

Calidena Handbook 2.0

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On behalf of the German federal government, the Physikalisch-Technische Bundesanstalt (PTB) promotes the improvement of framework conditions for economic activity, thereby supporting the establishment of metrology.

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The document is based on the methodology empirically developed in various countries in Latin America, the Caribbean, Asia and Africa. The systematisation and elaboration of the material was supported by the staff of the International Cooperation Department of PTB and by CALIDENA facilitators under the supervision of Mesopartner.

Readers: This handbook is especially addressed to people in charge of programmes and projects aimed at developing value chains or quality infrastructure, as well as facilitators of CALIDENA processes.

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Part 1 – Context

1.1 Introduction

CALIDENA is a participatory methodology developed and implemented by the Physikalisch-Technische Bundesanstalt (PTB) to stimulate quality in value chains (VC); it aims to systematically and sustainably support the improvement of the quality infrastructure (NQI) in developing countries and emerging economies.

This handbook gives a structured overview of the approach and various key elements of the methodology. The target audience is project coordinators and members of steering committees of development projects, facilitators and also representatives of quality infrastructure organisations and of private sector organisations, who plan to work in the intersection between value chains and quality infrastructure.

The methodology can be used in projects that aim to strengthen the user orientation of the NQI, and/or in value chain initiatives that seek to address gaps in quality services. Organisations that want to work with the methodology can contract trained and experienced CALIDENA facilitators and are required to inform PTB's focal person at the beginning and end of the process (see Toolbox). More detailed guidelines, templates and case studies can be found in the Toolbox and the Web Tools at www.calidena.org.

1.2 Challenges and approach

One of the main prerequisites for participating in the global economy is an efficient and internationally recognised quality infrastructure (QI). In order to comply with quality requirements set by clients and consumers of domestic and foreign markets, enterprises need various conformity assessment services (e.g. testing and calibration laboratories, certification bodies), which are usually provided by specialised private or governmental QI institutions. Therefore, those support institutions need to deliver user-oriented and internationally accepted quality services. But in many developing countries and emerging economies, quality services do not always comply with international standards and user requirements. The problem is twofold: on the one hand, QI institutions are not sufficiently consumer-orient-

tated, meaning that their services do not satisfy the needs of their potential clients; on the other hand, the private sector is not sufficiently aware of the key role of quality services as a prerequisite for consumer protection and their international competitiveness. However, a sustainable functioning national QI requires a certain demand for services to refinance itself.

It should be emphasised that CALIDENA is not only applicable to export value chains. The methodology has also been successfully applied to domestic markets and utilities, for instance in the area of energy and water management. There are possibilities here to expand QI services within the regulated sphere too, such as through promotion of the accreditation of the laboratories and inspection bodies of the public authorities. Case studies show how to adapt the methodology to this target group.

CALIDENA simultaneously addresses the supply and demand of quality infrastructure services by providing a participatory approach that facilitates the improvement of quality and conformity in value chains and aims to stimulate the improvement of NQIs. The target groups are the providers of quality infrastructure services and their users, as well as private sector representatives and other support institutions. Interaction between users and suppliers is aimed at improving the latter's understanding of the services needed by their potential clients and promoting actions to foster quality services according to users' needs. This collaboration helps to increase awareness of the benefits of using standards and conformity assessment services, which are designed to increase the demand for quality infrastructure services in the long run.

The establishment of cooperation and coordination activities among quality service suppliers constitutes a central aspect of CALIDENA. It is geared towards the initiation of a collaborative and systematic process of NQI development and the creation of an enabling environment for doing business. In the long term, improved quality services will enable the private sector to better comply with national and international quality requirements, increase its competitiveness in domestic and foreign markets, and enhance its performance and the economic development of the country.

Part 2 – Process

The methodology is structured into three phases: preparation, a participatory workshop and follow-up. Based on the experience of applying the methodology since 2007, it is recommended that the whole CALIDENA process be limited to between six and 18 months.

Overview of the CALIDENA process with phases, milestones and timing



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Subsequent to this, the initiated process should be sufficiently mature to be integrated into the formal structures and procedures of the involved institutions or to be up-scaled by broader development programmes.

The costs of a CALIDENA process include the training of facilitators and other key persons, consultancy costs for preparation, workshop moderation and follow-up by local facilitators, travel costs, logistics and facilitation

material, and finally resources to fund small projects during the implementation of the action plan. The overall costs of a full CALIDENA process in a country are estimated at between 25,000 and 40,000 euros. For a detailed calculation of a specific process, a template is available (see Toolbox).

