



CBI Food Ingredient survey Indonesia



February 2012



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Acknowledgement

On behalf of the Royal Tropical Institute I would like to express our appreciation for being granted the opportunity of assisting the CBI by conducting this Survey on Food Ingredient Value Chains in S.E. Asia. As of February 15th 2012, we have completed all services as described in the Terms of Reference underlying this assignment. The aim of the assignment was to provide the CBI with quality and customised information upon which the centre will be able to select and support most promising value chains through an integrated regional programme on food ingredients in South East Asia.

The research was done through a multi-pronged approach, combining desk-research, expert interviews, field level value chain surveys and multi-stakeholder validation workshops at national level. The assignment has been an exploratory experience. We want to express our sincere words of appreciation to our colleague consultants who carried out the field level value chain studies his team in Indonesia. They worked under intense time pressure and delivered results in short time-spans. We also want to express our appreciation for the workshop host: HortiChain Centre / INA in Indonesia.

The final report contains three sections. The first section describes the research methodology and a summary of the results of the desk study conducted. The second and main section of the report presents the results of nine value chain studies conducted in the three target countries. The last section translates the results , findings and recommendations into a consistent CBI business case.

It has been a privilege to work with the CBI and this research has also helped us understand contemporary opportunities and challenges of selected value chains, and their actors, in the this southeast Asian country.

We look forward to continuing our relationship.

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Management Summary

The Centre for Promotion of Imports from Developing Countries (CBI) has the intention to further support the food ingredient sector in a selected number of South East Asian countries through targeted CBI support programmes. Tentatively these support programmes will focus at Indonesia.

In order to maximise the chance on success of intended country programmes in terms of impacting export volumes and overall turnover, the CBI has contracted the Sustainable Economic Development (SED) department of the Royal Tropical Institute (KIT) to lead the conduction of elaborated sector analysis. The analysis include comprehensive analysis of selected value chains that led into recommendations for possible intervention areas matching CBI's core fields of expertise and services. The fieldwork was conducted in November 2011 and was finalised through in-country validation workshops organised early December 2011. Major findings and recommendations of the survey were captured in a CBI business Case that is forwarded to the CBI Board for their consideration and approval.

As a result of the external analysis conducted, the CBI will be able to target most promising value chains through integrated country programmes. The selection will be based on; (1) opportunities to unleash export potential based on current figures and future trends in the market, (2) the ability of CBI to tackle bottlenecks in the export value chain, (3) the demand for CBI products by value chain actors and (4) the possible significant contribution of the programme to sustainable economic development.

The international market for food ingredients is growing and at the same time becoming increasingly demanding and competitive, particularly when looking at EU import markets. SMEs in targeted country are at risk of not being able to step up against increasing demands and compliance requirements. This would result in losing part of their current market share thus not being able to contribute to sustainable economic development in the agricultural sector. In order to stay competitive, particularly against bigger market players, SMEs in the food ingredient sector have to step up their efforts to effectively coordinate and align trans-actions in the value chain and enhance their own functioning and performance. They will not be able to do this at own force but will require external support and assistance in doing so.

Based on analysis done (desk studies, value chain assessments, validation conferences) this business case proposes the funding of an **integrated, regional programme on food ingredients in S.E. Asia**, focusing on the following sub-sectors:

Core integrated programmes:

- Coffee, tea, cacao: Indonesia (coffee and cacao)
- Spices and herbs: Indonesia (nutmeg, cassia)

Pilot programmes (market orientation / training / limited MI assistance):

-
- Oils and fats: coco oil in Indonesia¹

For all studied export value chain, various bottlenecks that hamper the efficient chain performance were found all along the chain with a concentration at production and supply level. Most government programmes, as well as donor supported programmes, in the targeted sub-sectors, address constraints in the

¹ Tailored Market Intelligence for specialty coco-oil products only

production part of the value chains and work directly with producers and producer groups. The CBI adds value to these efforts by bringing in a complementary pull factor through working with processors - exporters at the upper part of the chain on the facilitation of export linkages and increasing export volumes.

The business case implies the implementation of integrated programmes, conditioning CBI's engagement in the sub-sectors to the opportunities for alignment with programmes/projects addressing constraints faced by downward chain actors. Partners can include national as well as inter-national agencies. Key CBI partners for the core sub-sectors are:

Cacao, coffee, tea: UTZ certification, Rain Forest Alliance, Solidaridad, Tropical Commodity Coalition, partnership for sustainable cacao including CordAid (Indonesia), Association for specialty coffee (Indonesia)

Spices and herbs: UNCTAD, IDH, Fair Trade, CORDAID (Indonesia).

