Thailand, the development of a green economy and the transition towards a low-carbon, resource-efficient and circular economy. Specific objectives include:

- Adopting SCP practices among MSMEs promoting less polluting and more resource efficient products, processes and services in the Thai tourism sector
- Replicating previously demonstrated SCP practices throughout the supply chain of tourism MSMEs in a business-led approach and increasing access to green financing
- Promoting SCP practices in the tourism sector at national scale
- Increasing awareness on SCP in the tourism sector, distilling knowledge from the project for replication in the Asian region
- Promoting the economic value of SCP in the tourism sector when interaction between MSMEs and finance institutions is facilitated
- Addressing sustainable supply chain management and facilitating the integration of MSMEs into the tourism supply chain through sustainability reporting, labelling and certification
- Supporting sustainable consumption and consumer awareness of SCP specifically for tourists and international tourism agencies in Thailand
- Supporting existing regional fora (e.g. ASEAN, Pacific Asia Travel Association, Asian Ecotourism Network) on tourism and SCP enhancing policy dialogue in Asia

OUTCOMES

- The Thai tourism sector has implemented supply chain methodologies which have moved MSMEs towards adaptation and replication of SCP practices and greener products, creating competitive advantages
- Sustainable Tourism is promoted in communities and consumer awareness on sustainability choices in Thailand has increased

SCAN FOR MORE PROJECT INFORMATION

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PARTNERS

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Sasin Sustainability & Entrepreneurship Center (SEC)
Thai Eco and Adventure Travel Association (TEATA)
Thai Hotel Association (THA)

Zero Carbon Resorts (ZCR) 2.0

PHILIPPINES, THAILAND

TOURISM

IMPLEMENTATION PERIOD: 5/2014-8/2018
BUDGET: EUR 2,286,283 (EU Contribution: 80%)

CHALLENGE

Tourism in the Philippines and in Thailand is receiving increasing attention as an excellent sustainable development option. However, considering the vulnerability of developing countries to climate change, one cannot neglect the negative impact that the tourism industry has on the environment. The tourism sector has a large potential to foster inclusive development, but only if operations run sustainably: preserving the environment, boosting the local economy, and generating income along the entire value chain.

OBJECTIVES

'Zero Carbon Resorts 2.0' contributed to the sustainable development of the tourism sector and its value chain in the Philippines and in Thailand, with a focus on reduction of resource consumption and CO_2 emissions. It targeted a critical mass of SMEs, demonstrating the value of green tourism by increasing resource efficiency and using renewable resources. Specific project objectives included:

- Enabling SMEs in the tourism industry in the Philippines to become a SCP model for the tourism sector through certified Zero Carbon practices, as well as exposing Thailand to efficient innovative technologies
- Providing incentives and access to finance in both countries
- Establishing a new generation of ZCR members in Thailand and in at least 5 additional locations in the Philippines
- Developing a Philippine Green Hotel certification scheme based on the Thai Green Leaf standard and the ZCR principles
- Empowering SMEs in the tourism sector by using a proven methodology to continuously improve energy efficiency and to become a model for replication in countries with similar climate conditions

OUTCOMES

Philippines

- The number of ZCR beneficiaries increased to more than 1000 hotels and resorts in the Philippines (initially there were 870 members)
- The ZCR Learning Centre has attracted 1400 visitors since its opening to the public
- Reduced carbon emission for 340 companies, amounting to total saved emissions of 23.7 kt of CO_2. Energy, water and other resources from the implementation of the ZCR members accumulated savings from 1% up to 70% using the indicator [kWh/guest-night]
- The ANAHAW–Philippine Sustainable Tourism Certification was successfully launched and recognised with 27 pioneer awardees (2018–2020)
- 15 ANAHAW Experts received professional training
- Contributed to the integration and mainstreaming of ZCR principles into policies (integration in Palawan's SEP clearance, creation of the policy white book and local green building code)
- Organised 5 technical seminars all over Palawan and reached 198 policy makers, local government units (LGU) and technical staff
- Reached 592,424 web visitors through the ZCR website

Thailand

- 311 registered ZCR member hotels, resorts and restaurants joined the ZCR community
- Capacities of 227 hotel engineers, housekeepers and chefs were strengthened on sustainable practices in the tourism industry through capacity-building training programmes
- Organised and conducted a ZCR exchange visit in Thailand and impacted 26 tourism stakeholders in Lanta, Krabi and Bangkok
- Strengthened the relationship with the central and local governing units and tourism associations in Thailand
- Reduced carbon emission of 70 companies, amounting to a total saved emission of 8.20 ktCO_2

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EMCA

Green Leaf Foundation

Healthy Public Policy Foundation (HPPF)

PLASTICS

PROTOPRINT

INDIA

PLASTICS

IMPLEMENTATION PERIOD: 2020-2025
BUDGET: EUR 1.416.348 (EU contribution 80%)

CHALLENGE

Plastic waste management has been increasingly recognised as a serious challenge in India. A government report in 2019 estimated that the country generates around 26,000 tonnes of plastic waste every day, of which 9400 tonnes are left uncollected or scattered as litter. The vast majority of this plastic is generated in urban cities that have grown dramatically in size over the past few decades. Plastic waste in these cities is often unsegregated from other forms of municipal solid waste and needs to be sorted before it can be recycled effectively. This is an extremely labour-intensive process that relies on informal workers, called waste-pickers, to segregate the plastics by hand. Despite the fact that these individuals form the base of the recycling pyramid, they work under dangerous conditions and come into daily contact with harmful materials, including hazardous and medical waste, resulting in much higher risks of injury and disease. They sell the plastic they collect to local middlemen, who in turn aggregate and sell the material to scrap-dealers and recycling plants. While there is significant value generated in the recycling process, the waste-pickers themselves are poorly compensated for the work they do and they are often unable to escape poverty. Estimates suggest that there are over one million waste-pickers in India, mostly consisting of vulnerable population groups such as migrants, women and children.

The impact of plastic waste has been shown to deteriorate both the environment and human health. Plastic runoff into rivers and streams contaminates water sources, kills aquatic life, poisons drinking water and results in the bio-accumulation of microplastics within the food chain, ultimately with detrimental effects on humans. Plastic waste on land leaches toxic chemicals into groundwater and degrades soil. In India, waste plastic is often burned on street corners, releasing toxic air pollutants. The production of plastics involves the processing of fossil fuels, meaning that plastics leave a significant carbon footprint over their lifecycle. The growing concern around plastic waste has resulted in an effort to limit the production of virgin plastic through the adoption of an Extended Producer Responsibility (EPR) framework by the government, which outlines the obligations of manufacturers and retailers towards the management of their waste. Yet progress on this front remains slow, partly due to the informal nature of the recycling industry, which limits transparent data collection and integration into formal value chains.

OBJECTIVES

PROTOPRINT is a collaborative partnership that intends to transform the informal recycling sector through the gradual implementation of a systematic and self-sustaining (circular) model for waste plastic recycling. Specifically, the initiative aims to move urban waste-pickers up the recycling value chain and improve livelihoods through the implementation of low-cost technology solutions coupled with community development, creative financing and public-private partnerships that improve plastic waste processing within urban environments and promote the integration of informal waste collectors and informal waste management micro, small and medium-sized enterprises (MSMEs) into formal value chains. The project is based in the city of Pune, home to over 3 million residents.

The project seeks to set up an ecosystem that supports the development of self-managed waste-processing units consisting of waste-picker members and using low-cost technology solutions and standardised processing techniques to convert plastic waste into plastic flakes which can be sold to end users via negotiated agreements with industrial-partners, while ensuring a fair wage for the individual workers. In doing so, each unit functions as a sustainable, replicable and scalable business that can eventually be leveraged to integrate its informal workers into the formal economy and to provide other benefits such as healthcare and benefits, and function as sustainable business centres.

In addition to the production of flakes, the PROTOPRINT product team will work in collaboration with a sub-set of the units to further upcycle the plastic into high-value products such as fair-trade 3D printer filament and other similar consumer items with the goal that the development and sale of such products could provide even greater economic mobility to the waste-pickers. The project will work in collaboration with European entities to ensure a standardised and rigorous certification of these products for customers in both the Indian and European markets.

WAY FORWARD

- Improved wages, labour rights, formalised benefits and upward mobility for urban waste-pickers
- Social mobility through the empowerment of vulnerable communities like migrants and women who disproportionately populate the waste-picker population
- Improved plastic recycling rates resulting in less littering/land-fill disposal which in turn results in improved environmental, climate and human health outcomes
- Formalisation of the recycling sector allowing for more transparency and innovation leading to greater efficiencies

SCAN FOR MORE PROJECT INFORMATION

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SOCIAL SEVA INITIATIVES (PUNE, INDIA)

SWACH PLUS SEVA SAHAKARI SANSTHA MARYADIT (PUNE, INDIA)

PROMISE - Prevention Of Marine Litter In The Lakshadweep Sea

INDIA, MALDIVES, SRI LANKA

PLASTICS

PERIOD: 2020-2024
BUDGET: EUR 3,709,882.60 (EU contribution 80%)

CHALLENGE

Marine ecosystems continue to suffer from increasing anthropogenic pollution. As a result, marine litter has become a global concern that is currently witnessing growing awareness among the general public. The vast majority of marine litter stems from land-based sources and enters marine ecosystems from human settlements along coastlines and river basins. In this context, tourism industries have been identified as major contributors to marine litter caused by high consumption rates of fast-moving consumer goods (FMCG) and convenience products wrapped in single-use plastic packaging. In many tourist regions of the global South, this is aggravated by the absence of effective policy frameworks for integrated solid-waste management, a lack of consumer awareness and the insufficient capacities of local authorities to handle the increasing quantities of solid waste along with substantial growth in tourism. Countries of the South Asian Seas (SAS) region struggle with the management of increasing waste. There is a pressing need to curb marine pollution in the pristine ecosystems of the Lakshadweep Sea shared by the Maldives, Sri Lanka and India. Low per capita income, high population densities and a high dependency on natural resources make them highly vulnerable to the impact of marine pollution.

OBJECTIVES

The project seeks to promote source-to-sea solutions to reduce marine littering in tourism clusters along the Lakshadweep shorelines of the Maldives, Sri Lanka and India. It focuses explicitly on micro, small and medium-sized enterprises (MSMEs) in and contributing to the tourism sector to support them in waste minimisation, thus enhancing the attractiveness of tourism businesses, avoiding further deterioration of marine ecosystems and improving people's living conditions.

WAY FORWARD

- Establish a knowledge base for the status quo of marine littering in tourism clusters along Lakshadweep shorelines
- Support MSMEs from tourism clusters in the Maldives, Sri Lanka and India in implementing waste minimisation options in their business operations and strategies
- Conceptualisation and initiation of 'Lakshadweep Zero Waste Alliance'
- Enable access to finance for MSMEs to implement more costly waste minimisation options
- Strengthen regional policy frameworks for waste management in coastal areas and contribute to reduced waste generation and littering in all three target countries
- Raise awareness in the wider stakeholder network about the approaches to waste prevention

SCAN FOR MORE PROJECT INFORMATION

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Parley for the Oceans

STENUM Asia Sustainable Development Society (STENUM Asia)

The Energy and Resources Institute (TERI)

PLASTICS

SRI LANKA

PLASTICS

IMPLEMENTATION PERIOD: 2022-2026
BUDGET: EUR 3,125,000 (EU contribution 80%)

CHALLENGE

In Sri Lanka, plastic challenges are equally divided between the increasing rate of plastic waste generation and current disposal practices. Sri Lanka has steadily increased plastic imports, with over 500,000 metric tonnes (MT) of virgin plastic imported to the island annually, straining the national waste management system. It is estimated that 1.59 million tonnes of plastic waste are mismanaged in Sri Lanka annually, of which close to half ends up in canals, rivers and eventually the ocean, endangering marine ecosystems. While waste management is part of the problem, it is also part of the solution. Currently, only 33% of all plastic waste is collected, out of which only 3% is recycled nation-wide. Small to medium-sized groups of collectors and recyclers in particular face difficulties adhering to environmental guidelines and generating value addition because of the high investment needsed for the technologies necessary to adopt and implement circular economy strategies. The Government of Sri Lanka has taken steps to reduce plastic pollution and improve waste management, including an Extended Producer Responsibility (EPR) scheme to minimise plastic use. Currently, the recycling facilities for PET and high impact polystyrene (HIPS) in Sri Lanka are operating at less than 50% of their capacity as a result of the inadequate collection that would supply them with plastic waste. To remedy this problem, stronger buy-in for EPR schemes to support greener product designs, and collection and consolidation of waste streams for recycling operations are needed. There is immense economic potential to be realised through robust multi-stakeholder EPR implementation, with small and medium-sized enterprises (SMEs) playing a determining role.

OBJECTIVES

To facilitate sustainable and innovative plastic minimisation and management in Sri Lanka by integrating SMEs in greener value and supply chains (V/SC), thereby contributing to economic prosperity and environmental sustainability. The specific objective is to improve economic development within the plastic V/SC through SME resource efficiency, circular innovation, green finance, and sustainable waste management (SWM) frameworks in Sri Lanka's Western Province.

WAY FORWARD

The project will enhance green business development by improving resource efficiency and circular approaches among SMEs across the plastic value chain. The capacity of value chain actors to contribute to an innovative, circular economy will also be increased and access to green financial products/schemes expanded for start-ups and SME investments. Strengthening enabling frameworks for the traceability, transparency and compliance of public–private plastic SWM will support integration of SMEs into greener value/supply chains through sustainable and innovative plastic minimisation and management in Sri Lanka, thus contributing to economic prosperity and environmental sustainability. As such, the project will capitalise on the knowledge, skills and experience acquired by the consortium partners in their respective fields of expertise, while benefiting from the added value of a collaborative approach.

The project will strengthen sustainable business planning and investment models as well as public–private commitment to plastic waste management by achieving the following:

- Upgrading technical skills and filling resource gaps for SMEs
- Improving connectivity in plastic V/SC and increased awareness of economic potential of recycling and upcycling
- Strengthening access to start-up capital and green financial products
- Stronger representation of collectors and recyclers in policy dialogue
- Enforcing of existing regulations
- Improving data and traceability of the life cycle of plastic packaging and polythene

SCAN FOR MORE PROJECT INFORMATION

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STENUM Asia Sustainable Development Society (STENUM Asia)

The Energy and Resources Institute (TERI)

Reducing Plastic Bag Waste

CAMBODIA ● PLASTICS

PERIOD: 3/2014-2/2017
BUDGET: EUR 1,341,033.46 (EU contribution 90%)

CHALLENGE

Plastic bags are non-biodegradable and harmful to human health and to the environment. However, despite the environmental damage highly visible throughout Cambodia, plastic bags remain popular due to their convenience: they are waterproof, lightweight, disposable and affordable. As a result, they are used in Cambodia in a wide range of situations and sectors, from transporting solids and liquids and for direct consumption, to storing and packaging.

OBJECTIVES

The project promoted sustainable growth and environmental sustainability in the country by changing consumption patterns and consumer behaviours to reduce plastic bag use and waste in major Cambodian cities.

