

The Sustainable Development Facility

THE GEORGE BOOLE FOUNDATION LIMITED



Practical solutions to Sustainable Development Goals through technology and know how transfer

The SDF approach to training
to raise the sustainable development
impacts of project teams

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To reduce dependency by enabling communities to address the challenges of poverty, climate change and sustainability in a practical manner by fostering independence by building competence and self-reliance.

The George Boole Foundation Limited

The George Boole Foundation Limited is a non-profit organisation dedicated to the development and dissemination of useful digital applications to solve practical problems facing society and economic activities. The Foundation was established in 2010 based on the cumulative experience of applied research and development work of [SEEL-Systems Engineering Economics Lab](#). SEEL's activities cover natural resources and agriculture, decision analysis, project design and management, microeconomics, development economics, systems engineering and information technology.

The George Boole Foundation
Office 3.056, Atlas House, 1 King Street, London, EC2V 8AU , United Kingdom
Telephone: +44 (0) 7760 444 625 Registration Number: 7131194

The Sustainable Development Facility

The Sustainable Development Facility (SDF) was established by The George Boole Foundation Limited as a holding account for donations to be used to support an international extension service dedicated to raising the quality and to lower the cost of technical service support to low income country institutions managing projects in support of Sustainable Development Goals.

The framework mechanism for this support is an advanced Sustainable Development Goals Toolkit ([SDGToolkit](#)) a cloud-based Software-as-a-Service project design, implementation, operations evaluation and portfolio management system.

This extension service includes:

- The free provision to organizations, in low income countries, of a SDGToolkit consisting of a due diligence design procedure supported by analytical tools, over an extended period, to identify, design and implement projects in support of Sustainable Development Goals
- Training in the use of the SDGToolkit with ongoing technical support
- On-the-job support in the design of two projects
- Development of long-term sustainability adjustments to projects
- The continued development (design and implementation) of cloud-based software services
- Regular reporting on progress

Why has this approach been adopted?

One of the important issues for donors and investors is to know whether or not a project has been shaped by applying rigorous due diligence procedures to collect the relevant information as evidence to justify a project design. The analysis of potential benefits, sustainability and management of risks is also required.

Although project cycle management guidelines have existed for well over 50 years, they have been slow to adapt to the changing requirements of complexity linked to climate change and of remaining economically viable while safeguarding the state of the environment and ecosystems upon which human survival depends.

Between 1990 and 2010, World Bank reviews of funded projects found that there was a rate of failure of projects of around 35% and natural resources-based projects such as agriculture the failure rate was around 45%.

Following a 5 years evaluation of project cycle management methods by the Open Quality Standards Initiative (OQSI) between 2010 and 2015, it was concluded that the main cause of project failure was a combination of inadequate design and evaluation procedures. This review reported that in the 1960s some 85% of projects were subjected to economic rate of return

assessments, such as cost-benefit analysis (CBA) and by 2015 this had declined to just 20% of all projects funded. This decline has not been compensated by alternative forms of appraisal, such as cost-effectiveness analysis (CEA). The lack of economic appraisals has resulted in too many projects being either under-ambitious or over-ambitious resulting in a lower than desired economic development impact.

In 2015 the launch of the United Nations Agenda 2030 and 17 Sustainable Development Goals added some urgency to the need to improve project design and evaluation procedures as a combined package. Between 2015 and 2020 the George Boole Foundation completed a system engineering programme to complete the development of such a system which delivered an operational SDGToolkit system within the assigned budget and timeframe.

The 2019 the United Nations Sustainable Development Report highlighted important gaps in the performance of the Sustainable Development Goals project portfolio. It observed that global economic growth is correlated with rising income disparity, declining sustainability of production and consumption and a continuation of rises in average temperatures. Therefore, the trends in project failure measured in 1992, 2010 and 2015 were persisting. The launch of Agenda 2030 and 17 Sustainable Development Goals demand more effective project design procedures able to handle the multiple constraints arising from poverty, climate change and natural resources carrying capacity.