2.1 Preparation

2.1.1 Framework conditions

Before starting a CALIDENA process, it is crucial to clarify the objectives and motivations of the various stakeholder groups involved and to *verify framework conditions* for the process. Suitable starting conditions are:

- Quality is a relevant issue – opportunity or threat
- QI institutions want to strengthen their user orientation
- Other organisations (national ministries or private sector promotion programmes, regulatory bodies, development agencies etc.) are also committed to supporting the VC in a broader way.
- Sufficient resources are available to implement actions afterwards.

The verification of appropriate conditions is part of the *management of expectations*. It is important to clarify that CALIDENA is mainly about awareness-raising, learning and trust building.

What can be achieved within a CALIDENA process?

- Awareness-building about QI issues
- Establishing links between the QI and value chain
- Analysis of the VC in terms of quality
- Drawing up an action plan
- Implementation of short-term activities (quick wins)¹

¹ Given that the development of a quality infrastructure is a long-term process, it can be a challenge to identify quick win activities. Nevertheless, for larger projects, a first step could be defined and included in the action plan.

What can only be achieved in a broader development process?

- Increase in the demand for QI services by the value chain
- Improving existing QI services or even creating new ones
- Access to new markets and clients by meeting higher quality standards
- Dissemination of a quality culture among (small) enterprises and consumers
- Improving product safety, product quality and well-being.

The second group are long-term objectives and cannot be achieved in a CALIDENA process, but may be embedded in a larger programme or project. Nevertheless, the process initiated with the methodology follows the strategic intent to promote the use and provision of quality infrastructure services. Therefore, it is crucial to embed or situate the process in a broader developmental context and involve strategic allies with significant resources from the very beginning.

In any case, it is important to *clarify the objective of CALIDENA* in a broader programme and project context, integrate it into the impact chain and communicate all this clearly to the different stakeholder groups (see communication guideline in Toolbox). The specific objectives will vary slightly according to the interest and context of the partner organisations (host and co-host, as shown below) and the framework conditions. The process for reaching a joint understanding and agreement about the objectives of a CALIDENA process can take some time and require several meetings and mini-workshops.

2.1.2 Chain selection

The CALIDENA methodology follows a pragmatic and flexible approach to selecting value chains. Selection criteria always need to be adapted to the local context as well as specific project goals and must be discussed with key stakeholders and strategic partners. The criteria can be divided into three levels with the following guiding questions used for evaluation:

1. QI-related criteria:
 - a) Is there already a basic QI?
 - b) Are there sufficient funds available to implement suggested improvements?
 - c) To what extent are the QI organisations willing to collaborate?
 - d) Is there sufficient political support for the QI development?
 - e) Is the proposed collaboration with the value chain relevant for the strategic development of QI?
2. VC-related criteria:
 - a) Are there opportunities for exports?
 - b) Are there important problems related to safety, health, environmental protection or product security (“legitimate objectives”)?
 - c) Is the value chain important for the economic development of the country (such as part of a national export or development strategy)?
 - d) Is the value chain sufficiently articulated for meaningful work on quality issues?
 - e) Are economic actors conscious of the need to improve quality?
 - f) Are stakeholders motivated to work together with the public sector to improve these issues?
3. Development-related criteria:
 - a) Are other development organisations supporting the value chain?
 - b) Are there complementary resources available?
 - c) Is there an interest in collaborating between different organisations?
 - d) Do SMEs participate?

In regional projects and larger countries, it is also possible to work with a call for proposals (CfP), where QI organisations and representative VC organisations have to apply together to roll out a CALIDENA process. The same selection criteria apply here, and a feasibility study (see below) should be carried out.

Whatever the case, it is important to take the criteria as a *menu* and select the right ones according to the specific purpose of the particular project or programme.

The *scoping of the value chain* is also an explorative process. The facilitator should support the stakeholders in identifying an appropriate number of links in the value chain. It is recommended to look for products that require compliance with several standards. At the same time, the research objective should be manageable in its degree of complexity. In summary: be realistic rather than ambitious!

2.1.3 Feasibility study

Before inviting the stakeholders to a broader participatory workshop, it is advisable to do a *feasibility study*. This is a pre-assessment of a selected value chain. It should be carried out by a local CALIDENA facilitator using a corresponding template (see Toolbox). The elaboration of the feasibility study – including the identification, selection and contracting of the local facilitator – could take three to four months with the following steps:

- Preparatory mini-workshops, stakeholder interviews
- Researching and collecting standards and technical regulations pertaining to the respective value chain
- Contacting international buyers
- Desk research using web resources, e.g. Export Helpdesk of the European Union, Standards Map of the International Trade Centre, market research tool of the Dutch Centre for the Promotion of Imports (CBI)

The results of the feasibility study should be shared between the host organisation, the project coordinator and other key players. If the study does not confirm that

further investments in the process make sense, it should be brought to an end (“graceful exit”) with its publication. Otherwise, the participatory analysis should be continued.

