

# Documentation of the CALIDENA Facilitator Training in Accra, Ghana

Strengthening of the quality infrastructure system to increase the competitiveness of  
agricultural export products

## **Technical Cooperation with Ghana Standards Authority (GSA)**

Country | region: Ghana

City | country: Accra, Ghana

Date: 24 – 26 July 2017

Consultants: Katharina Telfser and Dr. Ulrich Harnes-Liedtke



## Abbreviations | Explanation of terms used

<b>BFT</b>	Business and Financial Times Ghana
<b>BRC</b>	British Retail Consortium
<b>CAC</b>	Codex Alimentarius Commission
<b>DE</b>	Germany
<b>EC</b>	European Commission
<b>EU</b>	European Union
<b>GAP</b>	Good Agricultural Practice
<b>GBC</b>	Ghana Broadcasting Corporation
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit
<b>GMO</b>	Genetically Modified Organism
<b>GMP</b>	Good Manufacturing Practice
<b>GSA</b>	Ghana Standards Authority
<b>GS</b>	Ghana Standard
<b>HPW</b>	Company name
<b>IFC</b>	International Finance Corporation
<b>IM</b>	Implementation Manual
<b>ISO</b>	International Organization for Standardization
<b>NL</b>	Netherlands
<b>NQI</b>	National Quality Infrastructure
<b>OC</b>	Organochlorine
<b>OP</b>	Organophosphorus
<b>PTB</b>	Physikalisch-Technische Bundesanstalt
<b>QI</b>	Quality Infrastructure
<b>RCP</b>	Recommended International Code of Practice
<b>SECO</b>	Economic Cooperation and Development division of the State Secretariat for Economic Affairs Switzerland
<b>SPS</b>	Sanitary and Phytosanitary
<b>UNIDO</b>	United Nations Industrial Development Organization
<b>USAID</b>	United States Agency for International Development
<b>VC</b>	Value Chain

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## 1. Objectives of the workshop

The participants will:

- get a practical overview about the CALIDENA methodology and
- be enabled to prepare and co-facilitate collaborative exercises for representatives of the national quality infrastructure (QI) and stakeholders of a selected value chain (VC).

The general aim of a CALIDENA exercise is:

- to enhance awareness about quality and food safety issues,
- foster the demand of quality services within selected VCs and
- strengthen the demand-orientation of QI in Ghana and other African countries.

## 2. Agenda of the workshop

Time	Monday 24/07/17	Tuesday 25/07/17	Wednesday 26/07/17
9:00		Reflection about the role of a CALIDENA Facilitator	Quiz: Definitions of important terms in the context of CALIDENA
		Presentation of case study: The Ghanaian Mango Product Value Chain	Allocation of standard requirements along the value chain
		Brainstorming: How to define quality for mangos?	Identification of “hot topics” and gaps for quality in the mango value chain
		Value Chain Mapping: - Stakeholders by number and size - Identification of main activities for each link	Identification of possible solutions
12:30	Lunch	Lunch break	Lunch break
13:30	Presentation of the participants, training objectives, verification of expectations	Identification of different markets and buyers for mango products: Which are the requirements of different buyers?	Preparation of action plan: Which are typical CALIDENA deliverables?
	Introduction: The CALIDENA approach Conceptual introduction: Value Chain and Quality infrastructure	Inventory of standards and technical regulations: Brainstorming and research in groups	Preparation of CALIDENA exercises in Ghana and Ethiopia countries: Sequencing the work of a CALIDENA Facilitator
	Interaction matrix: Evaluate Cooperation between Value Chain and Quality Infrastructure	GSA Food Laboratory services for mango  Examples from other countries	
16:50	Evaluation of the day	Evaluation of the day	Evaluation of the training
17:00	End of the day	End of the day	End of the training

### 3. Results of the workshop

#### 3.1 Day 1

##### a) Presentation of the participants, training objectives, verification of expectations

The training workshop was opened by the facilitator, Mr. Ulrich Harmes-Liedtke, followed by a short welcome by Mr. Paul Date representing the host organization GSA. Paul highlighted the importance of this training for GSA, its strong support and the hope that the CALIDENA methodology would be applied for different areas in Ghana. Then, the participants introduced each other in pairs. Ulrich explained the objectives of the training and the workshop agenda.