OUTCOMES

- Conducting market research prior to the making of action plan for media and interpersonal communication campaign
- Introducing incentive schemes for consumers, an activity that took place in supermarkets and markets in three cities among those entities that signed Voluntary Codes of Practice (VCP)
- Drafting of guidelines for the design of alternative packaging products and systems
- Conception of alternative packaging products
- Training of local small and medium-sized enterprises (SMEs) involved in the production of alternative packaging
- Creation and strengthening of early adopters' groups of SMEs
- Introducing incentives for vendors/SMEs
- Drafting of guidelines to support the implementation of the prospective national law

SCAN FOR MORE PROJECT INFORMATION

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Sustainable Plastic Recycling in Mongolia (SPRIM)

MONGOLIA ● PLASTICS

PERIOD: 2020-2024
BUDGET: EUR 1,993,334.94 (EU contribution 80%)

CHALLENGE

Waste management is a key issue in Mongolia due to urbanisation, industrialisation and increasing consumption of plastic-packaged products. Plastic waste is a particularly serious issue as it is causing widespread pollution and is also often dumped illegally, both by citizens and companies. A new Law on Waste was issued in 2017, but sustainable solutions have yet to be found and implemented. The grant project is in line with the national Waste Management Strategy and Action Plan, which highlights the necessity of ensuring sound management of solid waste, promoting conservation and efficient use of resources, striving for environmentally sound technologies and approaches, driving behavioural change among the public towards the adoption of the 3R (Reduce-Reuse-Recycle) principles, and improving the social responsibility of citizens and businesses, among others.

More than half of Mongolia's population lives in the capital city of Ulaanbaatar. The city has no proper waste management system for plastic waste (collection, sorting, transport, standards) and no effective recycling processes. The project will establish an effective waste management system for plastic waste and will support the development of a plastic recycling industry.

Bulgan Aimag ('province') is the first aimag with a relatively well-functioning waste management system, a high number of recycling bins and regular awareness-raising activities for the public. The project will support the local recycling industry and assist the province to disseminate good practices.

Khishig-Undur Soum (a soum is a secondary subdivision outside the capital) has no waste management system, no recycling processes and has one of the biggest landfills in the province; nevertheless, it is striving to become the first zero-waste soum in Mongolia. The project will assist in establishing a waste management system in the soum and support the local plastic recycling industry.

The project will complement the European Bank for Reconstruction and Development (EBRD)'s support for Mongolian Economic Diversification through the micro, small and medium-sized enterprise (MSME) Access to Finance programme by providing support to recycling-MSMEs in this area. Moreover, it will also support the ongoing project of EBRD on hazardous waste and the construction of one landfill in Ulaanbaatar, the project 'Improving Solid Waste Management' of the Asia Foundation, the municipal Waste Collection and Transportation Management in Ulaanbaatar (WCTM) implemented by the Swiss Development Agency, GSP+ Programme, the Food Waste Project of ADB and other smaller projects in Ulaanbaatar (e.g. installation of waste-separating bins in several districts). The project team will maintain ongoing communication with the implementers of these projects to achieve synergies and avoid duplication.

OBJECTIVES

The project supports the development of a green economy and the transition towards a low-carbon, resource-efficient and circular economy in Mongolia. It promotes sustainable production (development of less polluting and more resource-efficient products, processes and services) and sustainable consumption patterns and behaviour through raising awareness of the principles of 3Rs. Specific objectives include:

- Support for MSMEs in adopting SCP practices
- Provision of conditions for the replication of the tools provided, and increasing access for MSMEs to finance
- Creating an enabling environment to strengthen the implementation of national sustainable consumption and production (SCP) policies and assisting stakeholders in harvesting the benefits of SCP
- Facilitating sustainable supply chain management with regard to plastic waste materials
- Raising consumer awareness of SCP, through working with communities, civil-society organisations (CSOs), youth and public sector representatives

WAY FORWARD

- Recycling MSMEs will have better access to plastic waste through efficient plastic waste collection, sorting and classification system on 3 different levels (Ulaanbaatar, Bulgan Aimag and Khishig-Undur Soum)
- Plastic recycling MSMEs (among them women-led businesses) will have access to appropriate advanced equipment and technologies
- Plastic recycling MSMEs will have increased the number of their customers
- Conditions for scale-up and replication of the project package tool are in place (gender mainstreaming)

SCAN FOR MORE PROJECT INFORMATION

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Caritas Czech Republic

PARTNERS

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Environment and Security Center of Mongolia [ESCM]

Mongolian Sustainable Development Bridge

T. G. Masaryk Water Research Institute

Prevent Plastics - Promoting a circular economy and resource efficiency through a clean and recycling-based economy

MYANMAR ● PLASTICS

IMPLEMENTATION PERIOD: 5/2020-4/2024
BUDGET: EUR 2,070,000 (EU contribution 90%)

CHALLENGE

Myanmar has been facing considerable challenges with waste management. Rapid economic growth and urbanisation have been accompanied by severe problems resulting from ineffective systems for waste collection, transport and disposal. According to the French Myanmar Chamber of Commerce, 80 million plastic bags are used every day in Myanmar. More than 4160 tons of municipal waste are generated per day in Yangon and 1120 tons in Mandalay, of which around 13% is plastic waste. Overall, total solid waste production in Myanmar has tripled over the previous 5 years. Both the Yangon and Mandalay Regional Governments as well as the Ministry of Natural Resources and Environmental Conversation (MoNREC) have recognised the lack of capacities in implementing sustainable waste management in industrial zones. Waste-service providers in the industrial zones and the government staff of the Yangon's Pollution Control and Cleansing Department PCCD need structured, comprehensive and needs-based training. Micro, small and medium-sized enterprises (MSMEs) producing eco-friendly packaging, recycled products or composting benefits (e.g. fertilisers) are still less known to mainstream costumers. They face constraints in terms of access to finance in order to upscale their offer. Green Finance is a topic that the Myanmar Banks' Association MBA has been aware of due to the continuous engagement within another SWITCH-Asia project, SMART Myanmar. However, a common regulatory framework is still missing to further develop their MSME finance segment, which includes the strict collateral requirements and short repayment periods.

OBJECTIVES

The project addresses some of these key issues putting emphasis on: waste management in industrial zones; increasing the likelihood and attractiveness of adopting more sustainable options for packaging by working at the MSME level in cooperation with the retailer's association and identifying green finance possibilities; and raising awareness for young consumers, heads of households, and producers (supermarkets and other retailers).

The main objective of the project is to promote sustainable production and consumption patterns (SCP) in Myanmar through awareness raising and best practices on waste management. The three specific objectives of the project are as follows:

- To adopt sustainable management practices in 4 industrial zones
- To increase the availability of eco-friendly packaging for consumers and producers
- To increase consumer awareness on reduction and prevention of plastics

WAY FORWARD

- South Dagon Industrial Zone 1, Shwe Pyi Thar Industrial Zone 1 and Shwe Lin Ban have become model zones, improving their overall waste management in Myanmar, specifically with regard to plastic reduction and reduced illegal dumping
- Improved stakeholder cooperation for better waste management in the industrial zones (industrial symbiosis), and public-private partnerships for waste collection is established
- Professionalised waste service provision is available and capacities for industrial management committees and MMRA have increased
- 15 MSMEs have up-scaled their business to offer sustainable packaging or waste disposal alternatives and 10 have accessed green loans
- Increased consumer awareness and consumer information in Myanmar about minimising waste, with a particular focus on plastics

SCAN FOR MORE PROJECT INFORMATION

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TRANSPORT AND LOGISTICS

INDTUK - Switching to a sustainable auto-rickshaw system

INDIA

TRANSPORT AND LOGISTICS

IMPLEMENTATION PERIOD: 3/2016-2/2020
BUDGET: EUR 1,554,742.10 (EU contribution 80%)

CHALLENGE

Auto-rickshaws have been a landmark feature of Indian cities since their introduction in the late 1950s, becoming an indispensable aspect of urban mobility for millions of people. The auto-rickshaw sector could play a key role in shaping a sustainable urban transport ecosystem; it is, however, still an inefficient sector that neither answers appropriately to the changing dynamics of urban mobility in India, nor embeds a sustainable pattern of transportation.

OBJECTIVES

The project sought to promote sustainable lifestyles and poverty reduction while reducing CO_2 emissions and air pollution in India. The project fostered the scaling up of a replicable and integrated model of sustainable auto-rickshaw transport, based on clean technologies in the Cities of Bangalore and Chennai.

OUTCOMES

- Conducting a Behavioural Change Campaign (BCC) in order to promote the use of 4-stroke auto-rickshaws as a promising sustainability practice
- Promoting the adoption of a Voluntary Code of Practice by business operators
- Creating an integrated App-SMS service to support reorganisation of the auto-rickshaw sector to better fit consumers' needs
- Providing training and strengthening the auto-rickshaw drivers' organisations by creating a Federative Structure
- Developing commercial partnerships with advertisement companies to use auto-rickshaws as a marketing vehicle
- Enhancing the drivers' livelihood through increased income and health and safety, and better access to finance: auto-rickshaw drivers may increase their income by 30% and the number of drivers that own their auto- rickshaw will increase by 70%
- Working with policymakers to establish regulatory framework promoting the use and purchase of eco-friendly autorickshaws

The power of the project's vision kept us going as we focused on the sustainability of the initiatives that were undertaken. I hope that the lessons learned from our project can largely contribute to all SMART City missions, heading towards sustainable mobility.

Manju Menon
Project Manager
ACRA

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The Energy and Resources Institute (TERI)
Women Health and Development (WHAD)

Sustainable Freight and Logistics

CAMBODIA, LAO PDR, MYANMAR, THAILAND, VIETNAM

TRANSPORT AND LOGISTICS

IMPLEMENTATION PERIOD: 2/2016-1/2019
BUDGET: EUR 2,400,000(EU contribution 90%)

CHALLENGE

Trucking is the dominant form of freight transport in the Greater Mekong Subregion (GMS) (approx. 80% of all tonnage), but efficiency remains a challenge. About 25% - 50% of all trips run empty, and the average fleet is over 10 years old (and much older in some countries). The ASEAN Economic Community single market in 2016 led to a significant increase of cross-border trade in goods and services. For countries like Cambodia, Lao PDR and Myanmar, this opened up opportunities for the freight and logistics sector to grow, at the same time small and medium-sized enterprises (SMEs) in these countries faced high competition.

OBJECTIVES

The project aimed to increase sustainable freight transport and logistics in the Mekong Region mainly through energy efficiency and safety measures in at least 500 SMEs in Cambodia, Lao PDR, Myanmar, Vietnam (CLMV) and Thailand.

OUTCOMES

- Increasing fuel efficiency and reducing emission mainly through defensive and eco-driving, technology changes and maintenance, freight brokerage, logistics synergies, and improved financial management of SMEs
- Promoting safe transport for dangerous goods by implementing the existing ASEAN and GMS protocols based on the EU Alternative Dispute Resolution (EU-ADR)
- Increasing access to finance to invest in more efficient, environmentally sound and safer technologies
- Providing policy support and implementing customer awareness measures, such as standards and labelling, economic incentives, regulations and modal shift initiatives with the latter focusing on Thailand and Vietnam

Our fuel data analysis of participating SMEs show that 10–28% of fuel was saved by Eco driving.

Ms. Wilasinee Poonuchaphai
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Deutsche Gesellschaft für Internatio¬nale Zusammenarbeit (GIZ)

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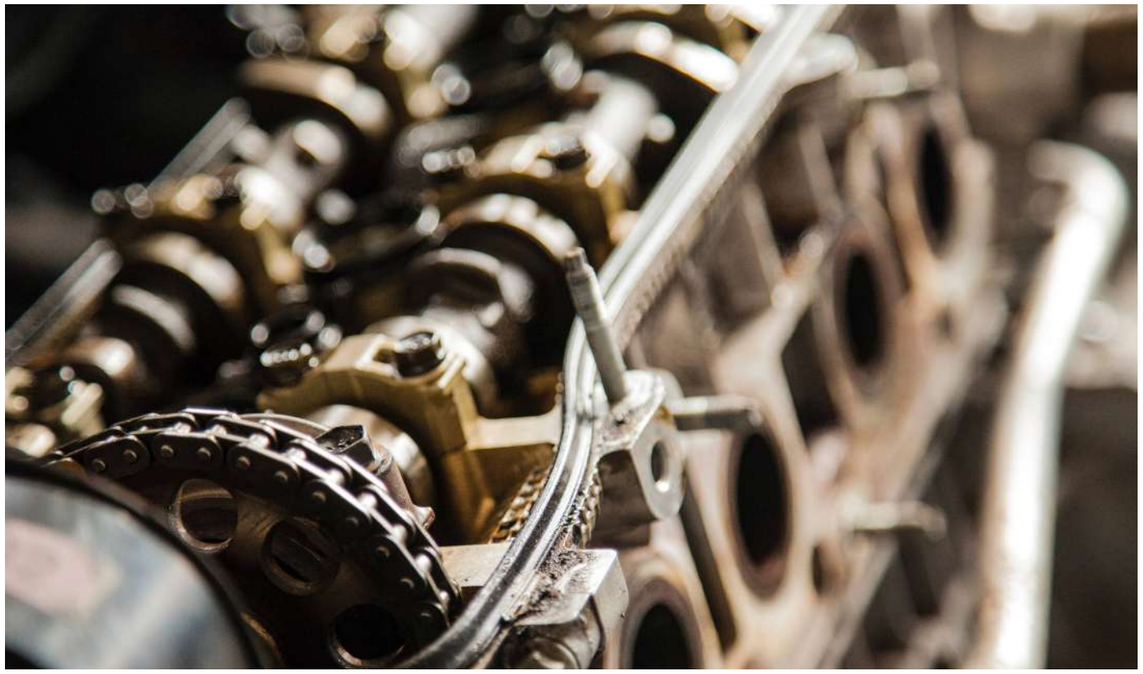
Mekong Institute

China Motor Challenge

CHINA

TRANSPORT AND LOGISTICS

IMPLEMENTATION PERIOD: 11/2009-11/2012
BUDGET: EUR 1,124,946 (EU contribution 80%)



CHALLENGE

Electric motor systems in industrial China account for about 60% of the country's total electricity consumption. Unfortunately, their actual operational efficiency is about 10–30% below international best practice, depending on the industry. As the majority of electricity in China is generated from coal, causing the average amount of CO_2 per kWh to be higher than in developed countries, electric motor systems are a significant contributor to climate change. Certain sectors are particularly intensive users of electric motors but are often unaware of the huge potential savings in energy and the quick return on investment for upgraded motor systems, particularly in small and medium-sized enterprises (SMEs). The challenge then is to raise awareness of the true cost of the motor systems and to raise efficiency as rapidly as possible.

OBJECTIVES

The SWITCH-Asia project China Motor Challenge aimed to facilitate over 400 major industrial users of electric motor systems to improve their operating efficiency of their systems and achieve a far-reaching impact in the demand for high-efficiency motor systems, while actively supporting the creation of a stimulating policy environment.

