



Measuring social value creation at Saipem's Karimun Island fabrication yard in Indonesia

Case summary

Saipem provides engineering, procurement, construction, and drilling services for onshore and offshore oil and gas industry.¹ In 2007, the company started building a new facility for the fabrication of offshore structures like topsides, jackets, piles, and decks on Karimun Island in Indonesia. Recognizing the significance of the investment both for the company and for Karimun Island, Saipem decided to measure the socio-economic impact of the fabrication yard construction phase from 2007 to 2011.



This case study describes how Saipem, supported by DuPont Sustainability Solutions², applied the Measuring Impact Framework of the World Business Council for Sustainable Development (WBCSD), in conjunction with a number of other specific tools.

The results of the measurement exercise, covering approximately 100 types of impacts, highlighted a number of areas where important adaptations to the company's local content strategy and communication plan were needed.

Introduction

Saipem provides engineering, procurement, construction, and drilling services for onshore and offshore oil and gas industry with a strong presence in the emerging regions of Africa, the Middle East, and Central and Southeast Asia. The company employs over 42,000 people comprising more than 120 nationalities.

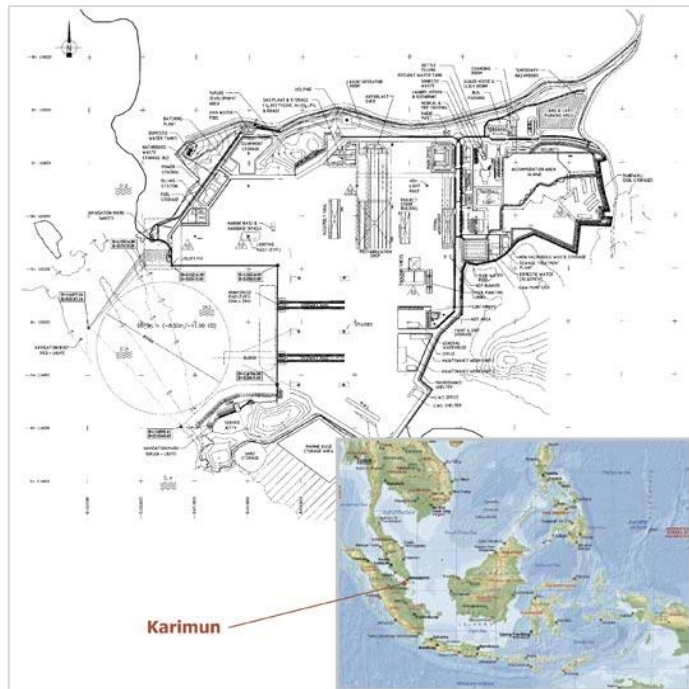
In 2007, Saipem started building a new facility for the fabrication of offshore structures like topsides, jackets, piles, and decks on Karimun Island in Indonesia. Karimun Yard now occupies 130 hectares of land and is able to produce up to 35,000 tons of steel structures a year.

¹ For more information on Saipem, visit <http://www.saipem.com>

² For more information on DuPont Sustainable Solutions, see <http://www.sustainablesolutions.dupont.com>

In Karimun and around the world, Saipem's commitment to sustainability is represented by a comprehensive Local Content Strategy that focuses on creating value not just for the project, but also for the context in which the company operates, offering opportunities for social and economic development.

To measure local value created, Saipem uses methodologies and tools customized to its business context and strategy. For example, Saipem has developed a model called SELCE (Saipem Externalities Local Content Evaluation) to measure the direct, indirect and induced economic impacts generated by its operating companies in the socio-economic context of the countries in which they operate.



This case study describes how a new Social Value framework has been developed, which integrates the WBCSD Measuring Impact Framework and other specific standards and tools (such as SELCE), to assess the socio-economic impacts and the contribution of the Karimun Yard construction project to the development of the local society.

Objectives

The assessment had three main objectives:

1. To articulate Saipem's contribution to the local economy and society of Karimun Island;
2. To quantify the social value created, including direct and indirect effects in a wide range of domains of societal progress, and compare it with the perceptions of local stakeholders;
3. To recommend short and long-term actions for Saipem's local investment and operations management.

Process

Analytical framework

The Social Value model combines the internationally recognized WBCSD Measuring Impact Framework³ with the GEMI Metrics Navigator approach and the Social Return on Investment⁴ (SROI) methodology. The model is complemented by well-established concepts, procedures, and tools such as theory of change⁵, stakeholder engagement, economic externalities evaluation, and stakeholder perception survey (SPS).