The group defined an agreement of collaboration for the training, including the following rules: sticking to times, listening to each other, participating actively, hard on issues – soft on people, thinking of possible application of the learned after the workshop, using the group as a resource, phones on silent.

##### b) Introduction

Next, Ulrich introduced the CALIDENA approach, as an instrument to identify quality needs and promote quality culture in VCs. The presentation is included in annex A.

##### c) Interaction matrix: evaluate cooperation between value chain and quality infrastructure

The interaction matrix was presented as a first tool of the CALIDENA methodology. The matrix can be used in an interview format, working with one or two groups (one representing conformity assessment bodies and the other value chain actors).

When the tool is applied with two groups, each group should first think of benefits and costs for itself and then take the perspective of the other stakeholders. In this way, it will be clearly visible where the different stakeholder groups agree and where there are different perceptions. It is an opportunity for the different stakeholders to better understand each other.

	Benefits	Costs / Risks
Conformity assessment bodies	<ul style="list-style-type: none"> <li>New business opportunities</li> <li>Opportunities to generate more IGF</li> <li>Platform for promotion of services</li> <li>System improvement</li> <li>Efficient use of existing infrastructure</li> <li>Increased demand for services</li> <li>International collaboration</li> <li>Quality assurance</li> <li>International recognition</li> <li>Increased awareness</li> <li>Increased industry support</li> </ul>	<ul style="list-style-type: none"> <li>Need for more funds</li> <li>Capacity building</li> <li>Systems improvement</li> <li>Infrastructure cost</li> <li>Service cost</li> <li>Accreditation cost</li> </ul>
Value chain actors	<ul style="list-style-type: none"> <li>Increase competitiveness</li> <li>Product traceability</li> <li>Improved process efficiency / productivity</li> <li>Compliance with standards / requirements</li> <li>Increased market access</li> <li>Meeting market requirements</li> <li>Increased turnover</li> <li>Reduced risk</li> </ul>	<ul style="list-style-type: none"> <li>Infrastructure cost</li> <li>Service cost</li> <li>Capacity building</li> <li>Cost of training</li> <li>More funds needed</li> <li>Cost of new technology</li> <li>Cost of certification</li> <li>Multiplicity of certification</li> </ul>

	Reduced international interceptions (alerts) Networking	
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**d) Evaluation of the day**

The participants evaluated the first workshop day based on content, methodology and group spirit. The results were the following:

- Content: 11 positive; 4 indifferent
- Methodology: 13 positive
- Group spirit: 9 positive, 5 indifferent.

**3.2 Day 2**

The second workshop day started with a short recap of the evaluation results of the previous day. Ulrich noted that there would be more content on the second day and that more energizing activities would be included in the programme.

**e) Reflection about the role of a CALIDENA facilitator**

The participants gave a short feedback on their experiences with the facilitation in the group exercise the previous day. They responded to the questions “What did the facilitators do well?” and “What is their role?”. The participants found that the facilitator should encourage participation, give support to express thoughts more clearly and listen to participants attentively. By visualising ideas, the facilitator can increase clarity. It is helpful to work in a team, either with a co-facilitator or with support of the participants.

The feedback round was followed by a discussion in three groups about attributes and attitudes of a good facilitator, with the following results:

Communication skills Friendly Diplomat Motivate group participation Use familiar words Recording skill Listening skill Organizing the group Knowledge about of the subject Summarizing ideas	Good listener Ability to moderate Open minded Encourage participation Create a conducive environment Good communicator Ability to clarify and summarize issues Knowledgeable in of the subject Confident Enabler Manage time	Open minded Analytical Good listener Persuasive Motivating Humorous / lively Good communication skills Time conscious Broad knowledge Creative Consensus builder Good writing skills
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It was highlighted that when facilitating a technical workshop like CALIDENA, basic knowledge about quality management and quality assurance can be helpful. The knowledge about the topic of the workshop, however, lies with the participants. The facilitator’s role is to listen to ideas and help participants formulate them, rather than arguing a personal point of view.