The specific objectives included:

- Reduction in energy consumption and CO_2 emissions
- Transformation of the market to rely on high efficiency electric motors, and motor system components
- Promotion of best practice in the design and application of energy-efficient motor systems
- Promotion of energy service companies and their services
- Increased exports in Chinese goods that meet international standards

OUTCOMES

- Conducting market research prior to making an action plan for media and interpersonal communication campaigns
- Introducing incentive schemes for consumers: this activity will take place in supermarkets and markets in the three cities, within those entities that have signed Voluntary Codes of Practice (VCP)
- Drafting of guidelines for the design of alternative packaging products and systems
- Conception of alternative packaging products
- Training of local SMEs involved in the production of alternative packaging
- Creation and strengthening of early adopters' groups of SMEs
- Introducing incentives for vendors/SMEs
- Drafting of guidelines to support the implementation of the prospective national law

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Association of energy service companies – China Energy Conservation Association (EMCA)

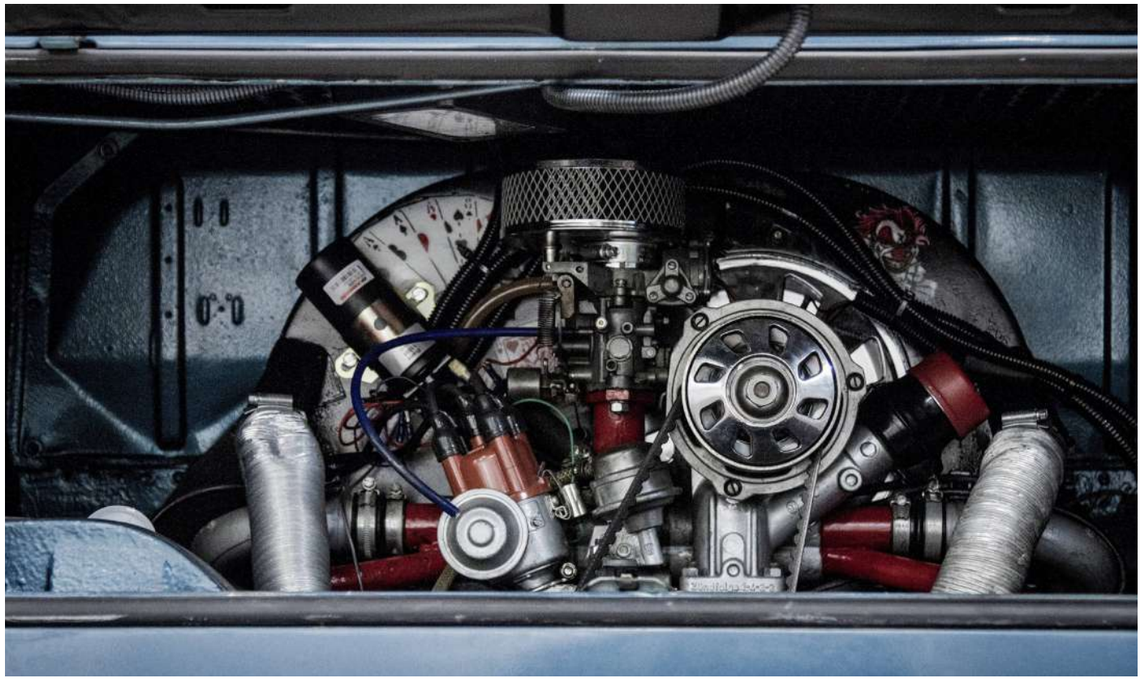
Institute of Systems and Robotics – University of Coimbra, Portugal

UN Industrial Development Organization – Investment and Technology Promotion Office, China (UNIDO)

High Efficiency Motors (HEMs)

PHILIPPINES ● TRANSPORT AND LOGISTICS

IMPLEMENTATION PERIOD: 1/2014-1/2018
BUDGET: EUR 1,970,469.20 (EU contribution: 80%)



CHALLENGE

According to a study, the efficiency of motors currently used by the Philippine industries can be strongly increased. Improvements do not consist only in motor replacements. Some 50% of motors are rewound periodically with a corresponding drop in efficiency of 5–10% at each rewinding. A significant share of the motors in place is also either under- or oversized to compensate foreseen losses due to the low-efficiency motors. The lack of proper sizing of motors leads to even lower efficiency with negative impact on the life duration of the motors.

OBJECTIVES

The project aimed to increase energy efficiency of the electricity-intensive industries and achieve reduction in electricity consumption, and to reduce contribution of industries in greenhouse gas (GHG) emissions. Specifically, it aimed to increase the deployment of more efficient electric motors and drive systems in Philippine industries.

OUTCOMES

- Demonstrating the technical and financial feasibility and benefits of adopting HEMs through two pilot projects for sugar mills
- Establishing two new private funding programs to facilitate access to financing for sugar milling, other electric motor-intensive industries
- Building up the capacity of commercial banks to evaluate HEM investment, especially regarding technology risk
- Building up the capacity of energy service companies (ESCOs) and service providers to investigate and implement HEM projects
- Increasing the capacity of project developers, SMEs and financier to get information, discuss and negotiate new business opportunities
- Putting in place a supportive policy framework for HEMs investment law

SCAN FOR MORE PROJECT INFORMATION

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Association of Development Financing Institutions in Asia and the Pacific (ADFIAP)

European Chamber of Commerce of the Philippines (ECCP)

International Copper Association South-East Asia (ICASEA)

Greening Supply Chains in the Thai Auto and Automotive Parts Industries

THAILAND ● TRANSPORT AND LOGISTICS

IMPLEMENTATION PERIOD: 3/2014-2/2017
BUDGET: EUR 1,341,033.46 (EU contribution 90%)

CHALLENGE

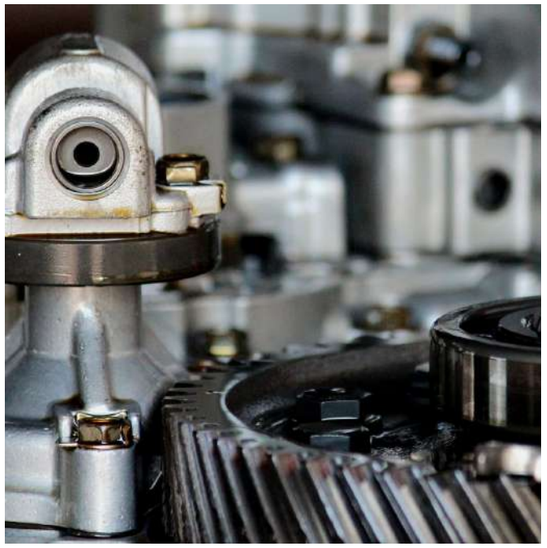
Exporting cars to international markets requires the industry to also adopt international standards along the supply chain to keep quality and price competitive. While Thailand has an adequate low-skilled labour force, it faces an acute shortage of highly skilled automotive engineers. Additionally, suppliers lack process and product engineering capabilities and innovation capacity to increase productivity and environmental performance in the automotive cluster in Thailand.

OBJECTIVES

The project aimed at improving productivity and environmental performance of Thai auto and automotive parts production. It also aimed at enhancing networks, business and financial services for greening of the industry. Furthermore, it sought to disseminate good practices and promote the development and implementation of related policy and economic instruments.

OUTCOMES

- Improving SMEs' Productivity and Environmental Performance
- Creating SME-specific Financial Support Packages
- Greening Supply Chains in the Thai Auto and Automotive Parts Industries
- Strengthening SCP-related Services and Networking
- Developing Showcases and Policy Recommendations
- Forming Service Hubs and Multipliers
- Establishing Supply Chains and Creating New Markets
- Promoting Green Public Procurement Stimulating Green Loans
- Drafting of guidelines to support the implementation of the prospective national law



Through this project's support, I have reduced the use of raw materials in my factory by 25 tonnes per year, resulting in a cost reduction of around 2 million Baht (EUR 55,375) per year.

Kamol Chutipongnavin
Kamol Manufacturing Factory

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Thailand Automotive Institute (TAI), Thailand

The Federation of Thai Industries (FTI), Thailand

COOK STOVE

Women-centred ICS - Improved cook stoves for sustained adoption at scale

INDIA

ELECTRICAL AND ELECTRONICS

IMPLEMENTATION PERIOD: 1/2016-12/2019
BUDGET: EUR 2,000,000 (EU contribution: 80%)

CHALLENGE

Over 145 million Indian households use traditional cook stoves for daily cooking and depend on biomass (wood, dung, forest products) as fuel. This has significant implications especially on women's health due to household air pollution (HAP). A complex combination of factors like cooking traditions, intra-household distribution of incomes and gender dynamics, culture, religion, and affordability affect sustained adoption and use of Improved Cook Stoves (ICS) in the country. Low demand discourages suppliers from investing in ICS, and suitable financing options for consumers and entrepreneurs are unavailable. These limit the transition of poor households to clean cooking energy options. There is a need to develop a women-centred model of ICS extension that enables sustainable adoption backed by a strong and inclusive value chain.

OBJECTIVES

The project sought to promote sustainable adoption of ICS as a clean cooking energy solution among forest-dependent households (FDH), resulting in 10,000 women from FDHs using ICS. The project also developed a sustainable ICS adoption model for replication among 800 million rural households in India, which use traditional and polluting cook stoves.

OUTCOMES

- Creating awareness through 200 self-help groups (SHGs) on ICS, based on findings of situational analysis and a baseline study
- Selecting suitable ICS options available and developing new ICS options for testing and adoption
- Training and developing Sustainable Household Energy (SHE) Champions and supporting them in organising SHE-Schools
- Designing exclusive credit products which can be offered by local micro-finance institutions (MFIs) to facilitate ICS adoption
- Sensitising key supply chain stakeholders to support appropriate cooking solutions
- Providing business development and technical training to women entrepreneurs for establishing and running ICS based enterprises, and facilitating enterprise linkages with market actors
- Engaging with policymakers through policy briefs as evidence-based advocacy

Switching from traditional cook stoves to LPG requires a long jump on the development ladder, a jump that poor households are still not equipped to make. Accessible, affordable and available ICS could provide an interim solution until all Indian households can access clean cooking fuel.

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LEAD PARTNER

CARE India Solutions for Sustainable Development (CARE India)

PARTNERS

CARE France

Improved Cook Stove Programme Lao PDR

LAO PDR ● COOK STOVE

IMPLEMENTATION PERIOD: 2/2013-1/2017
BUDGET: EUR 2,057,791.90 (EU contribution: 89.79%)

CHALLENGE

Lao PDR is a landlocked country in South-East Asia with a population of 6.5 million people, and 67% of its population live in rural areas. The majority of the population derive their livelihood from agriculture which accounts for more than half of the country's gross domestic product (GDP). Most of the Lao low-income population, both in the rural and urban areas, depends primarily on wood and charcoal for their cooking and heating needs. According to a 2011 report, cooking fuel accounts for 70% of the nation's overall energy consumption. This high dependence on biomass resources degrades the local environment, requires considerable time for fuel collection, is costly, and creates indoor air pollution that harms people's health. In addition, the burning of coal and wood contributes considerably to the greenhouse gas (GHG) emission problem. The project Improved Cook Stove (ICS) Programme Lao PDR identified the main bottleneck in the ICS supply side while the demand side showed a progressive trend. The project assisted ICS producers to meet quality standards and ensure a stable supply.

OBJECTIVES

The project sought to contribute towards poverty alleviation through the development of a sustainable supply chain of cleaner and more fuel efficient cook stoves. It aimed at making ICS dominate 50% of the cook-stove market share, and targeted consumers in five provinces for better awareness and access to purchase ICS, as an affordable and high quality alternative to the traditional cook stoves. The project aimed at the following results:

- 15 small and medium-sized stove producers to produce 100,000 ICS sustainably
- 150 SME retailers to promote ICS
- Lao Women's Union to assume its role as an effective promotional partner
- Improved access to the clean and fuel efficient cook stove
- Five testing agencies becoming operational
- A national standard for stoves endorsed
- A multi-stakeholder partnership established

OUTCOMES

- Ensuring Quality of Products
- Creating Market Demand
- Consumer Promotion Campaign Establishing Public/Private/Civic Partnership Engaging with Policymakers
- Improving Access to Finance

We considered this project to be very challenging, not only because of our ambitious goal of producing 100,000 stoves within four years, but also raising awareness and encouraging people to care about climate change. Users have quickly become more confident in the efficiency of the stove and, through word of mouth, are flocking to the retailers, who can't keep up with the demand!

Amphone Souvannalath
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NORMAI

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LEAD PARTNER

Oxfam

PARTNERS

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SNV Netherlands Development Organisation (SNV)

SCALE - Upscaling improved cook stove dissemination

MYANMAR ● COOK STOVE

IMPLEMENTATION PERIOD: 1/2014-7/2018
BUDGET: EUR 2,465,770 (EU Contribution: 81.11%)

CHALLENGE

According to the WHO, 3 million people die each year because of open fire or traditional biomass (firewood and charcoal) cooking devices. In Myanmar, a country of 60 million people, more than 85% of the population relies on biomass and cooks daily with inefficient and highly polluting cookstoves. Today, most of the wood used as fuel comes from unsustainable and sometimes illegal logging of local forests. Forest degradation has become a major issue in Myanmar, with an annual deforestation rate of 2% (UN FAO 2007). Fuelwood use also increases the burden on women, as they are the household members primarily in charge of collecting firewood, spending more than 200 hours a year on this activity. In addition, traditional cookstove production is highly fragmented and not standardised, with consumers rarely having information on the quality, performance or safety of such devices. Cleaner and more efficient alternatives, such as ICS, are not widely available.

OBJECTIVES

The Action aimed catalyse the Improved Cookstove (ICS) sector in Myanmar through an integrated approach to achieve a high added value for the local private sector, product quality control, improved access to ICS markets, and informed decision-making at the policy level. The specific objectives included:

- Supporting ICS sector development and scaling up the production, supply and promotion of improved cookstoves
- Stimulating domestic demand for ICS
- Fostering a policy environment that is supportive of positive climate and energy action

OUTCOMES

- By the end of the project, 30 trained ICS skilled producers reached a total average production of between 6,000 and 8,000 standardised quality, locally appropriate, affordable ICS models per month
- Distribution chains in 8 states/divisions received over USD 40,000 of added value income from ICS distribution
- At least 50 distributors/retailers are involved in supplying the market with standardised quality ICS
- In the Dry Zone and in Pathein area, all trained producers have passed the quality training. All of them are following up their production and sales thanks to a dedicated logbook
- 92% of households indicate to be satisfied with the San Pya ICS. Whereas producers (65%) and distributors (80%) now are aware and knowledgeable on quality and durability of ICS:
- before the project most producers had limited idea about quality and durability; after the project, confidence in the San Pya ICS has been established and should trigger an increased uptake through the market
- 60 SMEs were engaged in the production and distribution of ICS, with sustainable business plans, and contribute to job creation
- 41,500 households using ICS benefitted from time and/or money savings and improvement in sanitary conditions

All project stakeholders, including governmental counterparts such as the Forest Research Institute or private-sector representatives, constructively collaborated to achieve a scale-up of ICS dissemination in Myanmar. Households and small-business cookstove users were satisfied with the redesigned cookstoves, and the ICS value chain had really taken off by the end of this project.