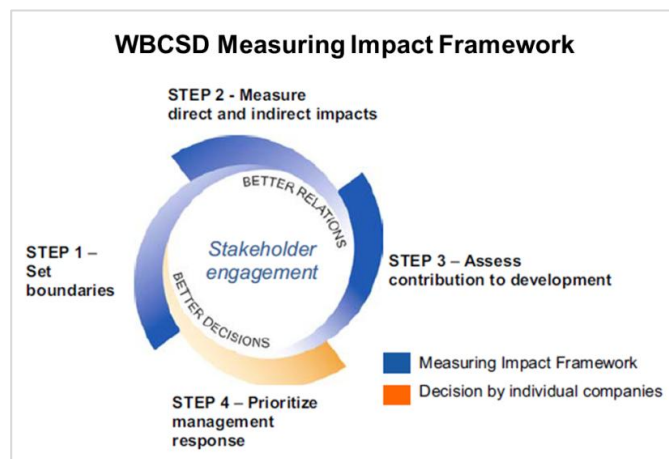


The model serves to identify the material business drivers and issues, define the boundaries and the activities in scope, measure the inputs-outputs, focus on long term outcomes and calculate the SROI. It includes substantial validation of the outcomes and impacts through stakeholder consultation and communication and compares the value created to the value perceived by the surrounding society.

The analysis identifies gaps between value created and value perceived, necessary to inform the decision making process and indicates the possible corrective or leveraging actions.

Assessment process

The assessment followed the 4-step methodology of the WBCSD Measuring Impact Framework, depicted to the right. The framework takes the user through the process of identifying, measuring, assessing, and managing a company's development impacts.



³ All information on the WBCSD framework, including case studies describing its application in practice, is available at <http://www.wbcscd.org/work-program/development/measuring-impact.aspx>

⁴ For more information on SROI, see the publications by the Roberts Enterprise Development Fund (www.redf.org/learn-from-redf/publications/119) and the SROI Network (www.thesroinetwork.org/)

⁵ For more information on theory of change, see Connell and Kubisch (1998), the Aspen Institute, and McCawley (2001)

STEP 1: Set boundaries

The geographic boundaries for the assessment were set at the local level – Karimun Regency⁶ – and at the country level, Indonesia.

From a timeline perspective, the assessment focused on the Karimun Yard's 5-year construction phase from 2007 to 2011.

Activities covered included procurement of goods and services, local wages and tax payments, depreciation, training expenditures, local social initiatives (funding to local schools and participation in vocational school teaching, local environmental initiatives and community benefit projects).

From the stakeholder engagement perspective, the local stakeholders were identified and classified according to their level of influence on the project, their interest in the project, and their physical distance to the Karimun Yard.

STEP 2: Measure direct and indirect impacts

Key concepts and tools were applied to measure the direct and indirect impacts of the Saipem Karimun Yard project:

- **Key concept:** Using the **theory of change**, an “impact tree” was developed showing how Saipem’s activities generate “outputs” (e.g., jobs created and taxes paid) which lead to longer-term changes, described as “outcomes,” intended and unintended, positive and/or negative. The impacts associated with Saipem’s activities were evaluated through an attribution process. The resulting impact tree identified approximately 100 potential impacts of the Karimun Yard on the local and national economy and society.
- **Key tools:** The **Saipem Externalities Local Content Evaluation (SELCE)**⁷ measures the local and national positive economic impacts, given by the sum of the direct, indirect and induced effects, such as economic value created in terms of locally sourced purchases, taxes paid to local authorities and employees’ salaries; number of local jobs created and human capital development, including increased life-time earning expectancy due to the training received at Saipem. Direct impacts were calculated using company data and indirect and induced impacts were calculated using economic multipliers specific to the local and national economies.

The **Social Return on Investment** approach broadens the SELCE measurement of economic impacts to the measurement of wider societal impacts also associated with Saipem’s activities on Karimun Island.

⁶ Karimun Regency is the administrative division in which the Saipem fabrication yard is located

⁷ For information on Saipem SELCE Model, see <http://www.saipem.com/site/Home/Sustainability/LocalContent.html>

The data gathering process included Saipem company purchasing and financial data, research, independent statistics (i.e., Karimun Regency Statistical Yearbook 2006-2011) and third-party bi-annual socio-economic baseline studies, commissioned by Saipem, to capture the social, economic, and cultural conditions of the Karimun Yard neighboring community. These studies allow the analysis of trends during the reference period in demographics, living conditions, spending and savings patterns, and other information.