Further, Ulrich pointed out that it is helpful to have someone from the group or the co-facilitator watch the time and remind the facilitator when the session is getting to an end. At the end of

each workshop-day the facilitator should join the organisational team to discuss on the process and possible improvements of the workshop.

In situations of conflict like hard arguments arising during a workshop, the facilitator risks to lose control. The facilitator can then mark the discussed topic and agree to leave its discussion to a later moment (e.g. break or at an appropriate moment during the workshop).

**f) Presentation of the case study: the Ghanaian mango product value chain**

Next, mango was introduced as the case study for the training. The adequacy of the product choice was confirmed by the participants: Ghana’s economy is based on agriculture and the country is promoting a diversification of exports, which includes non-traditional exports like mangoes. Diseases, pests and fungus are specific issues the mango exporters have to deal with and a value chain approach is needed to address these issues. Local demand for mangoes is high and international demand and mango export show great potential that should be exploited. Lastly, GIZ and PTB projects are supporting the export of non-traditional products with a focus on mango and citrus fruits.

**g) Brainstorming: How to define quality for mangoes?**

Then Ulrich invited the participants to define quality for mango products. The following criteria were mentioned:

- Disease-free
- Standard size
- Physical appeal
- No defects
- Meet requirements on pesticides residues
- Established shelf life
- Appropriate packing material

Overall, quality can be defined as “the degree to which a set of inherent characteristics fulfils requirements.”<sup>1</sup> This definition was linked to the presentation of the previous day (see annex A, slide 13), in which the distinction between basic and mandatory quality standards (e.g. SPS for mangoes) and niche market demands (e.g. organic mangoes) was shown in the shape of a pyramid.

**h) Value chain mapping**

For the value chain mapping, the stakeholders participating in the workshop are presented. For the training, the participants took the following roles of actors across the value chain and in supporting functions:

- Mango farming: small farmer group and large contract farmer
- Mango processing: fruit juice factory and convenience food processor

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<sup>1</sup> Source: International Organization for Standardization (ISO), ISO Standard 9000/2005: "Quality management systems - Fundamentals and vocabulary", Geneva, 2005

- Mango retail and export: local retailer, fruit wholesaler and exporter to Europe
- Support organisations: agricultural extension service, transport company, standards body, metrology institute, testing laboratory and certification laboratory

In CALIDENA exercises it is common that there are many representatives of support organisations, while there are few value chain actors.

It was discussed who should be involved in the CALIDENA exercise in October:

Trade fairs: Food Logistica, Biofarm  
 Certification bodies: local offices of Fair Trade and Global GAP, local certifiers, SmartCert and Ceres (DE)  
 Companies: supermarkets, malls, hotels, restaurants, the national procurement system  
 Processors who export  
 Producers  
 Market queens  
 Crop Research Institute  
 International cooperation: EU "Fit for market", GhanaVeg (NL), GIZ, SECO – UNIDO, USAID  
 Press: Business Innovation Africa, GBC, BFT

In a next step, the representatives of each group, in collaboration with the representatives of the support organisations identified the most important activities in each phase of the value chain from mango farming, over processing, to retail and export. (see complete tables in Day 3).

**i) Identification of different markets and buyers for mango products**

The group shortly discussed different markets and buyers for mangoes. Next to the national market, Lebanon was mentioned as an important buyer of fresh produce. The EU was identified as an important market for fresh-cut and dried mango. The two markets have different requirements (see table below). For the compliance with specific standards (e.g. organic), a price premium can be expected.