2.1.4 Participants and roles

Bring the right partners together: to establish local ownership from the beginning, it is important to identify a *host organisation in the early stage* of the CALIDENA process. *The host organisation* can be a QI body and/or a private sector organisation with high legitimacy and sufficient human and financial resources to lead the process. Depending on the emphasis of the initiative, the QI body (“institutional QI development”) or private sector (“increased competitiveness through compliance with international quality standards”) should take the lead. A proven model is for the other organisation to take on the role of co-host. Host and co-host operate in tandem.

Responsibilities of different organisations in the preparatory phase

Roles	Responsibilities
QI body (host or co-host)	Identify key stakeholders, especially of QI and CA Provide inventory of standard and technical regulations Invite the other support organisation and firms to participate
Private sector organisation (host or co-host)	Identify representatives from all links of the value chain Support the invitation and mobilise firms to participate Identify companies open to field trip visit Contribute human, in-kind and/or financial resources
Other participant organisations (e.g. ...)	Participate actively in the whole process Show openness to sharing information and knowledge
Project coordinator	Supervise the whole process Manage financial resources Embed process in broader cooperation and project context
Facilitator	Facilitate the whole preparation phase, including meetings, mini-workshops and interviews Prepare the feasibility study Give an overview of the whole process and guide the host organisations

2.2 Kick-off workshop

Roles and responsibilities of the host and co-host should be clarified in a written document (see memorandum of understanding, MoU). Additionally, it is necessary to clarify the roles and responsibilities of other supporting agents like project coordinators, CALIDENA facilitators and specialised experts. Finally, it is important to agree on the division of responsibilities with other national and/or international development organisations that promote a specific sector or value chain (like GIZ with its ValueLinks methodology), and/or other organisations that support the development of the national QI.

Appropriate tools here are stakeholder mappings, management of the expectation matrix (see Toolbox), memorandum of understanding and responsibility check-lists (see all in Toolbox).

Selection and training of CALIDENA facilitators: the local facilitators play a key role in the success of the CALIDENA methodology, especially with regard to the preparatory phase leading up to the workshop. They are usually in charge of performing the feasibility study, meeting local stakeholders in order to involve them in the process and facilitating preparatory mini-workshops and interviews with representatives of the value chain and quality infrastructure. They also ensure continued communication and build trust among stakeholders, as well as functioning as a go-between.

To become a *CALIDENA facilitator*, candidates need to be experienced in participatory facilitation techniques, be able to communicate with private and public sector representatives and have basic knowledge about QI issues. Candidates are usually selected by a committee made up of the project coordinator, external experts and representatives of local partner organisations.

The preparation of CALIDENA facilitators usually starts with a three-day *basic CALIDENA training*, which enables them to carry out a feasibility study. Once a positive decision has been taken about the way forward, the candidate prepares and co-facilitates the diagnosis workshop. A more experienced CALIDENA facilitator usually accompanies the candidate during the first two CALIDENA processes. Afterwards, the candidate should be able to facilitate a CALIDENA process by himself or herself (for more details see Toolbox).

The kick-off workshop is a condensed, guided and participatory process in which several purposes can be achieved:

- Information and awareness-raising about quality-related issues
- Participatory self-assessment of quality requirements and service gaps
- Platform for interaction and trust-building
- Starting point for closer collaboration between VC stakeholders and supporting institutions in the area of quality
- Elaboration of an action plan

The facilitator guides the workshop and encourages participation. He or she should be sufficiently knowledgeable about the value chain and QI, but need not be an expert. Technical input should be given by representatives of the QI organisations. The participants should be enabled to self-diagnose quality issues in the value chain.

Who should participate in the workshop?

- Representatives of all links of the value chain including medium or large companies/producers, and representatives of small producers such as cooperatives and/or business associations.
- Representatives from other support or regulatory institutions, e.g. ministries (competent authorities), export promotion agencies and consumer organisations.



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- Representatives from the national quality infrastructure, i.e. metrology, standardisation, accreditation and conformity assessment bodies (certification, laboratories or inspection).

Integrating big and important stakeholders within the chain into the workshop is not an easy task; since working in a value chain is a fairly new approach, it is necessary to explain to the stakeholders the appeal and benefits of their participation. In the case of large companies, a convenient strategy might be to convince the owner or the manager to support the initiative and to send qualified technical staff to the workshop. It might also be useful if they themselves as well as high-profile members of the public sector participate in the opening and closure of the workshop. This differentiation should be taken into account when it comes to the workshop invitations and follow-up. The total number of participants should be limited to approximately 25 for methodological reasons.