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LEAD PARTNER

GERES - Acting for Climate Solidarity

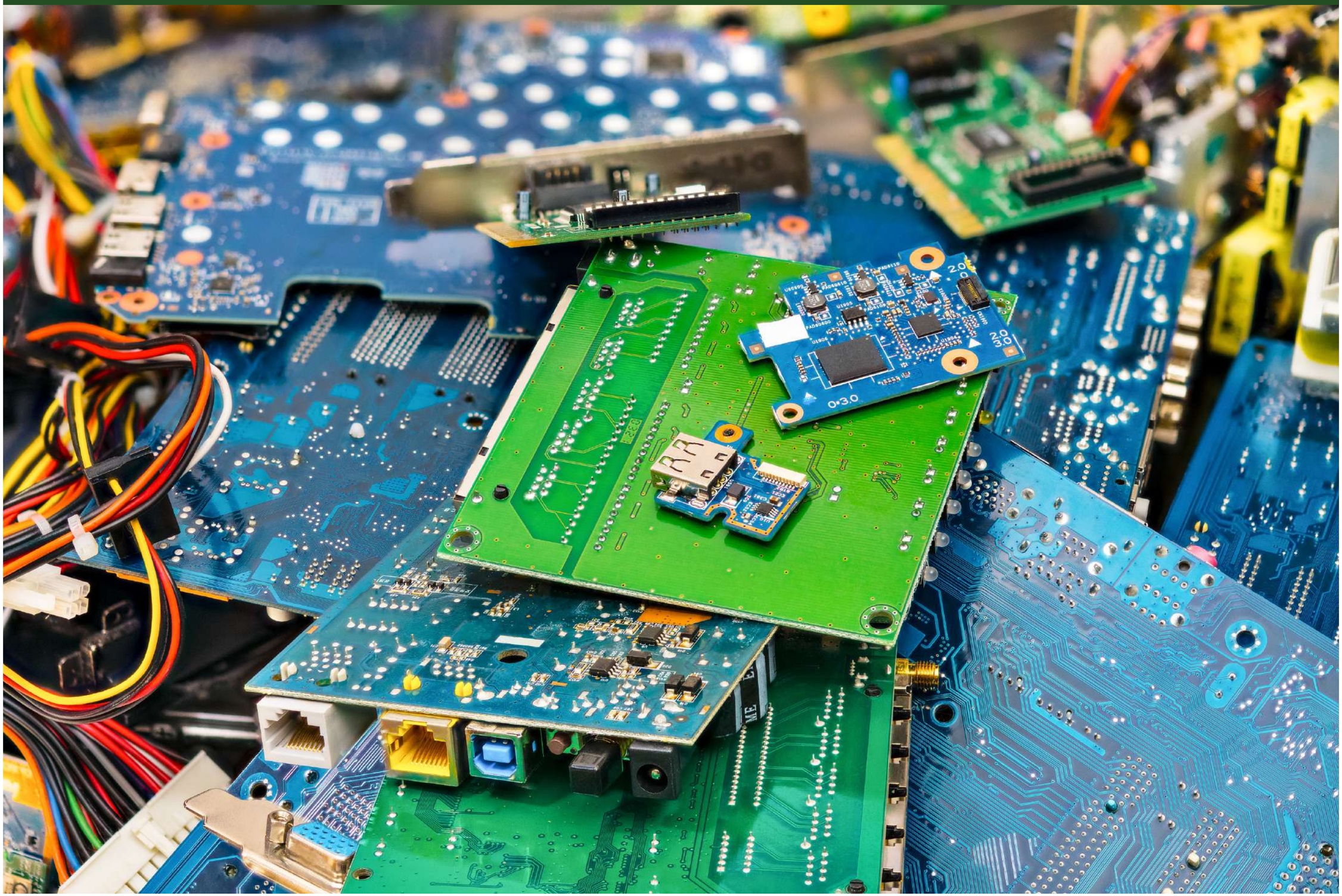
PARTNERS

Ever Green Group

IcoProDAC

The Humanist Institute for Development Cooperation (HiVOS), Netherlands

ELECTRICAL AND ELECTRONICS



WEEE Recycle - Establishing e-waste channels to enhance environment friendly recyling

INDIA

ELECTRICAL AND ELECTRONICS

IMPLEMENTATION PERIOD: 1/2010-12/2013
BUDGET: EUR 2,004,045.37 (EU contribution: 80%)

CHALLENGE

The rapid growth of electronics and electrical industries and high obsolescence rates of their products is continually generating more waste. India needs to deal with major disposal challenges: 95% of e-waste (computers, mobile phones and televisions) enters informal channels of backyard, home and cottage industry recyclers – harming both workers and the environment. Emissions from open burning, unhealthy dismantling and smelting units, makeshift facilities are not meeting occupational health and safety standards but are still being used for toxic waste and unsorted e-waste openly dumped.

OBJECTIVES

The project formalised and mainstreamed e-waste management, raised awareness of and the potential for new technologies, and urged changes to be based on sustainability and business principles. Specific objectives were:

- To support the implementation of the National Environment Policy encompassing the 3Rs and 'polluter pays' principle, with a clear role for the involvement of the informal sector in waste management
- To reduce pollution from recycling e-waste in the informal sector in four urban areas, by encouraging environmentally sound recycling through the collective effort of all relevant stakeholders in the value chain
- To involve informal sector SMEs in the e-waste channel and to streamline these activities
- To develop and improve the technology for e-waste management and recycling in both informal and formal sectors

OUTCOMES

With the notification of E-waste Management and Handling Rules 2011 a supportive regulatory framework was developed.

- Guidelines for implementation of Rules were drafted
- Establishment of informal sector associations/ companies in four Indian cities
- Establishment of an e-waste collection and channelisation mechanism
- Capacity building for informal sector workers, recyclers and policy makers
- Research and development on Green Products and Carbon Footprint
- E-waste calendars, school poster competitions, a television slot, a project film for Rio+20 and general awareness programmes contributed to awareness on e-waste

Working in accordance with the set regulations on e-waste, we were supported to mainstream and formalise our sector. A collection centre was opened and huge support was provided in e-waste channelisation. Partnering with a German investor, now the company has been registered to start a dismantling facility in the State of Haryana.

Mohd. Sabir
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LEAD PARTNER

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PARTNERS

adelphi

Manufacturers Association for Information Technology (MAIT)

Toxics Link

ESEEC - Improving environmental and safety performance in the electrical and electronics industry

CHINA ● ELECTRICAL AND ELECTRONICS

IMPLEMENTATION PERIOD: 2/2009-2/2013
BUDGET: EUR 2,599,087 (EU contribution: 80%)

CHALLENGE

China's economic boom has increased energy consumption and environmental degradation. Concerns for the health and safety of both workers and consumers are now growing. The electrical and electronics industries have been significant players in this economic growth and often play an important role in international supply chains. At the same time, they are substantial contributors to China's water and air pollution, and are significant emitters of carbon dioxide (CO_2).

OBJECTIVES

The project aimed at promoting sustainable production patterns in the electrical and electronics industries. By mobilising the private sector along with relevant public sector authorities, the project sought to improve the performance of over 500 Chinese SMEs in the electrical and electronics sector in the areas of eco-efficiency, occupational health and safety (OHS) as well as corporate social responsibility (CSR).

OUTCOMES

- Facilitated trade and cooperation among Chinese and European enterprises of electrical & electronics sector resulting from compliance with eco-efficient and sustainable production standards
- Reduced risk of workplace accidents and health hazards through implemented OHS measures
- ·Improved social standards through implemented CSR practices
- Baseline survey on environmental performance of Chinese electrical & electronics enterprises conducted
- Standards Guidelines developed and disseminated
- Conformity model for SMEs applied in 5 regional clusters
- Declaration signed by 6 key domestic industry players
- SME Training and Assessment Programme implemented: more than 20 training workshops and a series of assessments
- More than 1600 SMEs & 200 policy-makers involved in project activities
-

While promoting responsible resource management models, our project generated multiple win-win benefits for European supply chains and more than 1,600 Chinese SMEs of a fast-growing and traditionally export-oriented sector.

Igor Darbo
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LEAD PARTNER

Delegation of German Industry and Commerce Beijing / Deutscher Industrieund Handelskammertag (AHKB / DIHK)

PARTNERS

China National Institute of Standardization (CNIS)

China Standard Certification Center (CSC)

Chinese Institute of Electronics (CIE)

Deutsche Telekom

REWIN e-Waste Tracking System - Improving resource-efficiency for the production and recycling of electronic products

CHINA ● ELECTRICAL AND ELECTRONICS

IMPLEMENTATION PERIOD: 12/2011-7/2015
BUDGET: EUR 1,751,391 (EU Contribution: 80%)

CHALLENGE

China is a fast-developing economic region, especially in the production of electrical and electronic equipment (EEE) which is rapidly growing. On the one hand these growing quantities of EEE cause severe environmental damage when not handled properly as waste, on the other hand post-consumer Waste Electrical and Electronic Equipment (WEEE) contain many materials that are valuable when used as secondary raw materials in the production processes of electronics. In addition, the recycling of residual materials from the electronics production industry saves valuable resources. According to a 2009 United Nations Environment Program (UNEP) report, China already produced about 2.3 million tonnes of e-waste (2010 estimate) domestically at the time, second only to the United States with about 3 million tonnes. And, despite having banned e-waste imports, China remains a major e-waste dumping ground for developed countries.

OBJECTIVES

The overall objective of the action was to contribute to sustainable production for both Chinese producers of EEE and recyclers via promoting resource efficiency in order to lower the environmental impact of WEEE. Specific objectives included:

- Linking supply and demand of secondary raw materials in electronic production and recycling (chain approach)
- The development of an adequate recycling infrastructure for WEEE as post-consumer waste and secondary raw materials from electronic producing industry
- The development of a knowledge structure on Design for Recycling between the recyclers and the electronic producing industry

OUTCOMES

- Established the Electronic Waste Tracking System (e-WTS) Central Office within China's National Solid Waste Management Centre (NSWMC) as central body
- The e-WTS was included in the existing WTS for hazardous waste and thus it will be adapted and scaled-up
- A business network was established by involving all stakeholders of the value-chain through the implementation of e-WTS and a Secondary Material Exchange Platform (SMEP)
- Strengthened the capacities of the target EEE producers on integrating concepts of Design for Recycling into the product designing, selecting of materials and technologies and production processes

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

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PARTNERS

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China Electronics Enterprises Association (CEEA)

Jingzhou Environmental Protection Bureau

NL Agency

MULTI-INDUSTRY

GPP Bhutan – Scaling-up public demand for sustainable products in Bhutan

BHUTAN

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2014-7/2017
BUDGET: EUR 2,132,307 (EU contribution: 90%)

CHALLENGE

At the beginning of the project, the Bhutanese public sector had not yet developed a cross-cutting strategy for resource efficiency, cleaner production, energy efficiency, decent work and human rights, nor for the integration of the 10th Five Year Plan targets on 'vita-lising industry', 'SME strengthening' or 'youth employment'. The project met these needs with an overarching strategy, building on the international momentum for using public procurement as a driver of sustainable development, as specified under Sustainable Development Goal 12 on Sustainable Consumption and Production (SCP). Bhutan will embark on a long-term pathway to utilise green public procurement (GPP) as a lever to 'switch' towards more sustainable production and consumption patterns.

OBJECTIVES

The project aimed to leverage GPP as a powerful up-scaling tool to 1) lower the direct impact of state-consumption, 2) incentivise sustainable production among suppliers, 3) build demand-side and supply-side capacity, and 4) trigger private sustainable consumption and green economic transformation.

OUTCOMES

- Establishing 'soft law' on GPP in Bhutan
- Developing dedicated GPP guidance material for public procurers
- Designing preferential programmes for SMEs and disadvantaged suppliers
- Designing and facilitating GPP training sessions for public procurers and suppliers
- Mentoring real-time GPP pilot tenders in selected industrial sectors
- Providing for long-term GPP implementation by establishing a GPP knowledge platform and curricula

This project has given us the much-needed insights and also helped our Committee to discuss and debate on Public Procurement Policy and its process in the Parliament. The National Council has passed a seven-point resolution and submitted it to the Royal Government for further action on the Public Procurement Policy and its systems.

Tempa Dorji
Chairperson of the Good Governance Committee of the National Council of Bhutan

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PARTNERS

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Collaborating Centre on Sustainable Consumption and Production GGMBH

Royal Institute of Management of Bhutan (RIM)

Royal Society for the Protection of Nature (RSPN), Bhutan

ACIDLOOP - Sustainable production through market penetration of closed loop technologies in the metal finishing industry

INDIA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 2/2012-1/2016
BUDGET: EUR 2,395,069.59 (EU contribution: 80%)

CHALLENGE

Metal-finishing operations in India are carried out by small and medium-sized enterprises (SMEs). Operations like degreasing, pickling, and galvanic baths use acids, and the resulting wastewater is highly polluted. Due to lack of material stream and waste management systems, waste and pollution are major concerns. This also leads to reduced profits.

OBJECTIVES

The project aimed at introducing technology innovation for acid recovery as well as resource efficiency in the Indian metal-finishing SMEs that would lead to improved environmental quality and combat pollution.

OUTCOMES

- Conducted resource efficiency (RE) training workshops for SMEs and provided on-site consulting support for implementation of low- or no-cost RE options
- Demonstrated acid and rinse water recovery techniques
- Organised two technology roundtables to facilitate SMEs and technology suppliers to identify measures to improve access of SMEs to RE technologies
- Financial and other support to SMEs through policy dialogues, customer round tables, technology round tables
- Sensitised 8 local banks on the potentials of RE technology investments
- Shared information on financing options with SMEs
- Organised three regional and two national policy dialogues
- Shared policy recommendations on technology transfer with relevant stakeholders

After implementing the project's recommendations, we now consume 30% less water and 20-25% fewer chemicals, significantly increasing our profits.

Anil Patil
Shriram Engineers,
a metal finishing company in Aurangabad

SCAN FOR MORE PROJECT INFORMATION

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LEAD PARTNER

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PARTNERS

adelphi

Asia Society for Social Improvement and Sustainable Transformation (ASSIST), The Philippines

Austria Recycling - Verein zur Förderung von Recycling und Umweltschutz in Österreich (AREC)

Society of Indian Automobile Manufacturers (SIAM), India

STENUM Asia Sustainable Development Society (STENUM Asia)

VDEh-Betriebsforschungsinstitut GmbH (BFI)

MSME Clusters - Scaling-up sustainable development of MSME Clusters in India

INDIA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 5/2012-10/2015
BUDGET: EUR 2,070,491 (EU contribution: 80%)

CHALLENGE

The Indian economy owes a major part of its growth to the 26 million micro, small and medium-sized enterprises (MSMEs) that provide employment to an estimated 60 million people. Some 70% of these MSMEs are estimated to be concentrated in around 1100 industrial and 3500 artisanal clusters. A 2010 sector mapping of industrial clusters identified the foundry sector, with 5500 units in 47 clusters, as an environmentally challenging and highly energy-intensive industry. Approximately 90% of India's foundry enterprises are micro and small enterprises, which use obsolete and inefficient melting technologies. Despite several initiatives undertaken to address the problems, these initiatives had not been able to reach out to more than 200 enterprises.

OBJECTIVES

The project enabled the adoption of sustainable environment and social business practices across selected foundry MSME clusters. It aimed at scaling up the capacity of business membership organisations, and sought to introduce aggregate reporting. Furthermore, the project aimed at establishing financial linkages and supported a conducive policy environment.

OUTCOMES

- Fostered sustainable production through technical and nontechnical measures
- Built capacities of Business Membership Organisations (BMOs) for sustainable consumption and production (SCP)
- Introduced and facilitated Aggregate Sustainability Reporting among Cluster MSMEs
- Enhanced access of MSMEs to credit through stronger linkages with Financial Institutions
- Undertook policy advocacy and dissemination

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LEAD PARTNER

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PARTNERS

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Global Reporting Initiative (GRI)

Indian Institute of Corporate Affairs (IICA)

United Nations Industrial Development Organization (UNIDO)

PRO-SUSTAIN - Promoting fair trade and sustainable consumption in India

INDIA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2010-6/2013
BUDGET: EUR 1,040,076 (EU contribution: 80%)

CHALLENGE

A growing group of middle-class consumers are questioning the 'conventional' manufacturing process. Small-scale farmers and artisans can tap into an export market but a growing interest from the urban middle class and youth gives them an opportunity to escape poverty by selling their products nearer to home. The income profile of these consumers gives this national market good potential. There is no policy directly supporting fair trade or influencing public procurement in favour of fair-trade products, but many ministries and government departments are keen to promote it, along with sustainable consumption and consumer rights, and to partner fair-trade organisations so that small producer groups can access the market.

OBJECTIVES

The project aimed at creating a consumer market for fair-trade products that improves rural livelihoods and stimulates producers to follow environmentally sustainable production practices by converting corporate procurement, by developing a retail channel for fair trade and by promoting a common message for fair trade and popularising the products to consumers.

OUTCOMES

- Raised awareness of fair-trade products among consumers
- Converted corporate procurement to fair trade
- A dedicated retail channel for fair trade has been developed through creation of a commonly branded network of shops for the members of the Fair Trade Forum – India
- Access for fair-trade certified products in mainstream retail channels was gained
- Secured commitments/tap opportunities from government ministries and other agencies to promote fair trade

Sustainable living should ensure social equity, economic viability and environmental stewardship. Fair trade organisations should convert environmental and sustainability considerations into competitive advantages while making products affordable to conscious consumers.