The participants also gathered idea for innovations related to mangoes:

Mango-Achar (fermented young mango)  
 New recipes (in collaboration with nutritionists or chefs)  
 Mango-vinegar  
 Local mango varieties  
 Denomination of origin for the three zones of production

**j) Inventory of standards and technical regulations: Brainstorming and research in groups**

The relevant standards and technical regulations in Ghana, the EU and Lebanon were identified by the workshop participants. Ulrich highlighted the difference between standards, which are voluntary but often necessary to gain market access and technical regulations which ensure the safety of the product.

	National	Export	
	Processors: Blue Skies, Bomart, HPW Supermarkets & retailers	EU (fresh-cut, dried)	Lebanon (fresh)
Standards	GS 546:2017 Fresh Fruits and Vegetables – Specification for mangoes	Global GAP Fair Trade	Global GAP



	GS 1125:2016 Fresh Fruit and Vegetables – Specification for Mango for processing GS 967:2017 Planting materials GS 1037 Dried mangoes GS IM 3:2017 Inspection manual GS 361 Organic farming GS XX Processed mango products	Rainforest Alliance BRC IFC ISO 22000 Kosher	
Technical regulations	SPS Regulations	EU organic	Bilateral Agreement on SPS

Information about private standards can be found at [www.standardsmap.org](http://www.standardsmap.org) and information about EU regulations is available from the Export Help Desk: [exporthelp.europa.eu](http://exporthelp.europa.eu).

The participants divided into groups and conducted research on the most relevant standards to define the requirements for each link of the value chain. This task was perceived as challenging as standard documents and technical regulation often refer to other documents (e.g. Codex Alimentarius). In CALIDENA exercises, the summaries of the standards developed during this exercise are a valuable handout for participating small holder farmers since they provide them with the necessary information without the need to buy the standard.

#### k) GSA Food Laboratory services for mango

Paul invited a representative of GSA's Food Laboratory to tell the workshop participants which testing services are available for mango products. The laboratory offers accredited testing of pesticide residues for fruit, vegetables and cereals, including eight synthetic pesticides, 15 organochlorine (OC) and 13 organophosphorus (OP) pesticides. The laboratory is not yet accredited in glyphosate testing, but has the necessary equipment and facilities in place. Training is required. Challenges are increasing the scopes for herbicides and fungicides.

#### l) Examples from other countries

To close the second workshop day, Ulrich presented examples of CALIDENA exercises conducted in other countries:

- Suriname – yard-long beans: <https://www.youtube.com/watch?v=EAEiqty4v8o>
- Belize – shrimp: [https://www.youtube.com/watch?v=uvUvYa\\_Uz0g](https://www.youtube.com/watch?v=uvUvYa_Uz0g)

After watching the videos, it was commented in the group that CALIDENA helps to go beyond the traditional way of doing and developing products with a new way of working. Improving quality is seen as a joint challenge in which the private sector is an ally and a driving force since private sector actors often have a great lobbying power.

#### m) Evaluation of the day

The participants evaluated the second day consistently positive:

- Content: 13 positive, 1 indifferent
- Methodology: 14 positive
- Group spirit: 14 positive.

### 3.3 Day 3

Day 3 started with a quiz during which participants had to explain the meaning of terms related to CALIDENA. The terms and definitions can be found in the glossary of the CALIDENA handbook.

#### n) Allocation of standard requirements along the value chain and identification of hot topics and possible solutions

The activity of the previous day was retaken and the identified standard requirements were located next to the corresponding activity in the value chain. Then the necessary quality infrastructure services to ensure compliance with the national and international requirements were identified. Finally, the participants identified gaps in quality assurance and possible solutions. The outcome of the exercise summarised in the following tables:

##### *Mango farming*

VC Activities	Requisites	QI services	Gaps	Proposals
Land preparation	Environment: chemicals, water, waste disposal Social: conditions of work and social protection (BRC, Global GAP)		Soil vs. fertilizer mapping	Soil / fertilizer mapping
Planting (Seedling)	No GMOs (EU organic) Code of practice for planting materials chemical application (GS969: GH 967:2017)	Testing, accreditation Certification, accreditation Calibration (humidity), accreditation	Lacking monitoring of compliance with seed protocols	Monitoring plans for seeds Certification of seed producers
Chemical application (Fertilizer, pesticide)	Authorized chemicals (EU organic)	Testing, accreditation	Lack of awareness about national / international / product standards Lack of skills to adapt to the standard requirements	Include standards in mandatory technical regulation (e.g. organic) Training extension officers in standards
Cultural practices (Pruning, weeding)	Use of clean water (GS 967:2017) Environmental conservation (EC 834/2007) Soil conservation (EC 834/2007)	Testing, calibration (testing lab), certification, accreditation	High cost of accreditation / certification  No accreditation body	Encourage group certification Introduce Green Label standard Establishment of accreditation body
Harvesting	Traceability / Segregation (EC 834/2007)			
Grading	Grade I, Grade II (GS 967:2017)	Certification, Accreditation		
Transport		Calibration (balance), certification, accreditation	Right transport for a product not determined	Guideline for good transportation practices in Ghana based on

				internationally available information about good practices
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### Processing

VC Activities	Requisites	Q services	Gaps	Proposals
Receipt of raw products	Environment: water, chemicals (BRC) Segregation / Traceability (EC 834/2007) Clean, sound, free of damage, shrivelling, no foreign matter (GS1125:2016) Management: sustainability 7 management criteria (BRC)	Testing, calibration (weight, testing lab), certification, accreditation	No accreditation body MRL analysis (scope extension)	See above  Laboratory needs assessment
Cleaning of produce	Hygiene CAC/ RCP 1 (GS1125:2016)		Low compliance to Good Manufacturing Practices (GMPs)	Strengthen and train inspectors to ensure enforcement of regulations
Sorting	Quality: product and services quality (BRC) Grade I, grade II (GS1125:2016)	Calibration (balance)	Competitive certification pricing of NQI services	See above
Processing: - juice - powdered - dried	Testing, sampling (GS1125:2016) Approved ingredients (EC 834/2007) No radiation (EC 834/2007)	Testing, calibration (temperature, pressure), certification, accreditation	Continuous upgrade of technology and delivery time (labs)	Support upgrading of technology in labs to deliver on time
Packaging	CAC / RCP 44 (GS1125:2016) Organic approved packaging material (EC 834/2007) Labelling (EC 834/2007)	Calibration (balance), certification, accreditation		
Warehousing and distribution	Ethics: compliance to legislations (BRC) Traceability / Segregation (EC 834/2007) CAC / RCP 44 (GS1125:2016)	Calibration (balance), certification, accreditation		

### Retail and export

VC Activities	Requisites	QI services	Gaps	Proposals
Reception	whole, firm, mature, no bruising, neurotic stains etc. (GS 546:2017) Certification (EC 834)	Certification, Accreditation, Testing, Calibration (balance)	Lack of calibration of cold rooms on farm	Metrology campaign (temperature) Organisational development of

	Traceability/ Segregation (EC 834) BRC Global Standard for Food Safety Global GAP Global GAP Certification Organic Certification		Lack of awareness on national and international Lack of skills to adapt to the standard requirements Lack of GMPs	GSA cold room inspection department See above
Sorting grading /	Extra class, Class I, Class II (GS 546:2017) Grade I, Grade II (GS 1125/2016)	Certification, Accreditation, Calibration (balance)	NQI have no legal backing for enforcement	
Packaging / labelling	(CAC/RCP 44) (GS 546:2017, GS 1125:2016) No Radiation (EC 834) Proper Labelling (EC 834)	Certification, Accreditation, Calibration (balance)		
Check condition of storage facilities	Temperature of environment (GS IM 3:2017) Record of cold chain temperature (GS IM 3:2017)	Certification, Accreditation, Calibration (temperature, humidity, balance)	Calibration of the cold room at port	
Shipment	GS 1125:2016 (CAC/RCP44)	Certification, Accreditation, Calibration (balance)	Calibration of cold room vehicle	

### o) Preparation of action plan

In the next step, the proposed solutions were prioritized by the workshop participants, focusing on the identification of “quick wins.” The selection criteria were therefore, whether the action is immediately implementable, doable with available resources and whether results become visible within a short-term period of 3 to 6 months.