In addition to model results, the country / region profile, key development indicators and growth challenges were elements considered in the analysis of the Saipem Karimun Yard's contribution to development at the regional and national levels.

STEP 3: Assess contribution to development

The results were presented in four different formats:

1. **Social value created** in six domains of societal progress:
 - Enterprise development;
 - Infrastructure development;
 - Business and institutional governance;
 - Community development;
 - Quality of life;
 - Ecosystem conditions.
2. The **SROI ratio**, or ratio of social value created to Saipem's local spend (similar to a cost-benefit ratio);
3. The **social value perceived**, based on the stakeholder perception survey, covering 142 among employees, local community members, government authorities, businesses, media and non-governmental organizations (NGOs);
4. **Detailed impact analysis by domain of societal progress**, including interpretation of quantitative and monetized metrics and comparison with the value perceived by stakeholders.

STEP 4: Prioritize management response

The assessment provides the necessary information to the Saipem project and operations management decision-making process and enables the company to prioritize local content investments based on their contribution to business sustainability and social benefit. In particular, the results were used to:

- Identify immediate actions to mitigate negative impacts, through specific projects, for a rapid increase in the SROI;
- Recommend longer term actions focused on high-risk outcomes or stakeholder groups, by uncovering the outcomes bringing the highest return or the reasons for the potential gaps between the social value created and perceived;
- Introduce strategic changes that could lead to SROI maximization.

The results of the assessment were also used as a basis for engagement with internal and external stakeholders:

- **Within the company**, the assessment results were used to promote Saipem's approach to sustainability and contribution to business development;
- **With local stakeholders**, the results were used in the process of building strong relationships based on trust and regular communication;
- **With clients**, the results are used to demonstrate and improve Saipem competitive advantage as a key contributor to their clients' value chain sustainability.

Results

Social value created

The construction of Saipem's Karimun Yard, with its strong local content strategy, generated important local and national socio-economic impacts.

At local level (Karimun Regency), the social value created was estimated at US\$151 million with the following contributions:



- Enterprise development, in value of US\$119 million, composed of business opportunities to more than 100 direct suppliers and the (direct, indirect and induced) creation of 2,500 annual local jobs;
- Improved business practices and working conditions, widely recognized by local stakeholders, leading to savings of US\$1 million from avoided health and safety issues;
- US\$2 million effects on community development through education opportunities and small community projects;
- US\$29 million in improved quality of life related to increased earnings through job creations and improved material living standards from on-the-job training and investment in education;
- The negative effect evaluated at -US\$0.1 million in ecosystem conditions is associated with the perceived reduction in fishermen income due to the temporary dredging activities during the construction phase.

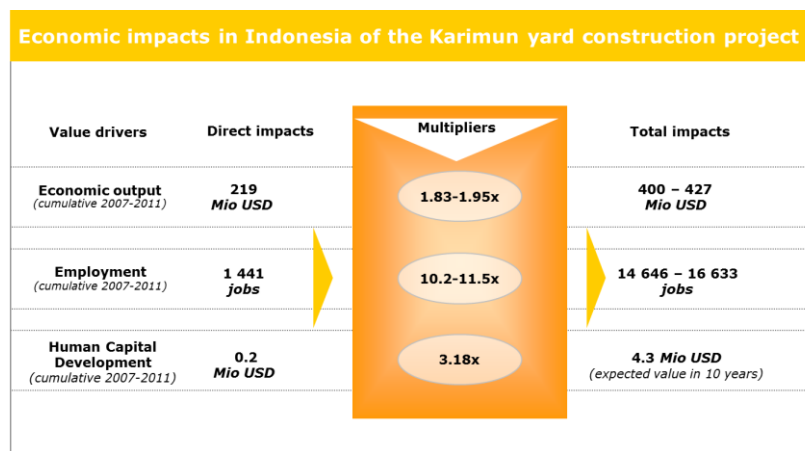
The construction of the Saipem fabrication yard also attracted investment to Karimun in value of US\$102 million, mainly in form of domestic and foreign capital investments (US\$86 million), setting the basis for future sustainable growth and societal development, and local infrastructure development objectives agreed with local authorities in value of

US\$16 million.

At national level, the social value created is estimated at US\$549 million. The increase in value creation between the local and national level is mainly due to:

- The inclusion of a larger piece of the supply chain and employment effect at national level, leading to the creation of about 15,000 jobs and an economic impact of US\$451 million;
- US\$96 million in improved quality of life, as positive consequences of the economic activities and the employment created in the national supply chain, resulting in higher household earnings and consumption.