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HiVOS

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LEAD PARTNER

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PARTNERS

Fair Trade Forum – India (FTF-I), India

International Resources for Fairer Trade (IRFT), India

Shop for Change (SFC), India (associate partner)

SWITCHing India's Consumption to Fair and Sustainable Goods

INDIA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2018-10/2022
BUDGET: EUR 1,094,396.37 (EU contribution 80%)

CHALLENGE

India's strong economic growth has enabled millions to come out of poverty, but still about one-third of the world's poor live in India. Thus to achieve Sustainable Development Goal (SDG) 1 (end poverty by 2030) India remains a key focus. The growing urban-rural divide shows that there is a disconnect between the prosperity and lifestyle of the upper- and middle-income urban Indians vs. the life of the rural farming communities. This is further highlighted through the continuous stream of farmer suicides in India which has increased to over 300,000 suicides since 1995. In 2015, research by Globescan found that 78% of urban Indian consumers interviewed believe that they can change things by choosing to shop ethically and sustainably, and 82% of Indian consumers admired companies that lead in being ethical and sustainable. However, respondents also cited major challenges in translating this intent into switching to more sustainable consumption. While many urban Indian consumers want to shop ethically and sustainably, 75% of the respondents to the Globescan 2015 survey said that they find it hard to find products that are good for both society and the environment. Further barriers for sustainable consumption are lack of awareness and information on SCP, accessibility and convenience of availability of sustainably produced products, and lack of choice and affordability. Building on its experience in business and consumer engagement on sustainability in India and learning from related experiences from Europe, the Centre for Social Markets (CSM) along with Fairtrade Foundation India (FFI) will empower consumers and enable informed choices by raising awareness about the power of their purchases as well as by increasing the availability and visibility of sustainable products.

OBJECTIVES

The project's overall objective is to contribute to sustainable development and poverty reduction in India through more sustainable consumption. More specifically, the project aims to:

- Educate and engage consumers in urban India with the concept of sustainability - particularly related to food and fashion
- Develop a network and an active eco-system of institutions and partners including government agencies that promote sustainable consumption and procurement in India
- Engage businesses and organisations to produce more sustainable and fair products by switching to Sustainable/Fairtrade supply chains, thus making sustainable products more accessible to Indian consumers

OUTCOMES

- Increase awareness of sustainable consumption choices in urban centres
- Increase stakeholder engagement in SCP at educational, local and higher government levels, as well as in the private sector
- Increase access to sustainably produced products in the Indian market and greater sustainability-led market linkages among Asian countries catering to Indian consumers
- Inform the wider stakeholder network about the approaches to waste prevention

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LEAD PARTNER

Fairtrade International

PARTNERS

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Centre for Social Markets, India

Fairtrade Foundation, India

Max Havelaar France Association, France

Transfair EV, Germany

Bioenergy

NEPAL

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2014-12/2017
BUDGET: EUR 1,970,703 (EU contribution: 90%)

CHALLENGE

Nepal's overall energy requirement for both domestic and industrial purposes increased substantially following rapid urbanisation and the expansion of businesses such as brick industries, hotels and restaurants. Unfortunately, these industries have relied heavily on imported fossil fuels (e.g. coal, LPG, kerosene), in spite of substantial increases in their prices. Fossil fuels cover more than 80% of Nepal's imports, with approximately 10 billion tons of coal imported from India every year. Use of these fossil fuels also increases the emissions of greenhouse gases such as CO_2. In addition, Nepal has witnessed an increasing number of forest fires due to the lack of responsible forest management. This has exacerbated existing environmental issues.

OBJECTIVES

The project contributed to Nepal's national poverty reduction and reduction of carbon emissions via up-scaling the production and industrial consumption of bioenergy. Specific objectives included:

- Increasing production and industrial consumption of bio-energy to meet the rising energy demand replacing environmentally hazardous fossil fuels
- Increasing opportunities to create additional local employment through the charcoal value chain
- Reducing carbon emissions by reducing the import of kerosene and LPG
- Improving sustainable forest management to help reduce fire hazards

OUTCOMES

- NRs. 500 million worth of transactions took place in the charcoal value chain
- 589 enterprises were established and succeeded in producing 10,470 MT bio-charcoal by using 52,350 MT biomass from 111 community forests: the baseline study on biomass showed that the estimated mean shrub biomass in Cluster-1 (hill districts) was 6.37 MT/hectare, and 12.87 MT/hectare in Cluster-2 (terai districts)
- NRs. 2,308,440 was provided as support (grants) by organisations as a result of the Bioenergy Project efforts; NRs. 10,634,080 worth of loans were facilitated by BDSPs; and NRs. 757,480 were provided by different cooperatives for buying charring kilns to start charcoal enterprises
- The Bio-energy Entrepreneurs Association Nepal (BEAN) was registered at the national level for conducting policy dialogues and creating an enabling environment to promote charcoal enterprises
- 37 manufacturers/fabricators (two in Sindhupalchowk, one in Kavreplanchowk, three in Nuwakot, three in Dhadhing, five in Kailali, two in Bardiya, three in Banke, six in Kathmandu, six in Bhaktapur and six in Lalitpur districts) were identified
- The annual rate of charcoal production increased by 213% by 2017: total charcoal production in 2014 was 111.26 MT, in 2015 it was 245 MT, in 2016 it was 2449 MT, and 7665 MT in 2017, supported by the Bioenergy Project

This project not only contributed to responsible forest management, but also to reducing carbon emissions and creating new enterprises and job opportunities, particularly for marginalised and disadvantaged groups, including single women, Dalit, janjati, among others.

Kripa Ram Rana
Constituent Assembly Member

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LEAD PARTNER

HELVETAS Swiss Intercooperation (HSI)

PARTNERS

International Union for Conservation of Nature and Natural Resources (IUCN)

Sustainable Technology Adaptive Research & Implementation Center / Nepal (STARIC/N)

Winrock International (WI)

Lokta Handmade Paper

NEPAL

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2009-12/2011
BUDGET: EUR 1,400,004 (EU contribution: 90%)

CHALLENGE

Handmade paper is a traditional craft in Nepal, produced by SMEs in the rural mountain regions, using a local plant called lokta. The major part of the population has very limited resources and employment possibilities. The sector has a significant economic and poverty reduction potential given that 90% of the handmade paper and products produced in Nepal are exported. The inefficient resource extraction and production processes, however, do not allow farmers and entrepreneurs to exploit the full economic potential.

OBJECTIVES

The project sought to improve the extracting method of the lokta plant, to increase the efficiency of and reduce the pollution from paper making, to strengthen the capacity of Nepal Handmade Paper Association and to further develop the European market.

OUTCOMES

- Cost efficiency of the hand-made paper and products increased;
- Social and environmental challenges associated with the paper production adressed;
- Lokta cutting and forest management training conducted – 1195 lokta cutters benefitted from the training;
- Paper making training organized – 727 paper makers benefitted;
- Training on waste water management conducted – 30 entrepreneurs were trained to use waste water to clean up a polluted environment;
- Analysis for marketing approach of Lokta paper finalised.

SCAN FOR MORE PROJECT INFORMATION

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Nepal Handmade Paper Association

PARTNERS

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PPP4Gs - Public-Private Partnerships in Green SMEs, Green City, Green Agro Products, and Green Employment

NEPAL

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 2/2014-1/2018
BUDGET: EUR 982,577 (EU contribution: 90%)

CHALLENGE

Prior to the project, research indicated that less than half of solid waste in Nepal was collected. In rural areas, additional complications drove these numbers higher and created additional health risks. With scattered settlements and difficult land terrain, sustainable solid waste management was a challenge to the Ilam Municipality (IM), one of four urban municipalities of Ilam District in eastern Nepal. Before the project's intervention, IM collected both degradable and non-degradable waste and dumped it into landfill sites. This led to poor and unplanned solid waste collection and disposal, an issue common across Nepal, where many municipalities face both technical and financial constraints leading to unsustainable practices.

OBJECTIVES

The PPP4Gs project promoted a sustainable commercially driven, environmentally friendly cycle of municipal solid waste management in Ilam. It also showcased best practices that can be replicated in difficult geographic areas, such as remote rural areas, topographically challenging terrains and unconnected urban settlements. In addition to promoting municipal solid waste management in PPP through small and medium-sized enterprises (SMEs), the project had several specific objectives:

- Collecting, processing and selling 175 MTs/year of segregated recyclable material via recycling SMEs
- Converting 110 MTs/year of segregated biodegradable waste to compost and selling the materials through private operators
- Generating NPR 3 million in annual revenue through the sale of recyclable and compostable materials
- Generating 1000 green jobs and benefitting 5000 individuals

OUTCOMES

- Ilam municipality residents and locals were mobilised in 111 TLOs covering all wards of the municipality, and this resulted in improved source segregation of waste and more organised and sustainable waste collection services through proper schedules and route setting
- Three exposure site visits took place during which project partners and local stakeholders explored ongoing similar activities in other locations, exchanged lessons learned and acquired new knowledge
- Four Central Project Advisory Committee (CPAC) meetings were organised, and these enhanced coordination between line ministries, project partners and local stakeholders, thereby helping to resolve issues and challenges faced during the project implementation
- A compost plan facility was established as a result of the investment provided by IM and the private sector: the facility is estimated to produce 15-tonnes of compost per year from 30 tonnes of degradable waste collected in IM
- Four agro-groups were established and registered: the SMEs were able to commercially market their product and also secure facilities and support from the government after their registration
- Approximately 300 farmers were involved in these groups and 1500 individuals benefitted

> *My joy knows no bounds, as my efforts have been recognised by this project. This has given me the motivation to work harder to generate more employment opportunities and contribute to sustainable waste management.*
>
> **Ram Bahadur Gurung**
> Local citizen impacted by PPP4Gs

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LEAD PARTNER

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PARTNERS

Namsaling Community Development Centre (NCDC)

Positive Planet

Water Stewardship Pakistan (WSP)

PAKISTAN

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2013-12/2015
BUDGET: EUR 815,688 (EU contribution: 80%)

CHALLENGE

Pakistan is a water-stressed country with unsustainable water use, and poor water management and governance practice have caused increasing water scarcity. In Lahore, where the project focused, extensive unsustainable groundwater withdrawal for domestic and industrial use, coupled with low recharge rates, has already caused groundwater levels to drop significantly. In 1960, the water table in Lahore sat 5 metres below the surface, currently the water table is over 40 metres deep. Total water availability at the basin level is further reduced by pollution, commonly from untreated industrial effluent. Water scarcity also has serious implications for the sustainability of small and medium-sized enterprises (SMEs) and the industrial sector as a whole, for both direct operations and supply chains.

OBJECTIVES

The objective of the project was that by 2025 water efficient production and consumption would predominate as best practice in Pakistan's major industrial cities, contributing to improved environmental sustainability and poverty reduction within the context of sustainable development. Specific project objectives were to:

- Promote better water management practices (BWMPs) among 300 processing and manufacturing SMEs in the target area
- Increase water management capacity of 75 SMEs with high water usage
- Establish BWMP implementation in 25 SMEs
- Establish a multi-stakeholder water partnership on a city-wide level

OUTCOMES

- Implemented water and pollution reduction through BWMPs: in all, the project instigated an annual capital investment of EUR 1.03 million for the implementation of BWMPs in 35 SMEs resulting in annual economic savings of EUR 1.52 million
- Established cooperation with many key stakeholders, i.e. various governmental institutions such as Environmental Protection Department (EPD) and Punjab Irrigation and Drainage Authority (PIDA); chamber of commerce (Lahore, Sialkot, Faisalabad, Karachi); industrial associations such as All Pakistan Textile Processing Mills Association (APTPMA) and Pakistan Tanneries Association (PTA); and multinational corporations such as Nestle Pakistan, Coca Cola Pakistan, and Levi's
- Established multi-stakeholder city-wide partnership with a steering committee
- Developed a business case which is being used as an instrument to encourage SMEs on a wider scale to adopt BWMPs
- Developed guidelines for the industrial sector to improve water efficiency and reduce the use of chemicals

Water is everybody's business regardless of the sector one works in. Especially for South and East Asia, it is the backbone of the economy and fundamental to agriculture, industry and ecosystems.

Ali Hasnain Sayed
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WWF-Pakistan

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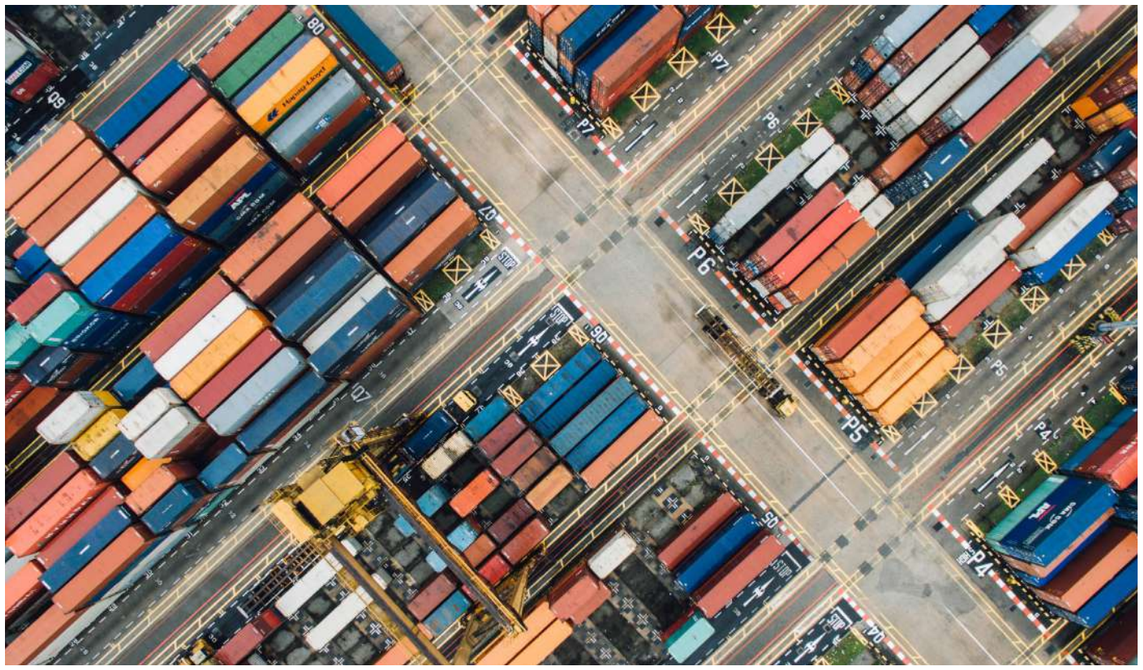
EEPEX - Enhancing Environmental Performance in Key Sri Lankan Export Sectors

SRI LANKA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 3/2009-9/2011
BUDGET: EUR 1,588,538 (EU contribution: 80%)



CHALLENGE

Poor environmental performance among enterprises in key Sri Lankan export sectors hampers business across the value chain. Entrepreneurs lack awareness, technical know-how and cost-effective solutions for sustainable production patterns. The poor environmental performance is due to the lack of environmental performance data and weak enforcement of environmental laws.

OBJECTIVES

The project sought to reduce the negative environmental impact of major polluting export sectors in Sri Lanka across the industry value chains through the introduction of sustainable production practices and technologies.

OUTCOMES

- Framework for data gathering of industry data developed
- Awareness creation of sustainable production among industry staff across Sri Lanka
- 250 enterprises involved in project through completion of baseline survey
- Mapping of value chains and benchmark studies concluded
- Draft sector-wide analysis of the ceramics sector completed
- Training for company staff as part of a sustainable action plan for each enterprise
- Action plans for target sectors progressed
- Awareness of project among waste management companies, commitment from waste management companies to a waste management network.