For both targeted sub-sectors, the EU market are moving towards an increasing demand for certified sustainable products. Social and labour criteria are increasingly added (Fair Trade certification). Another emerging market trend in the coffee and tea sub-sectors, is an increasing product diversification, feeding the demand for specialty coffee and tea (pers. comm. importer).

The proposed programme takes the above market trends as starting point. In terms of market segmentation the programme will focus on specialised product-market combinations, targeting specialty (niche-) markets rather than targeting (bulk oriented) commodity markets. Distinct product features and/or qualities can be obtained through certification (organic, Fair Trade, UTZ, RF Alliance) and/or intrinsic quality features (taste, appearance, functional qualities like health benefits). Quality enhancement and traceability will be key elements in moving towards certified sustainable products.

For the selected chains one or two geographical target areas are defined per country, allowing for concentrated, effective and well aligned programme implementation, including provision of CBI modules. Tentatively the selected focus areas are: North Sumatra (coffee, cacao) and Maluku (spices) in Indonesia.

A detailed programme planning will have to be further elaborated per sub-sector and country but would include i) export coaching to targeted exporters (initiated with approximately 70 enterprises), ii) Market Intelligence and iii) Strengthening of Business Support (4 BSOD trajectories) and iv) facilitation of Public-Private-Partnerships at the level of defined target areas.

Programme title	Regional Programme " Export Development Food Ingredients Value Chains of S.E. Asia "
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Expected Outcome	<p>Increase EU export volumes for 4 selected sub-sectors by an average 30% with an approximately annual value of 8 million Euros by 2015.²</p> <p>Direct outputs:</p> <ul style="list-style-type: none"> - A minimum of 20 SMEs increase export to EU - Another 20 SMEs strengthened in business planning & business performance - 4 BSO have the capacity to support SME in EU export trajectories - 4 -6 private sector led commodity association render customised market intelligence to members - 4 informal multi-stakeholder coordination mechanisms render aligned support to the targeted sub-sectors <p>Indirect outputs:</p> <ul style="list-style-type: none"> - SMEs have access to service providers (certification bodies, financial services etc.) - At least two new institutional CBI partnerships established / piloted (UNCTAD, IDH, and others)
Country(s) of Implementation	Indonesia
Sector(s) of Implementation	<p>Food ingredients:</p> <ol style="list-style-type: none"> 1) Coffee, tea, cacao (Indonesia,) 2) Spices and herbs (Indonesia,) 3) Processed fruits (Indonesia) 4) Oils and fats (Indonesia – Tailored Market Intelligence only)
Major Stakeholders	<p>Direct stakeholders: Selected SME level processors / exporters, BSOs (Horti-Chain Centre a.o.), Commodity based private sector associations / federations (speciality coffee association, Indonesia, partnership for sustainable cacao Indonesia)</p> <p>In-direct stakeholders: related government agencies (focussing on sub-national level), banks, research institutes</p> <p>Partners: Development organisations and programmes active in the targeted sub-sectors: UNCTAD, HDI, Embassies, INGOs, bi-laterals</p>

² Given estimates of percentage and total value of expected increase in export are based upon earlier experiences in the food ingredients sector and results of conducted value chain surveys. Final figures will depend on number of companies participating, average size (export volume, turn-over) at intake and price development / inflation (see annex 6).



Abbreviations or term of

ACBI	Association of Coconut Brokers Inc.
AFIME	Association of Food Industries Manufacturers & Exporters
AICE	AEKI - Association of Indonesian Coffee Exporters
AMARTA	Projects in Indonesia aided by USAID
Armajaro	US Importer company
ASRIM	Asosiasi Industri Minuman Ringan (Association of Beverages Industry)
BA	Bureau of Agricultural Statistics
BFAD	Bureau of Food And Drugs
BIR	Bureau of Internal Revenue
BOC	Bureau of Customs
BOI	Board of Investments
BSO	Business Support Organization
BBIA	Balai Besar Industri Agro (Centre of Agro Industry)
BBPPP	Balai Besar Pasca Panen Pertanian (Center of Agricultural Post Harvest)
BPS	Badan Pusat Statistik (Statistical Centre of Indonesia)
CAR	Cordillera Administrative Region
CAPE	Consultancy for Agricultural Products Enhancement
CDA	Cooperative Development Agency
CNO	Crude Coco Nut Oil
CORA	Coconut Oil Refiners Association
CSR	Corporate Social Responsibility
Dana Bergulir	Funds granted and returned for selected receivers in a certain period
DisHutbun	Government Organization of Forestry
DiskopUKM	Government Organization of SMEC
DENR	Department of Environment and Natural Resources
DENR-EMB	Dept of Environment and Natural Resources – Environmental Management Bureau
DOE	Department of Energy
DOH	Department of Health
DOLE	Department of Labor & Employment
DOST	Department of Science and Technology
DOST-ITDI	Department of Science and Technology – Industrial Technology Development Institute
DTI	Department of Trade and Industry
DTI-RODG	Dept of Trade and Industry – Regional Operations Development Group
ECC	Environmental Compliance Certificate
EPP	Export Pathway Program
ETP	Ethical Tea Partnership
FDA	Food and Drugs Administration (formerly BFAD)