Focusing only on the economic impacts of Saipem's investment, the SELCE model estimated that for every dollar spent in Indonesia, an additional US\$0.83-0.95 was created through indirect and induced economic activity such as local procurement by suppliers and private consumption by employees.

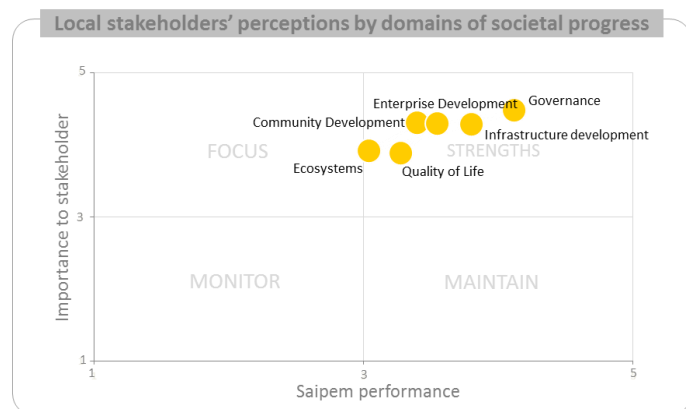


33% of the total economic impact took place within Karimun Regency, representing 7% of the cumulative 2007-2011 Karimun Regency's GDP.

The construction of the Karimun Yard created more than 1,400 direct local jobs over 5 years, and indirect and induced jobs between 13,000 to 15,000 in the national supply chain. This means that for every direct job created, an additional 9.2 to 10.5 jobs were created or sustained (leading to a multiplier effect of 10.2 to 11.5).

SROI ratio

At the Karimun Island level, the SROI ratio was calculated to be 1.73, meaning that for every dollar spent by Saipem locally, an additional \$0.73 was created in the region. At national level, the SROI ratio increases to 2.29, as it captures a larger share of the supply chain, employment effect and quality of life



Note: The survey used 40 questions and 5 range rating scale for performance and importance. 1 indicates low - 5 indicates high stakeholder appreciation.

improvements as discussed above.

The interpretation of these numbers requires a deep understanding of the changes brought about by Saipem on Karimun Island. This was obtained through the results of the stakeholder perception surveys as detailed below.


Social value perceived

While most contributions are important and mainly positive, they are not recognized equally by all stakeholders. The Saipem-induced economic benefits with the most visible societal footprints, such as improved business governance, are appreciated by most stakeholders. More indirect impacts, such as enterprise, infrastructure or community development, are less associated with Saipem but also generally of lower importance to stakeholders.

Saipem's important contribution to quality of life (US\$29 million social value created) is less perceived and valued by stakeholders. In line with the impact on fish resources, Saipem is perceived as having a poorer contribution to ecosystem conditions, although the overall score is still above average.

Impact analysis

To gain more insight into Saipem's socio-economic impacts in Karimun, the social value model includes a detailed analysis of each impact identified, interpreting quantitative, monetized metrics and comparing them with the value perceived by stakeholders.

Societal Progress Domain: Enterprise Development			Impact analysis by Societal Progress Domain			
Indicator		Analysis	Indicator		Analysis	
Quantitative evaluation	Jobs created	Jobs created by and in SIKB value chain in Karimun Regency amount to approx. 10,000	Financial evaluation	<ul style="list-style-type: none"> Monetary indicator 1: USD xxx Monetary indicator 2: USD xxxx 		
	Contribution to GRDP of secondary & tertiary sector	Secondary and tertiary GRDP (at constant prices) increase respectively by 7% and 5% per year during 2007-2010, while the primary sector only increases by 3% per annum, demonstrating a quicker development of the industry and services sectors. The business generated by SIKB in Karimun Regency links to secondary and tertiary sectors: construction, catering, accommodation, other services		Quantitative evaluation		
	GRDP / employee	GRDP / employee as a measure of employee skills development and local capability, increased 13% per annum for the secondary sector, while primary and tertiary sector GRDP per employee increased by 4% and 5% per annum respectively in Karimun Regency. SIKB's local purchases drive the fast capability development of the local industries by setting high requirements to the supply chain			Perception-based evaluation	<ul style="list-style-type: none"> Overall performance and importance score Areas of concerns for the stakeholders Verbatim answer analysis
	# of companies and # of jobs	Number of industrial companies and employment: 163 industrial companies created in 2009-2010 and 1,885 jobs in Karimun Regency. Small and Medium Enterprises (SMEs) contribute to wealth creation, generate jobs and tax revenues				
	Fishery production	Volume and value of fishery production increased by respectively 59% and 107% in Karimun Regency between 2007 and 2010, showing that at industrial level, SIKB's presence do not affect fisheries				