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MEET-BIS Cambodia - Mainstreaming Energy Efficiency through Business Innovation Support

CAMBODIA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2014-12/2015
BUDGET: EUR 1,996,196 (EU contribution: 90%)

CHALLENGE

Small and medium-sized enterprises (SMEs) make up a crucial part of the Cambodian economy and form a crucial segment to enhance sustainable production in the country. Many SMEs in Cambodia work with outdated and inefficient technology. With energy prices being high, their inefficiency implies high production cost to the business, as well as high cost to the environment. Local available technologies are often not adopted due to several factors, among others:

- The lack of institutional capacity of existing installation companies to adequately translate these technical solutions into business-smart, cost-saving products for SMEs
- Limited understanding of these technologies and their benefits
- Limited access to external financing for SMEs

OBJECTIVES

The project sought to promote economic prosperity and poverty reduction in Cambodia with reduced adverse environmental impact of SMEs in selected sectors. The specific objective was to improve the competitiveness of SMEs in selected sectors in Cambodia through commercially viable and scalable business innovation packages enabling SMEs to effectively invest in clean technologies for their business.

OUTCOMES

- Identified viable product market combinations
- Established partnerships with technology suppliers
- Developed and provided business support packages for the different partner SMEs involved in the EE value chains
- Mobilised access to finance for SMEs by identifying and building up partnerships with financial institutions

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AEMAS - Establishment of the ASEAN Energy Management Scheme

CAMBODIA, INDONESIA, LAO PDR, MALAYSIA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 2/2010-1/2014
BUDGET: EUR 2,152,056.76 (EU Contribution: 80 %)

CHALLENGE

To actually incorporate energy efficiency in the management policy of a company, the energy management role must be assigned to a senior manager who has access to the board. The senior manager must also be trained for the effective integration of energy management systems in their companies. This is the concept of the 'energy manager' function. The energy manager must be a senior manager, who will have a technical team to design and implement energy management measures in the context of a sustainable energy management system that must be incorporated in the company's corporate policy.

OBJECTIVES

The project aimed at increasing the energy efficiency of industries in the Association of South East Asian Nations (ASEAN) through the establishment of the ASEAN Energy Manager Accreditation Scheme (AEMAS). Further objectives were to train and certify energy managers and provide certification on a large scale for energy end-users.

OUTCOMES

- Through project implementation, Php 1.6 million / year (EUR 26,033/year) has been saved
- An increase of profit returned to capex for more energy efficient equipment
- New green product has been introduced to market that is inverter air conditioner using ozone-friendly refrigerant (R410A)
- CO_2 reduction from initially 147 tons to 62 tons upon project completion
- Reduction of 186, 000 kWh (3%) energy use
- Establishment of 6 national councils (Country Chapters)
- Contribution to content of Energy Efficiency & Conservation Laws (amendment to existing rules and regulations)

SCAN FOR MORE PROJECT INFORMATION

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Pelangi, Indonesia

Research Center for Energy and Environment (RCEE), Vietnam

Sustainable Rattan - Establishing a sustainable production system for rattan products

CAMBODIA, LAO PDR, VIETNAM

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2009-12/2011
BUDGET: EUR 2,417,694 (EU Contribution: 80%)

CHALLENGE

The harvesting and pre-processing of rattan in Laos, Cambodia and Vietnam has long been unsustainable and wasteful. The processing industry was over-exploiting the rattan sources, had little environmental awareness, and was responsible for health risks to its workers. The rattan industry faced poor competitiveness on the global market. However, villagers have been heavily relying on this resource for their income.

OBJECTIVES

The project aimed to boost the export of sustainable rattan products and improve the environmental performance of the processing industry. By 2015, the project envisaged that at least 50% of rattan processing in the region would be sustainable, leading to environmental improvements, strengthened competitiveness, poverty alleviation and national economic benefits.

OUTCOMES

- Systematic involvement and training of all actors along the rattan supply chain, from village producer groups to buyers
- 12 contracts with international retailers were signed and 46 are being drawn up
- 22,000 villagers increased their income by 5–45 %
- World-wide first FSC certified rattan and 19,000 ha under responsible forest management
- 220 SMEs were introduced to cleaner production
- Policies reviewed and piloted to support community based rattan processing and to promote a green rattan industry
- 38 SMEs started to switch their production system in consideration of environmental and social standards
- 5774 households (rattan pre-processors) improved rattan production skills
- WFTO membership for Rattan Association of Cambodia

Cleaner production provides clear benefits to our company: we save around USD 7000 a year.

Mr Thien
Au Co company, Vietnam

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SPIN-VCL - Sustainable Product Innovation in Vietnam, Cambodia and Laos

CAMBODIA, LAO PDR, VIETNAM

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 4/2010-9/2014
BUDGET: EUR 2,854,782.14 (EU Contribution: 80 %)

CHALLENGE

In Vietnam, Laos and Cambodia, the impact of current growth has caused significant environmental and social problems. Competitiveness and the added value of products of are still relatively low in the region. Sustainable product innovation (SPIN) is an essential element in the development towards a greener economy as products are the core business of enterprises. Innovation for sustainable product designs is the key to create new business activities.

OBJECTIVES

The project sought to improve innovative power of industry, and improve environmental and societal quality of products made in Vietnam, Cambodia and Laos by implementing sustainable product innovation (SPIN) on a significant scale in these three countries.

OUTCOMES

- SPIN toolkit development, connected studies in marketing and policies facilitation
- Train-the-trainer workshops and training for more radical sustainable product innovation
- Three cycles of SPI implementation: 100-150-250 companies, cycles 1 and 2 with trainers, multiplier cycle 3 do-it-yourself, with support and SPI circles
- Project branding, marketing skill trainings for SMEs, marketing access via fairs, product catalogues, promotion of sustainable public policy & procurement with government organisations
- Setting up SPI Networks, national conferences, web movies and publicity and reports

In the upcoming years, we will keep moving towards cleaner production and sustainable product innovation to increase the value of our creations and reduce environmental impacts.

Vu Thi Cam Tu
Director
An Do

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China Heat Pump Water Heater Challenge

CHINA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 2/2013-1/2017
BUDGET: EUR 2,069,861 (EU Contribution: 80%)

CHALLENGE

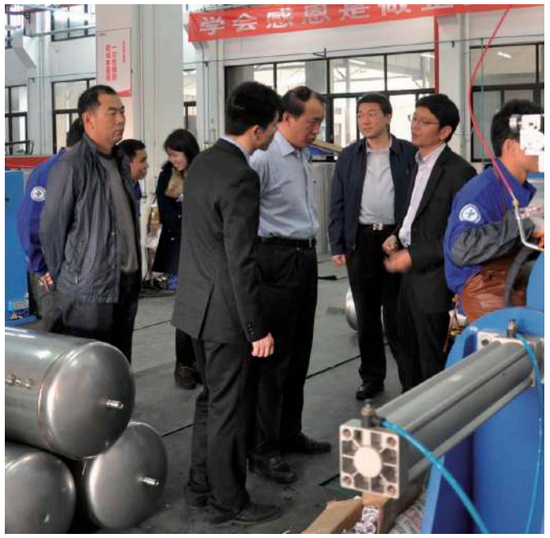
In China, the broad uptake of Heat Pump Water Heater (HPWH) faces many challenges. Firstly, the upfront cost of an HPWH is higher than that of an electric water heater, and similar or a little higher than a solar water heater. Secondly, consumer awareness in China is still very low. Consumers also have no means to compare different types of water heaters. Thirdly, the level of HPWH technology used in China is significantly lower than in Europe, leading to lower reliability, lower efficiency, less-than-ideal refrigerants used, and limited range.

OBJECTIVES

The project promoted residential HPWH in China to reduce greenhouse gas (GHG) emissions. It sought to increase the market share of household heat pump water heaters to 6.5% in Southern China.

OUTCOMES

- Strengthening the China Heat Pump Alliance to facilitate EU-Asia exchanges of experience, and enhancing potential for credibility, visibility, and acceptance of the outputs of the action
- Strengthening of the capacity of intermediaries
- Strengthening consumer awareness
- Upgrading HPWH manufacturing through enhanced ability and readiness to apply eco-design
- Establishing a new single standard and a labelling scheme supporting HPWH greater deployment
- Creating a supportive policy framework allowing HPWH to benefit from subsidies available to renewable energy technologies



We have used the HPWH for a year and it has really helped us save electricity costs. In the summer, most days it consumes just 1 kWh for the whole family to bathe. When we used the electric water heater, it reached up to 4 kWh or more.

Li Xiaodong
Consumer from Wuhan, Hubei province

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China Higher Efficiency Power and Distribution Transformer Promotion

CHINA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 12/2009-12/2012
BUDGET: EUR 781,832.95 (EU Contribution: 80%)

CHALLENGE

The annual loss of electricity in China is more than 20 billion kWh. About 30–40% of this loss derives from power transmission and distribution. Large energy-intensive industries use a lot of transformers and upgrading the inefficient ones is not economical – the energy savings generated are not enough to compensate for the investment cost. Local manufacturers lack capacity to produce higher efficiency transformers. End-users do not see the advantages of using them.

OBJECTIVES

The project sought to reduce electricity loss by increasing the market penetration of higher efficiency transformers (S11 and above), and by enlarging their market share in China.

OUTCOMES

- Close partnerships were established among the policymakers, institutes, manufacturers, end-users and energy management and supervision organisations
- Three national standards for transformers were developed: the minimum energy performance standards (MEPS), the eco-design guidelines for manufacturers, and a total-cost owning guideline (TCO) and tool to support procurement decisions
- The MEPS standard was submitted and will be issued officially by the government in 2013
- The eco-design standard and TOC guideline were issued and effective at 2012 officially
- The MEPS is mandatory and thus all newly installed transformers will have to comply once it is approved
- The acceptance of the eco-design guideline by Chinese manufacturers was ensured by a closed involvement of China Electrical Equipment Industrial Association (CEEIA)
- End-users are enabled to take an informed decision by using the TCO guideline and product database developed by the project

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EMAS Global China - Premium environmental management for companies in China

CHINA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 3/2012-2/2016
BUDGET: EUR 1,234,298.50 (EU Contribution: 80%)

CHALLENGE

Products 'made in China' are common today – with a daily increasing share of traded goods. However, there are justified concerns about the sustainability of production in China and its negative environmental and social impact. These concerns affect also the credibility of products 'made in China'. The project specifically addressed Cleaner Production, using the EU Eco-Management and Audit Scheme (EMAS) to bundle forces along the global supply-chain in a systemic approach to stimulate sustainable consumption and production.

OBJECTIVES

The project sought to promote sustainable consumption and production patterns through the use of the voluntary, market-based EU Eco-Management and Audit Scheme (EMAS).

OUTCOMES

- Enabling policy environment by harmonising the certification, verification and registration procedures of industrial sites located in China (Conformity Model)
- Increased energy and resource efficiency
- Compliance with legal requirements and international standards of responsible business behaviour
- Greening the supply chain (China to Europe)
- Active involvement of employees to improve environmental performance, workplace safety, and innovation

From my point of view, EMAS is the world premium environmental management system. We have experienced environmental, economic and management benefits from implementing EMAS. The scheme is really helpful for us and I think it will be extremely valuable for companies.

YOU Li
Manager
EHS Department of Schaeffler Group

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China Environmental United Certification Center Co., Ltd (CEC)

China Quality Mark Certification Group Co., Ltd (CQM)

FEES - Financing Energy and Environmental Solutions

CHINA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 2/2013-1/2017
BUDGET: EUR 2,069,861 (EU Contribution: 80%)

CHALLENGE

Lack of access to finance is the greatest barrier to implementing high-cost cleaner production (CP) and energy efficiency (EE) projects in small and medium-sized enterprises (SMEs) in China. As SMEs make up 97% of all firms, enabling them is critical for transforming the economy to a system of sustainable consumption and production. However, there is a disconnect between SMEs and financial institutions (FIs). On one hand, SMEs have not been able to make compelling financial and economic cases for EE and CP projects to financial institutions, while on the other hand, financial institutions possess limited capacity to gauge the risks and opportunities associated with CP and EE projects. These problems are relevant in Shaanxi, one of China's fastest growing economies, where rapid growth led to increased pressure on the environment and natural resources.

To bridge the gap that prevents the widespread adoption of CP and EE, there is a need for competent environment and energy service providers that can provide integrated technical solutions and also prepare credit-worthy EE/CP projects.

OBJECTIVES

Assist SMEs in Shaanxi achieve significant pollutant discharge reduction and energy-saving carbon emission mitigation by improving their capacity to access green credit as well as implement high and medium-cost energy efficiency and cleaner production measures.

Specific objectives included:

- Enhancing the capacity of Shaanxi SMEs, particularly in eight energy and pollution-intensive sectors, to access green credit and implement high and medium-cost energy-efficient, cleaner production measures
- Developing risk-sharing mechanisms between government and financial institutions and improving their risk management capacity, and implementing innovative green credit products for SMEs
- Strengthening the ability of government agencies and local energy service entities to engage in effective energy audit, inspection and information management activities

OUTCOMES

- Building the capacity of SMEs to adopt CP/EE high-cost options
- Bridging the gap between SMEs and FIs
- Training of local Environment/Energy Service Providers
- Developing policy recommendations for CP/EE promotion

Lack of access to finance is the greatest barrier to upscaling energy efficiency and cleaner production measures in SMEs. FEES has built the capacity of financial institutions to capitalise on energy and environmental investments in the SME sector. To bridge the gap between SMEs and banks, a risk-sharing facility has been built to spur SME green investment.

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12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Industrial Symbiosis

CHINA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 10/2009-10/2013
BUDGET: EUR 1,848,316 (EU Contribution: 80%)

CHALLENGE

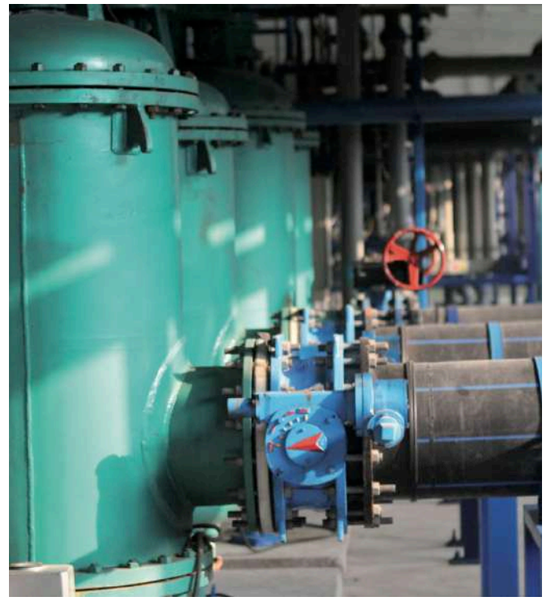
China's environment cannot sustain the production system of high input, low output, high consumption and low efficiency. Industry was a major contributor to resource consumption and pollution. Industrial areas such as Tianjin Binhai New Area (TBNA) could reduce their environmental impact by applying the principles of industrial ecology and establishing a network of material and energy flows among enterprises. TBNA needed to tackle problems like the large quantity of industrial waste. It faced weak environmental management capacity and lack of effective networks for creating waste exchange synergies between companies. The project Industrial Symbiosis in Tianjin Binhai New Area facilitated synergies between companies to raise the effectiveness of resource and energy utilisation, and to minimise the discharge of waste.

OBJECTIVES

The project aimed to promote sustainable production among small and medium-sized enterprises (SMEs) in TBNA by introducing industrial symbiosis (IS) and environmental management systems, and by showcasing a large-scale industrial symbiosis network. By creating an industrial symbiosis network, TBNA facilitated material, by-product, energy and logistic exchange among 800 SMEs.