FFJ	Fermented Fruit Juice
Flores	Coffee Plantation Area in Nusa Tenggara island
GAP	Good Agricultural Practices
GMP	Good Manufacturing Practices
HACCP	Hazard Analysis Critical Control Points
HVCC	High Value Commercial Crops
HCC	Horti Chain Centre
ICCRI	Indonesia Coffee and Cocoa Research Institute
IPB	Institut Pertanian Bogor (Bogor Agricultural University)
Kalosi	Coffee Plantation Area in Sulawesi island
Kintamani	Coffee Plantation Area in Bali island
Lampung	Coffee Plantation Area in Sumatra island
LGU	Local Government Units
Lintong	Coffee Plantation Area in Sumatra island
LITBANG Agency	Badan Penelitian dan Pengembangan Pertanian (Indonesian for Agricultural Research and Development)
Luwak	Name of coffee type
Mandheling	Coffee Plantation Area in Sumatra island
Moanemani	Coffee Plantation Area in Papua island
MPEX	Manufacturing Productivity Extension Program
MT	Metric Ton
NCR	National Capital Region
NICCEP	National Industry Cluster Capacity Enhancement Program
PAO	Provincial Agriculturist Office
PKBT	Pusat Kajian Buah Tropika (Centre for Tropical Fruits Studies)
PPTIP	Pusat Pengkajian Teknik Industri Pangan (Centre for Food Industry Techniques Studies)
Q Grader	Person who can value the taste of a certain product
RBD	Refined Bleached Deodorized
RFU	Regional Field Unit
ROI	Return of Investment
SCAI	Specialty Coffee Association of Indonesia
SMEC	Small Medium Enterprise and Cooperatives
SET-UP	Program - Small Enterprise Technology Upgrading Program
TESDA	Technical Education and Skills Development Authority
TEU	Twenty Equivalent Units
Toraja	Coffee Plantation Area in Sulawesi island
TSP	Technical Support Program
UCPB	United Coconut Planters Bank
UGM	Universitas Gadjah Mada (Gadjah Mada University)
USAID - GEM	United States Agency for International Development - Growth with Equity in Mindanao
VC	Value Chain
VCO	Virgin Coconut Oil
VISCA	Visayas State College of Agriculture
VECO	Vredes Eilanden, Belgium INGO active in rural development
Wamena	Coffee Plantation Area in Papua island

1. Prioritisation of sub-sectors

1.1. Introduction

Starting point for the study were the 10 food ingredient sub-sectors listed by the CBI:

- Fruits (dried fruit, pulps, puree, juices, concentrates, jams etc.)
- Vegetables (preserved, pastes, stir-fry kits etc.)
- Edible nuts (oils, butter etc.)
- Grains, pulses and seeds (cereals, oils etc.)
- Herbs and spices (sauces, oils, oleoresins)
- Coffee, tea and cocoa (green beans, powder, paste, liquor, butter)
- Honey (wax, pollen, royal jelly, etc.)
- (Cane) sugar and syrups
- Oils and fats (coconut, palm oil etc.)
- Essential oils, oleoresins, plant extracts, natural food colours,

The term food ingredients can be confusing. During the course of the study and in the report the following classification is used as guideline:

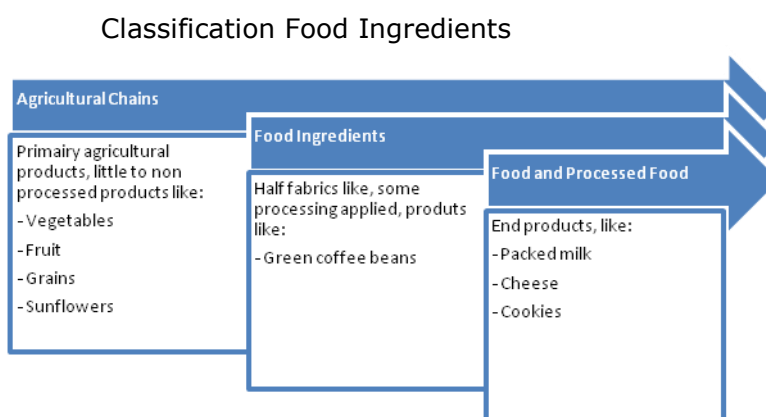


Figure 1 Classification of food ingredients by the CBI

In literature and in main data sources export and import data and figures are mostly provided at commodity level (primary, half-processed produce) and final processing purpose and/or destination is hardly mentioned. We therefore, refer in the report to major commodities, coffee, tea, cashew, palm oil etc. without specifying or distinguishing the type or category of end-products these products will be used in.