This represents a significant current challenge to donors and investors in SDG projects.

Project team training

By receiving support through a donor funded George Boole Foundation Extension Service (GBFexs) operating within the SDGToolkit framework, beneficiaries will acquire expert training in advanced project design due diligence procedures and receive instructions on when and how to use analytical tools to identify and manage critical information to establish evidence to identify project design options.

The main purpose of the training content of the SDF initiative is to help improve project team development impacts by achieving high levels of practical competence in actually designing and managing sustainable projects in an efficient manner. Although course content contains theory and logic, the fundamental objective is to assist course participants build up tacit knowledge as to "to know what, why and how to do". Reviews of training options resulted in the SDF opting for training on-the-job during the design and operation of real projects. For this to be successful, training needs to be based on a process approach.

This system enables teams to analyse relevant information on gaps and needs at the national level as well as identify and quantify the principle constraints facing project implementation. There is a reiterative process associated with any decision to identify and compare the feasible options. Required information is made explicit and there is an ongoing re-evaluation of decisions linked to outcomes leading to real time adjustments to keep projects on track.

The main advantages of the process approach

The ISO¹ summarises the benefits of the process approach as:

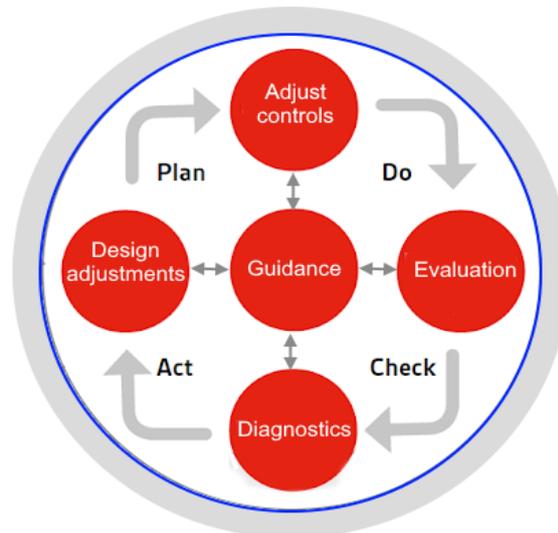
- Integration and alignment of all processes to achievement of objectives
- Effort is focused on process effectiveness and efficiency

¹ ISO 9001.

- Improvement of confidence to donors and management concerning consistent high performance of teams
- Transparency of operations
- Learning to lower costs, reduce delays and use resources more effectively
- Improved, consistent and predictable results
- Identification of ways to improve overall performance
- Full team involvement and well-defined responsibilities

Training approach

Although all recommendations, procedural descriptions and communications are based on **explicit knowledge**, the OQSI training guidelines emphasise the development of trainee **cumulative tacit knowledge** through repetitive cycles of action, observation, adjustment and improvement of tasks. This approach is based on SEEL's instructional simulation approach and the ISO process approach. This approach results in a constant increase in quality standards as a result each team member descending a learning curve.



Source: ISO 9001; OSQI 2020; SEEL IS:2020

The fundamental justification is that beneficial change comes from actions and therefore actions taken need to be carefully selected².

Additionally, the SDGToolkit procedures and AT components provide an integrated systems approach through the OQSI due diligence design procedure (3DP) which identifies all of the factors that need to be given due consideration.

The training takes beneficiary personnel through this full range of factors of relevance to the identification of sustainable solutions as well as the specific issues identified by the UN Sustainable Development Report (2019) as representing failures in performance of the SDG project portfolio. These include considering real income impacts, raising sustainability and reducing carbon footprints using analytical tools to identify optimised projects that can deliver:

- a viable financial return
- reduced income disparity
- reduce carbon footprint
- carrying capacity balance
- and quantified impact analysis on specific environmental and ecosystem issues identified as being critical

The database system acts as a Project Memory so that loss of team personnel does not disrupt ongoing work because newcomers can access data from any stage of the project cycle and come up to speed in the short period of time. Similarly, the cloud-based operation of

² In decision analysis the definition of a decision is the irrevocable allocation of resources to a defined set of activities.