Given that the participants in the kick-off workshop are so important for the participatory diagnosis and the implementation of the action plan, it is essential to guarantee the participation of stakeholders from each link in the value chain including companies, quality services and regulation bodies.

The full-time availability of the participants during the entire CALIDENA exercise should be taken into account as a criterion. If someone has to frequently leave the team activities, he or she will not be able to share the joint learning process and this will affect the entire team’s ability to produce a good quality diagnostic of the value chain. *Decision makers* (e.g. ministry representatives, leaders of industry associations and managers of compa-

nies) should preferably be invited at the end of the workshop. There, they can be informed about the workshop results and especially the planned action. This is the appropriate moment to confirm their support for the process and their willingness to provide the required resources to upgrade the value chain and/or develop the NQI further. In that sense, CALIDENA is also an instrument for awareness building at the higher decision-maker level.

Workshop programme: the appropriate duration of a CALIDENA workshop is 2 ½ days. This timeframe is quite short and requires straightforward facilitation, but experience proves that it is feasible to tackle all the relevant issues of a quality-related diagnosis and elaborate an action plan. A longer duration of the workshop is not recommendable, because this would significantly decrease the participation of key stakeholders.

The experience with the methodology in different continents has shown that the workshop design works in different cultures. Nevertheless, the facilitators should always adapt the programme to local specific cultures and expectations in the form of dialogue and evaluate the use of languages.

Description of the workshop sequence and main tools (for more details see Toolbox):

Start with a stimulating *trigger question*: to get an idea of the participants’ perception of the chain, it is helpful to use the figure of a thermometer or meter to visualise their impressions; given that, in many cases, this may be the first time that the stakeholders from the different links of the chain have found themselves in the same room, it also helps them to get to know each other and to introduce the topic (instructions see Toolbox).

Workshop programme in a nutshell (example)

Day 1	Day 2	Day 3
<ul style="list-style-type: none"> ■ Welcome ■ Trigger question ■ Basic concepts: value chain and quality ■ Presentation of the QI system in the country ■ Value chain mapping ■ Quality requirements of markets and buyers ■ Evaluation of the day 	<ul style="list-style-type: none"> ■ Golden thread ■ Inventory of standards and technical regulations ■ Online research on quality requirements ■ Field work – visits to companies and institutions ■ Processing and application of information gathered ■ Evaluation of the day 	<ul style="list-style-type: none"> ■ Golden thread ■ Identification of critical issues (“hot topics”) in each link ■ Development of the action plan ■ Selection of the follow-up committee ■ Final evaluation of the event

Presentation of the participants: the participants are asked to fill out cards with their names, the institution they belong to, and their experience/contribution to promoting quality in processes and products in the value chain. These cards are put up on a board. This helps us to:

- Introduce the participants
- Find out where they are from
- Find out about their background and knowledge about the topic
- Agree rules of collaboration during the event

Other important issues to take into account:

- Levelling of expectations
- Clarification of the context
- Avoiding misunderstandings
- Avoiding frustration during the event
- Presenting objectives and agenda
- Orienting the participants with regard to the unfolding of the event
- Clarifying any doubts
- Picking up again on the objectives and the agenda during the event
- Setting the ground rules: display them and bear them in mind.

It is recommended that participating companies take samples of their products to the seminar, so they can show them to other members of the chain. They may for example also be used as prizes for different exercises.

A good ice-breaker at the beginning of the workshop is the “*living chain*” exercise: participants are asked to hold hands and form a chain. One volunteer will take the role of VC facilitator and tries to push the chain in one direction. No doubt this will not be possible and the chain will break and become distorted. Next they are instructed to pull the chain in one direction, which will likely work. In this way, the dynamics of the chain are explained to them; it has to be pulled from the end customer and must not be pushed forward from the production of raw materials. The discussion is then taken to a more abstract level and the topic of quality is introduced.

Key messages

- The value chain approach begins with clients’ requirements and analyses the interrelationship back along the chain (unlike “production chains”)
- The competitiveness of a company does not depend on the company alone, but on the interrelationship with its suppliers and customers

- Competitiveness also requires an adequate regulatory framework and supporting institutions that provide the services required by the companies in the chain
- Quality problems that appear in a chain often originate from action in the links at the beginning of the chain (see the story “It’s the cow’s fault”).

Before beginning to work specifically on quality and value chains, it is important to find out what the participants know about the subject and bring their knowledge up to the same level, by beginning with a definition of *quality*.

A brainstorming session is carried out using the following guiding question: “What do you understand by the concept of quality (in the context of the selected value chain)?”