Key findings included:

- Saipem supports local businesses to move up in the value chain from primary to secondary and tertiary sectors, as shown by those sectors' increasing contribution to the gross domestic product of Karimun; trends in skills development among employees in these sectors; and the creation of local industrial companies. The assessment revealed that 74% of stakeholders recognize Saipem's contribution to local enterprise development.
- Road, water, and electricity infrastructure development in Karimun reduce the cost of doing business and improve housing conditions. The assessment revealed that while

stakeholders recognize that infrastructure is improving, they do not necessarily recognize it as being stimulated by Saipem.

- Saipem's core values and business practices have created a culture of health and safety that has extended beyond the Karimun Yard to affect household behavior and quality of life.
- In addition, increased business activity and employment attributable to Saipem have stimulated additional activity within government (for example, port and customs operations and public services). Pressure for public administration and coordination in areas like labor regulation, and migrant worker registration has increased slightly.
- Increasing population and cultural diversity, driven by the presence of migrant construction workers, have influenced the way in which community members interact with one another (new ways of income generation have appeared, such as housing; new behaviors have been noticed). However, the assessment finds that community cohesion does not seem negatively affected (i.e., there has been no increase in the number of criminal cases, higher number of youth associations, etc.).
- The assessment revealed that Saipem's interaction with the community is of great importance to all stakeholders, and that a more proactive approach to collaboration with local communities would have been appreciated.
- Saipem's presence has enhanced the Karimun Regency's ability to provide public services, such as healthcare and education, by contributing directly and indirectly to the public budget. However, these services face higher pressure due to the sheer increase in population on the island, Saipem requirements such as fit-to-work certifications, and increased interest in education and skills development as local economic opportunities develop.
- Job opportunities and Saipem's slightly higher-than-average salaries lead to better material living standard and positive change in the nature of household consumption towards better nutrition, higher education spending, and other needs, as shown through the increase in the number of households classified as "economically sufficient" who spend 18% of their income on education (vs. 3% for poor households) and 12% on savings (vs. 0% for poor households).
- In addition to the temporary disruption of fishing activity, Karimun Yard's construction has had a number of other impacts on ecosystem conditions. These include a 15% increase in the number of vehicles (mainly two-wheelers) and increasing concern about water quality among local communities, but also positive contributions through local environmental remediation programs such as the improvement of local sand banks and mud dredging in the estuary, in collaboration with local communities.

Key learning & next steps

In addition to the results described above, Saipem's Karimun Yard study generated important learning about the development and application of the methodological framework for assessing socio-economic impacts.

Attribution factors were used throughout the SROI analysis to ensure that only the impacts associated with Saipem were attributed to Saipem. However, as socio-economic cause-

consequence models are complex and influenced by many different parameters, the evaluation often relies on proxies, such as Saipem's contribution to Karimun Regency's GDP or tax income, as attribution factors.

Furthermore, some social impacts (for example, the impacts of air pollution and noise on local population) were difficult to be quantified in monetary terms. As a result, some impacts were not included in the monetary quantification of social value created but only considered in the impact analysis.

Overall, the analysis of impacts and the choice of attribution factors is a subjective exercise which has been done in close consultation with the team members.

For some of the impacts quantified, the communication of the results to stakeholders posed challenges: for example, the meaning of "quality of life" or "governance" quantified in monetary terms is not easily understood.

Finally, Saipem has found the stakeholder perception survey to be a powerful tool for engaging with local stakeholders and understanding their perception. Results have shown net positive perceptions of Saipem's efforts, and have played an important role in shaping the company's longer-term decision-making.

This assessment of the social value created by the Saipem Karimun Yard initiated a welcomed open dialogue between the company and its local stakeholders on a broad range of impacts.

The results were well received by local stakeholders, including public authorities on Karimun Island. The results provided the basis for renewed support by the Karimun Regency, and allowed Saipem to rest assured of the Regency's commitment.

References

- Connell and Kubisch (1998) Applying a Theory of Change approach to the evaluation of comprehensive community initiatives: progress, prospect and problems, in Fulbright-Anderson, et al. eds, *New Approaches to Evaluating Community Initiatives: Volume 2 Theory, Measurement and Analysis*, Washington DC, the Aspen Institute
- McCawley (2001) *The Logic Model for Program Planning and Evaluation*
- *The Aspen Institute's Community Builder's Approach to Theory of Change – A practical guide to theory development*