OUTCOMES

- Recruit business intermediaries as partners for the industrial symbiosis network, engage with relevant organisations and public bodies, manage synergies, prepare quarterly programme advisory meetings and report successful case studies
- Provide SMEs with ISO14001 certification training courses and walk-through audits
- Form an industrial symbiosis network technical team; develop & deploy synergy management tools; train industrial symbiosis network practitioners
- Organise policy study tours; develop encouraging policies & develop Chinese guidelines for industrial symbiosis network implementation



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Tianjin Port Free Trade Zone Administrative Committee, China

UNIDO – Investment and Technology Promotion Office, China

Sustainable Consumption in Urban China

CHINA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 12/2011-11/2014
BUDGET: EUR 997,396 (EU Contribution: 80%)

CHALLENGE

Although much progress has been achieved in raising awareness of sustainable consumption (SC) and green supply chains, the existing SC practices are very much at the demonstration level: The current situation in China shows that willingness to buy green products is relatively high. But in practice, expenditures on buying green products are much lower. The main barriers for citizens to buy green are availability, accessibility, and the price and information displayed on green products and services.

OBJECTIVES

The project sought to promote resource-efficient and environmentally friendly economic development in China through mainstreaming individual sustainable consumption, and at the same time to improve the quality of living in the target area.

OUTCOMES

- Facilitated voluntary agreements between consumer associations, target supermarkets and SME suppliers
- Conducted research focused on local people's attitudes and willingness to buy 'green', the availability of sustainable products, and the quality of life and general awareness of sustainable consumption: 25% of consumers were concerned about price, and only 9% of consumers paid attention to SC and environmental issues
- Established a Green Consumption School, a weekly voluntary awareness programme open to all citizens in Beijing and Tianjin: these community green consumption schools offered various training courses and workshops, and more than 1500 participants attended
- 1058 green supply contracts signed by SME suppliers and retailers
- Conducted a survey among SME suppliers, which identified performance, technology, and raw material prices as suppliers' main constraints

By engaging supply-chain business networks and encouraging the participation of retailers, consumers, consumer associations, authorities and citizens, the central impact of this project was the change in lifestyle and consumption behaviour towards low-carbon living and sustainability in China.

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Nankai University, China

Tianjin Consumer Association, China

SUPP-URB CHINA - Sustainable Public Procurement in Urban Administrations in China

CHINA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 12/2008-12/2011
BUDGET: EUR 917,450 (EU Contribution: 80%)

CHALLENGE

In the dynamic Chinese economy, the production of electrical and electronic equipment is increasing. In September 2006, China's Ministry of Finance and the State Environmental Protection Administration (now the Ministry for Environmental Protection) issued a directive fostering green public procurement. This is now accompanied by a frequently updated 'green purchasing list' of eco-friendly products and producers. The listed products should receive priority in public procurement, but in reality, implementation at a local level is still lacking.

OBJECTIVES

The project sought to adapt and use sustainable public procurement standards in municipal public procurement centres in Tianjin, Qinhuangdao and Lanzhou and to mainstream their application in China.

OUTCOMES

- The SUPP-Urb project provided assistance with the design and implementation of sustainable public procurement (SPP) in three municipal public procurement centres
- European good practice, experiences and lessons learnt were discussed with the centres and included in technical guidelines for sustainable public procurement for the target cities
- The focus of the action was on product groups and services which have a particularly high potential for environmental improvements
- Project results were disseminated at stakeholder workshops and conferences attended by several associated Chinese cities interested in SPP
- The changes in procurement practices of the three targeted PPCs achieved reductions of 105,749 tonnes CO_2: this was the equivalent of the annual CO_2 emissions of 17,335 Chinese people in 2009

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Lanzhou Public Procurement Centre, China

Nankai University, China

Qinhuangdao Public Procurement Centre, China

Tianjin Public Procurement Centre, China

VA3 - Improving energy efficiency and environmental performance of Chinese SMEs and large companies facilitated by Voluntary Public-Private Partnerships

CHINA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2012-12/2015
BUDGET: EUR 1,942,233 (EU Contribution: 80%)

CHALLENGE

In China, many small and medium-sized enterprises (SMES) operate inefficiently. Data shows that average water and energy consumption per GDP in SMEs is much higher than in energy-intensive large companies. SMEs have a large potential to improve their environmental performance. However, this room for improvement is not effectively addressed by conventional Chinese regulation. Voluntary PPPs will have a bridge and support function to accelerate the process of achieving ambitious environmental and energy saving results, as existing regulation standards can be met relatively easily by most SME companies.

OBJECTIVES

The project aimed at scaling up SCP practices by facilitating voluntary public private partnerships throughout China and thereby contributing significantly to the mitigation of climate change.

OUTCOMES

- Developed, tested and published VA (voluntary agreements) manual, which is now a key technical guideline for China adopting voluntary public–private partnership (PPP) in energy saving and emission reduction;
- 960 VAs have been signed and are being implemented in the cities of Nanjing, Jingzhou and Changchun;
- Inclusion of VA in local environmental policies in the three cities;
- Implementation of the VAs has resulted in energy saving of about 200 PJ (target was 100 PJ), water saving of 180 million tonnes (target was 50 million tonnes), and reduction of CO_2 emission of at least 17 million tonnes annually.

Discourse management is a low-cost SCP and innovation catalyst for successfully implementing public–private partnerships. Valuing PPP knowledge will result in large energy savings and emission reductions far beyond business as usual, policy framing and strengthening a financial enabling environment for achieving sustainable economic growth in China.

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Jingzhou Textile Association (JZTA)

Nanjing Commerce and Trade Bureau (NJCTB)

Nanjing Environmental Protection Bureau (NJEPB)

Nanjing Laundry and Dyeing Industrial Association (NJLDIA)

PROSPECT INDONESIA - Promoting eco-friendly Indonesian rattan products

INDONESIA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2013-1/2017
BUDGET: EUR 2,190,237.80 (EU Contribution: 80%)

CHALLENGE

Rattan is one of the most important non-wood forest products (NWFPs) in international trade and contributes to 5.5% of Indonesia's national revenue of forest products. As part of forest management and conservation, about 1 million tonnes of raw rattan is collected annually, out of which 90% comes from natural forests and the remainder from rattan cultivation. Harvesting rattan reduces illegal logging as villagers living near forests have other sources of income from rattan. Indonesia is the largest producer of rattan in the world, contributing around 85% of the global market. However, conventional methods in collecting rattan can jeopardise forest conservation. Rattan manufacturers use harmful dyes that pollute the environment and use energy inefficiently. Overexploitation of rattan is partly due to weak legislation, poor law enforcement, limited public awareness, and lack of coordination among actors within the rattan supply chain.

OBJECTIVES

The project aimed at contributing to the development of sustainable production and consumption (SCP) practices in the rattan value chain in Indonesia, including promoting responsible collection of rattan and enhancing environmental protection. Specific objectives included:

- Promoting sustainable production, processing and utilisation of rattan products
- Increasing awareness, capacity and collaboration among stakeholders in the rattan value chain
- Improving learning, application and replication of best practice in the rattan sector

OUTCOMES

- Establishing or strengthening associations for farmers/ collectors in the three targeted rattan producing areas and strengthening existing production associations
- Conducting training in rattan cultivation through creation of three demonstration sites in rattan-producing areas
- Strengthening linkages in rattan value chain and building mutually beneficial business partnerships
- Providing capacity building on sustainable rattan production for workers and managers in production centres
- Conducting targeted communications activities to educate consumers and stakeholders about the benefits of using eco-friendly rattan products

This project has encouraged sustainable rattan cultivation and harvesting methods, and sustainable processing of raw materials to produce furniture and crafts. Now 2050 farmers have been supported to produce 4650 tonnes of eco-friendly rattan annually.

Listoman Tanjung
Director
PUPUK

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PARTNERS

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SNV Netherlands Development Organisation (SNV)

Nanjing Laundry and Dyeing Industrial Association (NJLDIA)

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Timber Indonesia - Promoting the implementation of Timber Legality Assurance (FLEGT License) as a key step to sustainable production and consumption in Indonesia's wood processing industry

INDONESIA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 2/2013-7/2016
BUDGET: EUR 1,396,626 (EU Contribution: 78.15%)

CHALLENGE

Indonesia is home to the world's third-largest tropical rainforest area, making up 10% of the world's forest cover. Yet the forests are disappearing at an alarming rate: 1.4 million hectares of natural forests were cleared annually between 2000 and 2010, some legally and some illegally, for both domestic use and export. In the last few years, the government has taken steps to address forest governance and to promote sustainable forestry by entering into a Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) with the European Union (EU). The Timber Legality Assurance System (TLAS), also known as Sistem Verifikasi Legalitas Kayu (SVLK), is the basis for the VPA in Indonesia and is now used to certify that timber from Indonesian forests and industries is legally sourced. Incentives were previously insufficient to encourage small and medium-sized enterprises (SMEs) to invest fully in the sustainable consumption and production (SCP) of wood products.

OBJECTIVES

The project focused on Indonesia's wood processing sector and worked with Indonesia's Furniture and Handicraft Trade Association (ASMINDO) to support wood-processing SMEs to adhere to domestic and international market regulations on timber legality, with a view to encouraging further SCP improvements. Specific objectives included:

- By 2025, SCP to predominate as best practice in forest product markets worldwide, safeguarding forest value and supporting poverty reduction within the context of sustainable development
- By 2015, 30 SMEs in Indonesia's wood processing sector to have delivered legally-verified timber products to national and international markets, supported by the procurement policies for national government departments
- By 2015, 300+ SMEs to have shifted to producing increasing amounts of confirmed FLEGT licensed timber from a known source, through a series of capacity building steps and assessments

OUTCOMES

- Undertook Timber Legality Assurance System (TLAS) and Chain of Custody (CoC) verification of the core group of 30 SMEs to increase trade of certified wood products
- Reached out to and built the capacity of 300 wood processing SMEs and later 2500 SMEs
- Created showcase of successful take-up of TLAS verification by SMEs
- Distributed promotional materials on certifications to all SME members of ASMINDO
- Conducted TV advertising campaign for general public and media awareness raising trips for journalists
- Linked up with public procurer for purchasing of legal and responsibly sourced timber from SMEs

The support provided to community forest SMEs through this project helped make the FLEGT licence a reality between Indonesia and the EU.

Joko Sarjito
Global Forest and Trade Network - Indonesia
Manager, WWF-Indonesia

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PARTNERS

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BIOMASS SP - Sustainable Production of the Biomass Industries in Malaysia

MALAYSIA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2010-1/2014
BUDGET: EUR 2,248,688.37 (EU Contribution: 80%)

CHALLENGE

Malaysia produces a minimum of 168 million tonnes of biomass annually from oil palm, timber, rice, fish processing and other agricultural industries. The promotion of biomass products will spur the green technology sector and help mitigate global climate change. Already, small and medium-sized enterprises (SMEs) are turning this biomass into various value-added products, such as bio-chemicals, bio-fuels, bio-feedstock (raw materials) and bio-resources. However, SMEs still face challenges in the biomass business. They lack access to green financing facilities and do not comply with environmental standards. Raw material is not always available for larger-scale biomass commercialisation projects, and proven affordable industrial-scale conversion technologies are not accessible or available for SMEs.

OBJECTIVES

The project aimed to:

- Facilitate Malaysian family-owned SMEs to implement sustainable production models in the biomass industry
- Improve biomass supply chains in Malaysia by promoting collaboration between industry, research institutions and universities
- Reduce industrial emissions by improving the production process of biomass commercialisation projects
- Create an enabling environment for improving policy cohesiveness for developing sustainable production in the biomass industry

OUTCOMES

- Capacity building and coaching
- Outreach and dissemination
- Plans for policy-makers
- Creation of industry-wide network
- Enabling growth by linking to financial institutions
- Commercialising Biomass Business through a multi-stakeholder consultative approach

The Malaysia Biomass Industries Confederation was established by the project to help promote and guide Malaysian biomass SMEs in greener business practice and thereby contribute to the global climate change mitigation agenda.

LEE Jia Jing
Project Manager
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Association of Environmental Consultants and Companies of Malaysia (AECCOM), Malaysia

Danish Technological Institute (DTI), Denmark

European Biomass Industry Association (EUBIA), Belgium

Green Products Development and Labelling

MONGOLIA ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 12/2009-4/2012
BUDGET: EUR 933,257 (EU Contribution: 80%)

CHALLENGE

Mongolia has a strong history of locally produced goods. But these products have often been poor quality; the manufacturing process often uses inefficiently resources and with little pollution prevention. The constraints for the manufacturers are the lack of experience in improving, manufacturing and marketing their products in line with sustainable product standards, and being unfamiliar with the green label developments in Mongolia. Fast growing small and medium-sized enterprises (SMEs) and manufacturing sectors in Mongolia require a sustainability approach not only for SMEs but also for policy-making. The manufacturing sectors in terms of resource use and pollution prevention are very often inefficient. Consumers are not aware of green choices. Eco-labelling was already initiated earlier, but did not succeed due to inconvenient procedures, lack of awareness and involvement of stakeholders.

OBJECTIVES

This project aimed to encourage green product development and eco-labelling for locally produced products in Mongolia in order to reduce negative environmental impact. It aimed to strengthen the Mongolian certification standards and procedures and provide business support network on development and promotion of sustainable products.

OUTCOMES

- 160 companies (222 people), or twice the targeted participants, attended the information and expert training seminars
- 50 eligible green product applications with 80 companies were selected for further support and for in-depth training
- Successful Green Products Fairs were organised together with the 'Organic Mongolia' programme with over 10,000 visitors and registered sales of USD 30 thousand
- 17 baseline assessments and 6 business plans have been received by the MNCCI, and 14 more business development plans were reported to have been received by the Capitron Bank
- A new version of the Mongolian Eco-label standard was drafted, followed by its translation for international experts review

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Mongolian Agency for Standardisation and Metrology (MASM)

Mongolian National Chamber of Commerce and Industry (MNCCI)

GPIOS - Creating Green Philippines Islands of Sustainability

PHILIPPINES ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 11/2009-11/2013
BUDGET: EUR 2,386,970 (EU Contribution: 80%)

CHALLENGE

Manila Bay is the Philippines' major economic centre. At the same time it is the country's hot spot for pollution. Manila has been cited by the World Health Organisation as one of the most polluted places in the world. The challenge for Metro Manila and its linked CALABARZON region is great, as the country has a huge energy deficit. The Philippines is heavily dependent on fossil fuel. In addition, the level of law enforcement with regard to environmental regulations among industry is low.

OBJECTIVES

The key objectives of Green Philippines Islands of Sustainability (GPIoS) were to minimise the environmental impact caused by small and medium-sized enterprises (SMEs) in the target region by adopting preventive environmental production and to integrate sustainable growth, social progress and environmental protection with the business of the participating companies.

The main activities included:

- Establishing a GPIoS Training Centre
- Training and consulting 500+ companies under Eco Profit programs (Eco Bonus, Eco Focus and Eco Sense)
- Consulting some 180 companies which have already gone through one of the above programs through successive CLUB programs to further improve their eco-performance
- Designing & developing self-assessment toolkit based on ECOSENSE approach
- Validating and awarding best performing companies

OUTCOMES

The GPIoS project envisaged:

- Reduced pollution levels and increased resource efficiency levels in specific companies in Metro Manila and its linked region CALABARZON
- Increased awareness and use of environmentally friendly technologies and practices
- Implementation of legal compliance and safety instruments leading to improved resource efficiency and higher working standards in participating SMEs
- Improved micro-climate of the target region

> *Our champions have taken their learnings from the workshop and applied them in our vision to become a leader in water, waste water and other environmental services to empower people, enhance sustainable development and protect the environment.*
>
> **Tom Mattison**
> Operation Support Services Director
> Manila Water Company, Inc.