One of the facilitators writes down the answers on workshop cards and puts them up on a board. The answers tend to be very heterogeneous. Usually, the contributions will be compared against the ISO 9000 definition which defines “quality” as the “degree to which a set of inherent characteristics fulfils requirements”. The quality of a product or a service is the perception that a customer has of it; it is a mental judgement by the consumer denoting approval of the product or service and its ability to satisfy their needs. These requirements are defined for each product or process as standards, which refer to basic elements of measurement, and conformity is assessed within the framework of a national quality system made up of certification bodies, inspection bodies and laboratories duly accredited by independent organisations.

Next the NQI System should be explained by a representative of one of the QI organisations (see p. 10, “Quality Infrastructure. A Complex System”). Here, it is important to explain its embeddedness within an international recognition and traceability framework and its relevance for the market access of the value chain products.

Source: PTB

The central instrument of the methodology is a quality value chain mapping. Within this framework, the participants self-assess “their” chain, focusing primarily on quality gaps. The analysis is structured in a sequence of steps:

1. Verification of the main links of the value chain
2. Identification of the main stakeholders in each link of the value chain (present and absent in the workshop, but important)
3. Identification of the quality-related support institutions
4. Listing of the key activities in each link

Quality Infrastructure. A Complex System



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5. Description of the activities for which conformity assessment is required
6. Gap analysis: which conformity assessment is lacking an adequate service provider? The results are the “hot topics”
7. Proposals for actions to fill these gaps

During the mapping sequence (after step 4), the workshop participants take different perspectives and analyze the relevant standards and technical regulations. This exercise starts with a brainstorming session about technical regulations and standards at the national level that are relevant for selected key export markets. It is recommended to look in particular for promising markets with relatively high requirements. In this inventory of standards, the brainstorming session also addresses private standards, which are increasingly important for meeting the requirements of specific buyers.

After the brainstorming session, the participants analyse in groups the existing standards and technical regulations and identify specific quality requirements. This information will later help to identify where conformity assessment is required, exists or may be missing (see step 5 in the previous mapping exercise).

Given the short duration of the workshop, it is helpful if the facilitators and the organisations responsible can provide the participants with copies of the standards and technical regulations that have been put together beforehand. At the same time, it is a useful learning experience for the working groups to also do their own internet research. This will enable the participants to find the continually changing information in the future. The methodology provides templates to systematise the information for the different areas.

The workshop includes (on the second day) a field research activity (see guideline in the Toolbox). Usually, the participants are divided into several groups and visit different firms in the VC and/or conformity service providers, especially testing laboratories. This field visit helps to contrast the results of the research in the conference room with reality. For many participants, it will be the first time they have visited a company or lab from this specific area. To increase the learning effect, it is recommended to visit a firm with more advanced quality management.

The workshop concludes with the elaboration of an action plan. The actions focus on quick win activities that respond to the following criteria (for details see Toolbox):

Inventory of standards and technical regulations

	International	National/Regional	Export market (specify countries)	Buyer-specific
Technical regulations (mandatory)				Not applicable
Standards (voluntary)				

1. can be done using already available resources,
2. are immediately implementable and
3. have visible results in the short term.

As QI development is a long-term issue, CALIDENA only kick-starts activities and provides additional information to more resource-intensive programmes and projects.

The configuration of the action plan differs from case to case. Nevertheless, to strengthen the relevance of the actions for the VC-specific QI development, the structure of the action plan should follow the QI components (formerly MSTQ), i.e.:

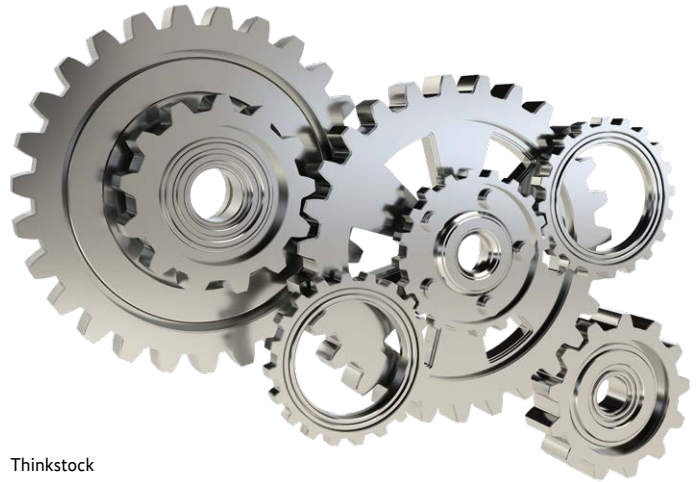
- **Good practices:** the entry point to quality is often the introduction of good agricultural practices (GAP), good manufacturing practices (GMP) or food safety management systems (like HACCP). Especially if the VC is less developed, the documentation of good practices should be part of an action plan. At the same time, it needs to be clarified that the implementation of these practices requires many more resources and much more time than are available in a CALIDENA process. Here, the alliance with other entities is crucial.
- **Standardisation:** elaboration of new national standards – sometimes also technical regulations – relevant for the products and processes of the selected value chain. Many CALIDENA action plans have either included the creation of a technical committee for standards development, which usually starts its work in the follow-up phase, or the involvement of an existing but possibly dormant committee.
- **Certification:** certification bodies present different certification models to the VC stakeholders. Often it is important to also include private standards.
- **Testing laboratories:** participation of different laboratories that provide services to the value chain in inter-comparison schemes. The accreditation body can inform the participants about the procedures and benefits of independent third-party *accreditation*.
- **Metrology:** awareness-raising activities of the national metrology institute. The metrologists usually visit several farms or factories, select the most critical measurement devices for calibration and give an introductory training session about the importance of exact and reliable measurements.