Proposal for action	Available resources	Immediately implementable	Short term results	=
Monitoring plans for seeds	2	3	3	18
Soil /fertilizer mapping	1	1	1	1
Certification of seed producers	3	3	3	27
Making standards mandatory (organic products)	3	3	3	27
Training of extension officers in standards	3	3	3	27
Encourage group certification (to reduce costs)	3	2	3	18
Introduce Green Label standard	3	2	2	12
Establishment of a national accreditation body	2	3	2	12
Develop guidelines for Good Transportation Practices	3	3	3	27
Needs assessment of the laboratory (pesticides)	3	3	3	27
Strengthen and train inspectors to ensure enforcement of regulations	2	2	1	4

Metrology campaign on temperature (sensitize companies)	3	3	3	27
Organizational development of GSA cold room inspection department	2	3	2	12

3 = yes; 2 = perhaps; 1 = no

#### p) Preparation of the CALIDENA exercise in October

Finally, the necessary activities for the preparation of the CALIDENA exercise in October were defined.

What	How	Who
CALIDENA Team	Preparation day on-site before the workshop (Monday, 23 October)	All participants from Ghana, Ulrich, Katharina
Field trip	Farm & Pack House Processing Plant (Bomart or HPW) GSA Pesticide Laboratory	Richard Nyumuah Paul Date
Selection of participants	Identify names Make list Ask other CALIDENA team members for help Workshop flyer Dropbox folder to share info	Fred (support from participants)  Katharina
Inventory of standards and technical regulations		Bernard Dorothy Nathaniel Richard N.
Logistics	Venue for event Bus transport to sites Consider traffic & work hours Catering Facilitation/Material Stationery Name tags	Fred  Belinda Ulrich & Katharina
Press and communication	Professional photographer/ videographer	Dorothy Ulrich & PTB
Sensitization event	Event outline (2 hours): proposal for activities & speakers <ul style="list-style-type: none"> <li>- Ideas for speakers: CALIDENA activities, certification, storytelling about experience</li> <li>- Activities: exhibition of mango products</li> </ul> Contact other ministries Invite Ministers of Agriculture & Trade	Lysbeth Dorothy Paul Tony (Speaker)

#### q) Closing remarks and prayer

The workshop ended with thanks from the sides of Ulrich and Paul. Richard Nyumuah spoke the closing prayer.

**r) Workshop evaluation**

Categories	1	2	3	4	5	6	Comments
Preparation/ Advance Information			1	2	3	6	Good. Very good. Keep it up.
Working method				1	4	8	Good. Excellent. Keep it up.
Subjects of the meeting				1	4	8	The workshop was good. Excellent.
Moderation					3	10	Good. Very good. Keep it up. More case studies needed.
Group Dynamics					6	7	Very participating. Very good. Good.
Benefit for your work				1	4	8	Very good. Very good. Really good.
Satisfaction of your expectations					8	5	Very satisfied. The workshop was very good. My expectations were fulfilled. I have learnt a lot. Beyond my expectation. I am very satisfied and eager to go back and implement the methodology. Good.
Organisation, logistics, venue					6	5	Good. Very good.
Time schedule				2	5	6	Good. We could have closed a little earlier.
Accommodation (if applicable)			2		2	1	
Meeting Room					5	8	
Meals				2	3	8	
Other comments							Excellent methodology. Satisfactory. Professionally executed and met my expectations. Very good.

1 = very bad; 2 = bad; 3 = average; 4 = good; 5 = very good; 6 = excellent

**Annex A: Presentation CALIDENA approach**  
**Annex B: Participant list**