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European Chamber of Commerce of the Philippines (ECCP)

Philippine Business for the Environment, Inc. (PBE)

SMART Cebu - SMEs for Environmental Accountability, Responsibility and Transparency

PHILIPPINES ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 2/2010-9/2013
BUDGET: EUR 1,223,482 (EU Contribution: 80%)

CHALLENGE

The home and lifestyle industry (i.e. furniture, fashion accessories, gifts/toys/housewares) in Cebu City has had a negative impact on the environment. Energy and raw materials were not being used wisely. Production processes released dust and fumes from sanding, cutting and paint spraying, exposing workers to unhealthy pollution due to inadequate protection. Despite some progress in the supply chain and production of home and lifestyle products, the industry lacked awareness of the principles of sustainable consumption and production (SCP). A low compliance with environmental standards and weak commitment towards corporate social responsibility (CSR) prevented small and medium-sized enterprises (SMEs) from promoting their products and increasing their access to international markets.

OBJECTIVES

The project aimed to increase the competitiveness of SMEs in the home and lifestyle industries and to develop a cleaner environment in Cebu. Specific objectives included:

- Business membership organisations (BMOs) capacitated to promote and channel sustainable consumption and production (SCP) effectively
- Cleaner and more efficient production of Cebu home and lifestyle products
- An effective marketing strategy developed to boost sales of Cebu Green products

OUTCOMES

- SMART Cebu has established itself as the front-liner for advocating the greening of industries in Cebu
- Government agencies (DTI/DOST) have recognised SMART Cebu as the partner to work with in the promotion of eco-friendly industries and a cleaner Cebu environment
- Participating companies have improved their designs, products and processes
- With the experience of SMART Cebu in assisting Cebu home and lifestyle sectors, other sectors like tourism and food are seeking the assistance of SMART Cebu/ European Chamber of Commerce in the Philippines (ECCP)
- Resource Efficient and Cleaner Production (RECP) services are now being offered by SMART Cebu to hotels, resorts, restaurants as well as other, ongoing SWITCH-Asia projects
- The project has created a pool of trained and accredited RECP experts that could assist in improving resource efficiency and increasing competitiveness
- The three partner BMOs are back to life, having discovered that 'Green Business is Good Business', thus offering new services to their member companies

With the help of SMART Cebu, Bon Ace eco-products were featured at trade shows in Paris and Frankfurt. Our new organisational development plan will make our association more effective in offering the services our member companies need.

Ramir Bonghanoy
President, Bon Ace Fashion Tools and Cebu Gifts Toys and Housewares (GTH)

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Cebu Furniture Industries Foundation (CFIF)

Cebu Gifts, Toys and Houseware manufacturers (CEBU-GTH)

EffizienzAgentur (EFA) NRW

European Chamber of Commerce of the Philippines (ECCP)

BIOTRADE VN - Scaling up of ethical BioTrade initiatives with the pharmaceutical sector in Vietnam

VIETNAM ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 4/2016-9/2020
BUDGET: EUR 2,063,357 (EU Contribution: 77.54%)

CHALLENGE

Vietnam is home to large resources of natural ingredients which can be used as raw materials for the pharmaceutical, cosmetic and food industries. However, the supply is dwindling and Vietnam has to import large volumes of raw materials: 95% of traditional Vietnamese remedies rely on this natural resource base with an annual production of up to 40,000 tonnes. A weak regulatory framework on natural resource extraction, combined with ineffective management of natural resources, lack of incentives for smallholders to harvest forest products sustainably, and weak linkages between supply chain actors contribute to the situation.

OBJECTIVES

The project aimed at upscaling the sustainable Ethical Biotrade (EBT) business model to the Natural Ingredient (NI) sector and making Vietnam an internationally recognised supplier of NI to phyto-pharmaceutical, cosmetic and food supplement industries.

OUTCOMES

- Strengthening a group of leading 12 small and medium-sized phyto-pharmaceutical enterprises to supply national and international markets with EBT products
- Stimulating national and international consumer demand for BioTrade products from Vietnam
- Supporting more than 5000 smallholder farmers and collectors to increase their livelihoods through EBT value chains and stable supplies to EBT enterprises
- Conducting environmental and energy assessments with the assistance of Vietnam Cleaner Production Centre
- Investments in green and modern equipment/ technology
- Communicating and promoting values and benefits of EB-compliant phyto-pharmaceutical products
- Monitor Ethical BioTrade standards and sharing the results with stakeholders
- Conducting a policy dialogue and enabling sustainable growth in the phyto-pharmaceutical sector based on EBT standards

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CSR Vietnam - Helping Vietnamese SMEs adapt and adopt corporate social responsibility

VIETNAM ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 2/2009-4/2013
BUDGET: EUR 2,014,334 (EU Contribution: 80%)

CHALLENGE

Major buyers of Vietnamese products, including transnational corporations (TNC), are tightening their procurement guidelines to comply with Corporate Social Responsibility (CSR) requirements in the fields of environment and labour. Although this will improve labour practices and mitigate environmental impact, it can be a serious constraint for many Vietnamese enterprises. Over 90% of the enterprises are small and medium-sized enterprises (SMEs) and they do not have sufficient capacity to comply with the strict requirements.

OBJECTIVES

Overall objectives of project were to improve the environmental and social performance of Vietnamese SMEs, enhancing the integration of Vietnamese SMEs into global supply chains through an increased awareness, understanding and adoption of triple-bottom-line (TBL) corporate social responsibility (CSR), thus strengthening cooperation between Europe and Asia.

OUTCOMES

- Awareness and understanding of a triple-bottom-line (TBL) CSR approach among Vietnamese SMEs, consumers and other relevant stakeholders increased
- Compliance with CSR procurement standards among Vietnamese SMEs increased
- Policy and regulatory recommendations for promotion of sustainable production practices and behaviour identified through participatory processes

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National Metal and Materials Technology Centre (MTEC), Thailand

sequa gGmbH

Vietnam Chamber of Commerce (VCCI)

Vietnam Electronics Industry Association (VEIA)

Vietnam Leather and Footwear Association (LEFASO)

Vietnam Textile and Apparel Association (VITAS)

Get Green Vietnam

VIETNAM

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 4/2012-3/2015
BUDGET: EUR 1,368,070 (EU Contribution: 80%)

CHALLENGE

In Vietnam several ongoing projects focus on delivering more sustainable products to both export and local markets. However, the awareness of the local consumers on sustainability is low. It is important to raise consumer awareness to create a demand for such products. The main target groups of the project are middle-class consumer groups and office worker groups. After being made aware, trained and educated on the concept with the support from trainers and experts during the project, these consumers are considered change agents towards more sustainable consumption.

OBJECTIVES

The project sought to contribute to an increased share of sustainable consumption by Vietnamese consumers in general. To achieve this, the project aimed at increasing the capacity of consumer organisations and government in enabling and supporting consumers to move towards more sustainable consumption behaviour.

OUTCOMES

- Published a guidebook and training toolkit consisting of 75 tips from 8 'daily activity' clusters
- Trained 56 outstanding applicants from relevant organisations on sustainable consumption
- Trained and equipped 32 trainers with knowledge on sustainable consumption using the GetGreen Vietnam approach, and skills to organise consumer groups and help consumers translate their awareness into actions
- The project's approach was implemented in two batches, each encompassed 26 consumers groups with 17 groups of office workers, 18 groups of students, 14 groups of communities, equivalent to 1099 change agents empowered in the cities of Hanoi, Hochiminh City, Da Nang and Can Tho
- Conducted 16 co-creation sessions involving customers and companies in the food, transportation, and tourism sectors

What makes this project different is that it's the first one to get industry and consumers together to improve products and make them more sustainable. We call that co-creation.

Dr. Marcel Crul
Representative of Delft University of Technology

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MEET-BIS - Mainstreaming Energy Efficiency through Business Innovation Support

VIETNAM ● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 4/2009-9/2013
BUDGET: EUR 1,943,419 (EU Contribution: 80%)

CHALLENGE

Many small and medium-sized enterprises (SMEs) in Vietnam work with outdated and inefficient technology. As energy and water prices escalate, this inefficiency translates to high business costs, as well as to costs for the environment. Cost-saving technologies that enhance the energy and water efficiency of SMEs exist, but technology suppliers lack knowledge of market opportunities in the SME sector, and staffs are not trained for SME sales. Furthermore, they lack the capacity to transform technical solutions into business-smart, cost saving products for SMEs. At the same time, SMEs often are not aware of the benefits of investing in cleaner technology and they lack the capital, or access to finance, to invest in cleaner technology.

OBJECTIVES

The project Mainstreaming Energy Efficiency Through Business Innovation Support (MEET-BIS) promoted sustainable production of urban-based SMEs in Vietnam by ensuring their access to affordable water and energy efficiency technologies.

The specific objectives included:

- Developing eight SME business innovation packages for energy and water efficiency
- Partnering with technology suppliers based in Hanoi to target the SME sector, and building their capacity to address the local market
- Supporting financial institutions in developing financial products for SMES
- Communicating the commercial viability of the technologies to SME managers

OUTCOMES

- Formal cooperation established with 11 local technology suppliers; by July 2013, 9 of those suppliers successfully generated sales
- Some 70 Technology suppliers participated in events or activities of MEET-BIS: a database of approximately 278 local suppliers of energy and water saving products was created
- Market research is done on the SME challenges and bottlenecks
- Research is performed on access to finance for SMEs and potential solutions
- A toolkit of sales & marketing practices and support packages with tested Vietnamese illustrations developed
- Energy and water saving technologies have been promoted among 3852 SMEs; 1364 SMEs showed their interest in EE/WS products & services, and of these, 423 SMEs invested in the technologies
- Total value of energy and water saving products sold since 2011 is EUR 2.43 million (VND 65.66 billion)
- The reduction of CO_2 emission is an estimate of 9,842,559 kgCO_2e between the initial sales in January 2011 and the end of June 2013
- The present investments in energy and water saving products & services will contribute to mitigating climate change with an estimated annual emission reduction of 9,788,636 kg CO_2e

As a small technology supplier of energy efficiency products, we did not have the know-how and capabilities we needed in sales and marketing. The MEET-BIS approach helped us identify new customers, as well as network with other suppliers. We are on the way to becoming an energy service company.

Vu Ngoc Tuyen
Director
Systech Eco

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Vietnam Chamber of Commerce and Industries – Ha Minh Investment and Business Consultants, Inc. (VCCI-IBCI)

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Lead Paint Elimination

BANGLADESH, INDIA, INDONESIA, NEPAL, PHILIPPINES, SRI LANKA, THAILAND

● MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2011-6/2015
BUDGET: EUR 1,798,563 (EU Contribution: 77.8%)

CHALLENGE

Lead is a toxic metal, which is why it is banned for use in paints in Europe, the U.S. and Australia. Lead is especially harmful to children as it interferes with the developing brain and, for example, causes lower IQ, attention deficiency, poor impulse control and aggressive behaviour even at very low exposures. The World Health Organisation (WHO) has stated that there is no safe level of childhood lead exposure. However, in developing countries, lead is still used in paints as a pigment and drying agent, and when these paints are then used in homes and schools, lead contaminates the household dust and is ingested by children through hand to mouth contact.

The damage caused during development is irreversible, but entirely preventable. The challenge for this project was to achieve a switch to lead-free paints in Bangladesh, India, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand.

OBJECTIVES

The project aimed to reduce childhood lead poisoning by working to eliminate lead decorative paints in the seven participating countries. This will lead to improved school performance, which in turn will help to battle poverty. In addition, this project helped reduce trade barriers for small and medium-sized paint manufacturers.

OUTCOMES

- Increasing public awareness
- Creating certification and labelling programmes
- Providing capacity-building for small and medium-sized paint manufacturers
- Conducting policy dialogues

We managed to gain the trust and confidence of the paint companies by showing that we were not just there to fight them and hurt their businesses, but to help them produce non-toxic paints.

Manny Calonzo
South-East Asia Regional Specialist,
IPEN Asian Lead Paint Elimination Campaign

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Centre for Public Health and Environmental Development (CEPHED), Nepal

Ecological Alert and Recovery Thailand (EARTH)

Ecological Waste Coalition of the Philippines, Inc.

Enviromental and Social Development Organisation (ESDO), Bangladesh

ISEAL Alliance, UK

The Just Environment Charitable Trust (Toxics Link), India

ACMFN - Asian Cleantech MSME Financing Network

CHINA, INDIA, INDONESIA

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2016-12/2020
BUDGET: EUR 1,872,565 (EU Contribution: 80%)

CHALLENGE

The biggest challenge remains eliciting the interest of micro, small and medium-sized enterprises (MSMEs) in shifting to clean technology (cleantech), as well as those involved in the value chain. The MSMEs perceive cleantech as costly, and while they appreciate the return on investment of such projecta, it may take some time to recover. Improved understanding of cleantech is important. However, lack of financial literacy and transparency by the MSMEs are also major issues on the demand side, which hamper further commitments by financial institutions, which themselves lack awareness, technical capabilities as well as tailored financial products and co-investment opportunities.

OBJECTIVES

The project sought to build and leverage a cleantech financing ecosystem to spark improved access to finance for Asian cleantech MSMEs in order to enhance sustainable consumption and production (SCP) patterns in Asia. The project aimed to enhance the cleantech value chains and access to finance for MSMEs as well as the availability of cleantech financing products by working with financial institutions (FIs).

OUTCOMES

- Promoting cleantech innovation among 1500 MSMEs and building the capacity of 400 MSMEs from high impact sectors in the target countries
- Developing training and guidance materials, or a 'Cleantech Innovation Toolbox,' which was available to all participating MSMEs
- Creating a pool of trainers forming sector specific advisory groups and providing follow-up support to the MSMEs
- Providing financing advisory services to the selected 200 MSMEs
- Establishing national matchmaking fora between MSMEs and FIs to facilitate the investment process and to build up new investment channels
- Linking up with other existing initiatives or platforms, e.g. Sankalp Forum in India, UN Climate Technology Initiative-Private Finance Advisory Network (CTI- PFAN), UNEP FI, or ADB's Clean Energy Forum
- Creating awareness and knowledge among FIs by building their capacities to better understand the cleantech market potentials and to appraise these under a risk-mitigated environment
- Organising regional marketplace conference to foster matchmaking, co-investing and risk-sharing between cleantech investors and investees

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China Electronic Energy-saving Technologies Association (CEESTA)

Confederation of Indian Industry (CII)

The Association for Advancement of Small Business (PUPUK)

Wood Processing and Trade

CHINA, INDIA, VIETNAM

MULTI-INDUSTRY

IMPLEMENTATION PERIOD: 1/2009-1/2013
BUDGET: EUR 2,152,056 (EU Contribution: 80%)

CHALLENGE

Because of unprecedented economic growth and development in India, China and Vietnam, an increased demand for natural resources is placing pressure on forests. Small and medium-sized enterprises (SMEs) often buy wood that has been produced unsustainably, possibly illegally, thus stimulating the demand for unsustainable and illegal wood. To exacerbate this situation, the related forest degradation/loss in Asia results in increased flooding, mudslides and wildfires.

OBJECTIVES

The project sought to engage at least 600 SME wood processors in the target countries to enable them to apply sustainable production techniques and to provide certified sustainable forest products to national and international markets by 2012.

OUTCOMES

- This project built capacity SMEs of wood processors to enable responsible sourcing and production of forest products
- It linked these SMEs with buyers and forest managers which belong to the Global Forest and Trade Network
- Assisted companies throughout the supply chain to utilise products sourced from responsibly managed forests, maximise their access to the market, and trade on their responsible business credentials
- 45 SMEs have joined the GFTN and smaller SMEs have started the GFTN application process
- Over 600 smaller SMEs gained awareness of SCP

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