The action plan should include cross-cutting activities like awareness building, training activities, study tours, systematisation and communication of quality related information.

Beyond the activities in the different areas of the national QI systems, the implementation of the action plan also requires the coordination and cooperation of different QI organisations. CALIDENA thus supports the articulation of the NQI system itself. Here is the link to a broader process of QI strategy development.

2.3 Follow-up process

The follow-up process consists of implementing the action plan and is accompanied by meetings of the *follow-up committee*, which is set up at the end of the kick-off workshop, includes one or more one-day follow-up workshops and culminates in a concluding workshop. The process follows the typical plan-do-check-act cycle in which the action plan is continuously updated, adapted and improved. To maintain momentum, the cycles should be no longer than 3 months and the whole follow-up process should be concluded within a maximum of 1 ½ years.



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To broaden the *ownership of the process*, each area of the action plan (i.e. good practices, standardization, certification, testing, measurement and calibration) could be championed by a different competent organisation. This need not be just the host and co-host organisation. Together with the facilitator, both are in charge of coordinating the whole follow-up process.

The action plan needs to be continuously monitored. Some actions will be successfully implemented, others will need to be revised or modified. The facilitator is in charge of the documentation of the work progress (see Toolbox). This documentation should be shared and updated in all follow-up meetings.

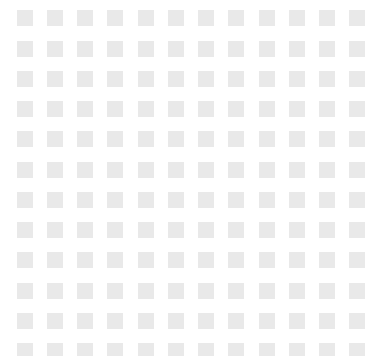
2.4 Exit strategy

It is also important that the project coordinators provide a budget to support the follow-up process and fund small projects (see tool fund for small projects in Toolbox). This fund could be increased by resources from the various stakeholder groups involved. The usually smaller activities included in the action plan are also helpful for exploring possibilities for larger investments, which could be made subsequently to the CALIDENA process.

The CALIDENA methodology is intended to contribute to a mutual learning process on the part of the people and institutions involved. An important task for the CALIDENA facilitator is to contribute to the conversion of tacit to explicit knowledge. The main activities and lessons learnt are thus continually documented. A CALIDENA process concludes with a case study (for instructions, see Toolbox), which ends with recommendations for future activities and improvements in the methodological approach itself. Using systematised results and success stories makes it easier to motivate stakeholders and buy-in their support.

While CALIDENA is conceptualised as a stakeholder-driven process, this does not necessarily mean that the development it initiates is easily sustained. To ensure that the cooperative relations established are sustainable in the longer run, it is necessary to support the process even beyond the follow-up workshop(s), for instance, through the continued involvement of a local facilitator as a neutral mediator to accompany the maturation of the cooperation process.

There are different exit options available throughout the CALIDENA process. These points should be defined in the preparation phase. It is important at these exit points to be able to provide a tangible product (such as a report). The CALIDENA process concludes with a handing-over ceremony, in which the cooperation partners/host organisations take over the responsibility for integrating the cooperation with the value chain stakeholders into their formal procedures. The support of the development agency can continue, but in a minor role and with decreasing resources.



Part 3 – Outlook

The CALIDENA methodology is designed as an explorative cooperation and multi-stakeholder learning process. The QI organisations will obtain information about the specific demand for quality services from companies in the value chain. It is especially advisable to raise awareness in the private sector on quality-related themes and kick-start the development of a sectoral user-orientated quality infrastructure that helps to meet the requirements of leading international markets and buyers.