SDGToolkit means that contributions by people from organizations or departments in different locations are recorded in the Project Memory and not lost³.

Monitoring and evaluation

The SDGToolkit has an onboard internal evaluation system that enables team members to assess project performance. In cases of delays in completion of tasks arising from changed conditions, the options simulations can be used to orientate decisions made. The evaluation system can also be used to record the effectiveness of decisions. Intensive reviews by QQSI found that conventional project design and evaluation criteria were not very effective in establishing assessments of risk and sustainability. This has not been adequately addressed by the increased application of the theory of change analyses (TOC). One reason is that these tend to be combined under the commonly applied OECD DAC criteria and often come under the heading of “assumptions” and another reason is that TOC systems lack adequate analytical tools to quantify risk and provide evidence-based sustainability assessments. Without analytical tools TOC becomes entirely dependent on the expertise present in the project team and invariably specific factors are less well analysed.

The QQSI recommended evaluation criteria add the criterion of “**resilience**” as a category of evaluation that is used to assess risk and establish mitigation or avoidance tactics. **Sustainability** is a more general category linked to several qualifying perspectives including social, technical, economic, financial, environmental and ecosystem sustainability.

OECD DAC consider their evaluation criteria to be normative but provide no tools or detailed guidance on how to apply them to these different phase activities. The QQSI review (2010-2015) found that as a result, external evaluations are of varying quality and quite often do not include team member inputs. Also, in some cases, external evaluations are not welcomed.

Under OECD DAC criteria, the criterion of **coherence** is more linked to assessing the complementarity of other initiatives whereas under QQSI recommendations coherence is more directly linked to internal data coherence within evidence collected to ensure that the data set supports the objectives of the analysis⁴.

The QQSI evaluation criteria are accompanied by specific guidance on how these should be applied according to project phases and tasks. This is because the evaluations in each case focus on different types of activity and performance according to the specific phases, including:

- Design
- Setup
- Operations (completion of tasks)
- Operational decisions and outcomes
- Post-funding design adjustment for long term sustainability

Therefore, the QQSI in maintaining its systems approach, provides more fine tuning and relevance to project design and management, throughout the project cycle.

To support evaluation the SDGToolkit has "internal evaluation" tools that record results in a

³ This specific point was highlighted by the problem of data atomization and loss when no central repository exists, by the World Bank Evaluation Group in 2010.

⁴ The QQSI recommended method for internal dataset coherence involves the use of Data Reference Models developed at SEEL and an integral utility in the SDGToolkit.

Project Memory remaining accessible to donors, beneficiaries and external evaluators. By involving project teams in internal evaluations, the "lessons learned" are more easily internalized so as to improve the professional know how of the team as well as remaining in the Project Memory to help avoid similar issues occurring in future project designs.

With the advent of SDGToolkit, evaluation is considered to be an essential internal team function to stimulate professional enquiry and competence through a positive learning attitude with no negative connotations. The result is a very well-informed and increasingly competent team able to provide more expert support to external evaluators and design better projects in the future.

Operations

Access to the information can be freely undertaken by project managers to review anything in their project portfolio of any size.

For further information and discuss any additional requirements or receive replies to any questions please contact

<mailto:sdfprovisions@sdgtoolkit.com>

References and further reading

The following references relate to SDGToolkit and additional White Papers will be added in due course.

The [SDGToolkit.com website](#) contains some detail on the content of this system.

There is a resources section with publications on the SDGToolkit otherwise the Foundation's Boolean Library contains the following documents of relevance:

An advance notice [of the launch of SDGToolkit](#)

A document describing [why SDGToolkit was developed](#)

The [Final report of the Decision Analysis Initiative 2010-2020](#) that produced the SDGToolkit.