The CALIDENA case stories can also be used for advocacy at the policy level. With the help of a specific example, it is much easier to make clear the complexity of a quality system. The example can be used to achieve visible results in the short term, but also to find arguments for longer-term support and the development of the necessary legal framework by national policy efforts.

CALIDENA unleashes its full potential when it is embedded into broader development efforts. There is great potential here for scaling up. It is important therefore to look, right from the preparatory phase, for strategic partners who:

- Can support activities to promote the value chain beyond the narrow focus of quality.
- Are able to develop the national or regional QI in a broader sense.

- Accompany value chain actors to help them increase their competitiveness and reach promising markets.

At the same time, the efforts of the methodology can be sequenced and tailored to different goals:

CALIDENA is also complementary to other methodologies of trade facilitation, value chain promotion and QI development support. In this respect, it is important to clarify the specific contributions of different methods and to define interfaces clearly.

The development of the CALIDENA methodology continues as a joint endeavour of PTB's International Cooperation Department (9.3) and the development consulting company Mesopartner. Within PTB's 9.3, an internal working group on value chains supervises the continuous improvement of the methodology and coordinates its dissemination within projects executed by PTB.

At the same time, PTB encourages the use of the methodology by other development organisations and organisations in partner countries which are committed to the development of quality infrastructure and quality culture in value chains (see guidelines for use in Toolbox).

Sequences of the methodology

Instrument	Goal	Process
Awareness-raising event	Inform private sector representatives about the relevance of QI & vice versa	Use of the CALIDENA approach in a Private-Public-Dialogue workshop; based on value chain mapping (half-day workshop)
Feasibility study	analyse quality issues in a value chain and identify gaps in quality infrastructure and services	Expert analysis to obtain information on the use and needs of QI services in a VC and the expected benefits of a possible CALIDENA process to strengthen the QI
Train the trainer	Build methodological capacities in partner countries	Three-day training of consultants in the facilitation of a CALIDENA process.
Participatory diagnosis workshop	Stakeholders in partner countries analyse the needs for QI services for a given value chain and develop proposals for improvement	Three-day participatory analysis which brings together representatives of QI organisations and the value chain. Participants are guided through a stepwise analysis of the value chain and identify key points for interventions to both contribute to improved use of QI services and strengthen the competitiveness of the chain

Glossary

Accreditation	Formal recognition that an organisation is competent to perform specific conformity assessment activities. For example, laboratories, certification or inspection bodies are accredited for specific services.
CALIDENA	Combination of the Spanish words for chain (of value), cadena and, quality, calidad. Name of PTB's methodology.
Certification	Attestation by a third party in relation to products, processes, systems or people.
Competent authority	The European Union requires a third party country wanting to export products of animal origin to establish a control system equivalent to that of the EU. The ministries assuming this control function are called competent authorities.
Competitiveness	Ability to achieve profitability equal or superior to competitors in the market. The concept is dynamic and involves innovation and customer satisfaction.
Compliance	Conforming to a rule, such as a specification, written down in standards or technical regulations
Critical control point	Point where failure of standard operation procedure could cause harm to customers and to the business, or even loss of the business itself. It is a point, step or procedure at which controls can be applied and a food safety hazard can be prevented, eliminated or reduced to acceptable (critical) levels.
Golden thread	A training activity in which a group of course participants summarises in a creative way what was learned the previous day. It serves to refresh and check learning.
Conformity	Compliance of a product, service, process, system, individual or body with the requirements specified.
Conformity assessment	Any activity whose objective is to determine directly or indirectly whether the requirements specified for a product, process, system, individual or body are met. Conformity assessment includes activities such as: sampling, testing, inspection, certification; as well as the accreditation of conformity assessment bodies.
Continuous improvement	Tool for increasing productivity that encourages steady and consistent growth of all segments of a process. Quality management systems are used to reach the quality objective.
Equipment calibration laboratories	Metrological laboratory that measures equipment of a certain size against a superior standard. A distinction is made between the national laboratory, which defines the primary national standard, and secondary laboratories belonging to universities, research centres or private companies for the quality control or testing for all kinds of measuring equipment.
Good manufacturing practice (GMP)	<p>Practices required in order to comply with the guidelines recommended by agencies that control authorisation and licensing for manufacture and sale of food, drug products, and active pharmaceutical products. These guidelines provide minimum requirements that a pharmaceutical or a food product manufacturer must meet to ensure that the products are of high quality and do not pose any risk to the consumer or public.</p> <p>Collectively, GMP and other good-practice requirements are referred to as "GxP" requirements, all of which follow similar philosophies. Other examples include good agricultural practices, good laboratory practices, and good transport practices. They are usually overseen by international organisations or national regulatory agencies.</p>

Governance	New way of “governing” or coordinating non-hierarchical networks. It is applied to the interaction of stakeholders in a value chain.
Inspection	Assessment of the design of a product, the product, a process or facilities and determination of its conformity with specific requirements or, on the basis of professional judgement, with general requirements. Inspection of a process may include inspection of people, facilities, technology and methodology.
Interested parties	<p>Stakeholders who are expected to take a special interest in and be affected by the development and application of a standard. Ideally, they will actively participate in the technical committee that develops the standard.</p> <p>The National Bureau of Standards invites organisations that represent the views of a large, usually national, group with a common interest in the area being addressed by the Standards solution to nominate a representative for the technical committee.</p> <p>Nominating organisations may be regulators, professional bodies, research agencies, manufacturers, end users, or others with an interest in the subject.</p> <p>The participation in the technical committee should be balanced and provide a good mixture of expert knowledge and experience.</p>
Legitimate interests of states	According to the rules of the WTO, states have the right to create technical regulations to protect the health and safety of their population and the environment.
Metrology	The science of measurement. A distinction is made between scientific, legal and industrial metrology.
National quality system	Group of organisations responsible for the quality infrastructure of a country. It usually includes metrology, standards and accreditation bodies.
Nonconformity	Deviation from a specification, a standard or technical regulation. Nonconformities are known as a defect and classified as critical, major, or minor.
Pareto principle	Prioritisation method based on the 80/20 rule.
PDCA cycle	PDCA (plan–do–check–act or plan–do–check–adjust) is an iterative four-step management method used in business for the control and continuous improvement of processes and products. It is also known as the Deming wheel, named after its creator.
Proficiency testing	Use of interlaboratory comparisons to determine the individual performance of laboratories in carrying out specific testing or measurements.
Quality	Degree to which a group of inherent characteristics meets requirements. It is demonstrated by customer satisfaction.
Quality Infrastructure	All the institutions that provide services to enable compliance with existing regulations and knowledge and application of the quality requirements of specific markets.
Quality services	Direct providers of companies: calibration and testing laboratories, certification and inspection bodies.
Standards	<p>Voluntary agreements made by stakeholders on a product, a service or a process.</p> <p><i>Formal international standards</i> are developed using the core WTO TBT principles of transparency, openness, impartiality and consensus, effectiveness and relevance, coherence, and addressing the concerns of developing countries</p> <p><i>Private standards</i> are elaborated by private or non-governmental organisations (“standards setters”).</p> <p>Standards are prepared by all interested parties. The consensus based process is facilitated by a national, regional or international standards body. Compliance with standards is voluntary; they can, however, be referenced in legislation and private contracts.</p>

Supporting institutions	Public, private or mixed bodies providing specific services to companies. For example, training, financing and certification of products and processes.
Technical committee	Representatives of interested stakeholder groups (e.g. business sector, academia and consumers) that develop the standard. This committee is guided by the national standards bureau, which has an advisory and facilitating role.
Technical barriers to trade	Bi- and multilateral agreements attempt to facilitate trade and eliminate technical barriers to it. Exceptions are only tolerated when they involve the legitimate interests of states (see here).
Technical regulations	Act issued by the competent authority, which establishes the characteristics of a product or service or related products, with the inclusion of applicable administrative dispositions, and observance of which is mandatory or imperative.
Testing	Determination of one or more characteristics of an object evaluated for conformity according to a procedure. The term is applied in general to materials, products or processes.
Testing and analysis laboratories	Laboratory that performs conformity testing.
Third party	Individual or organisation recognised as independent from the interested parties. Interested parties are usually the supplier's interests (first party) or the customer's interests (second party).
Traceability	Ability to trace or leave records of movements and processes gone through by a specific product, mainly intended for human consumption. The concept is also applicable to the logistics management of warehouses, inventories, production processes of any product, etc. In metrology, a traceability chain is an unbroken chain of comparisons, each with their stated uncertainties. This ensures that a measurement result or the value of a standard is related to references at the higher levels, ending at the primary physical standard. In chemistry and biology, traceability is mostly obtained by using certified reference materials (CRM).
Value chain	Complete range of activities carried out by companies taking the product from its creation to its end use and beyond. This process includes materials, production and distribution and it usually involves a number of companies and supporting institutions.

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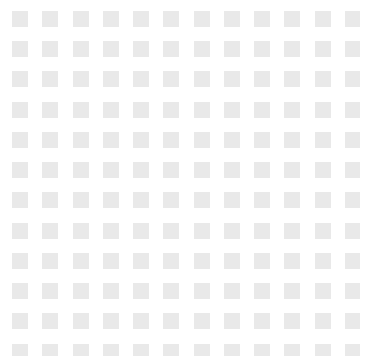
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