1.2. Methodology and Approach

The research was carried out in a sequence of connected phases:

- Desk study and short-listing sub-sectors per target country
- Field Work / data collection of 3 selected value chain per target country
- In-country multi-stakeholder workshops validation workshops

1.2.1. Desk-study

The desk study included a comparative country level assessment followed by sub-sector analysis of the 10 initially listed sub-sectors that led to the short-listing of

3-5 priority sub-sectors per country. The justification and prioritisation made was thereafter discussed with internal CBI and external experts. The long list of the 10 initial sub-sectors is given in annex 1 to this report.

In the comparative country analysis the following parameters were included:

- i) **Overall export figures** and competitiveness of the agricultural sector, its importance to the national economy and its contribution to overall EU27 imports
- ii) The enabling **trade environment**
- iii) Engagement of **SMEs and smallholders**

The indicators mapped provide a comparative analysis at national level of the suitability and potential impact of a support programmes focusing on the export oriented agricultural sector. The results of the country level comparative assessment is given in annex 2.

Thereafter, we zoomed in on the food ingredients sub-sectors as listed by the CBI. The justification for the short-listing of three target sub-sector per country is based upon a mixture of quantitative data and qualitative judgments of the features of the sub-sector per country.

For 3 specific features of the sub-sectors indicators were defined that are found crucial in the prioritisation of sub-sectors.

- i) **Overall economic value and export potential of the sub-sector**, providing an indication of the potential economic scale, outreach and leverage of CBI interventions in the sub-sector
- ii) **Sustainability**, providing an indication of the sustainability dimensions (socio-economic and environmental) of the sub-sector
- iii) **Local economic potential**, providing an indication of the potential for generating economic growth at local levels (involvement of SME's, smallholders)

Per distinguished category, quantitative (if available / accessible) and qualitative indicators are defined that provide indications about the performance of the sub-sector against the defined feature. The indicators per category are:

- 1) Economic value and export potential
 - i) Total export (global)
 - ii) Volume of export to EU (and market trend)
 - iii) Export volume as percentage of overall import of concerned produce to EU ³
 - iv) Trends in prices
- 2) Sustainability
 - i) Sustainability (accreditation schemes)
- 3) Local leverage
 - i) Number of smallholders involved (in case no data qualitative indications are used)
 - ii) SMEs involved (again if no data qualitative indications are provided)
 - iii) Potential for local or in-country value adding (qualitative indications)

In the final decision making about prioritisation of sub-sectors per country, the first category; "*overall economic value and import potential*", is leading. This

³ Percentage of EU imports from single country as against total imports to EU together with trend in volume imported from the concerned country provide an indication of the competitiveness of the sub-sector regarding EU import markets.

means that, after having mapped the indicators reflecting the economic importance of the sub-sector and its EU27 export potential (category i) indicators), we have made a short list of 3-5 prioritised sub-sectors per country. Further analysis on the other two categories (sustainability, local economic potential / leverage) was carried out extensively for the short-listed sub-sectors.

The results of the assessment and justification for the prioritisation of three sub-sectors per country is given in annex 3.⁴ A summary of the overall results of the desk-study is provided in chapter one of this report.

1.1.1. Field level value chain analysis

For the field level value chain surveys local consultants were recruited. The surveys consisted out of closed and open interviews.

The value chain approach was leading in the field surveys, mapping value chain actors, their relations, product-, financial- and information flows. Conducted value chain analysis include the identification of constraints in the functioning and performance of the concerned value chain. Although the focus of the survey was on direct chain actors, particularly targeting SME level enterprises (processors / exporters), also chain supporters and influencers like related government agencies (agriculture, trade and investment etc.), commodity based associations, research institutes and other relevant stakeholders were interviewed.

The gathered information and analysis, derived conclusions and recommendations from the value chain analysis form the core part of this report and are described in part two of this report.

1.1.2. Validation conferences

Three national level conferences were organised in Jakarta, Indonesia. The conferences were important events in the overall survey's process aiming at sharing, validating and extrapolating the outcomes and results of field-level surveys and linking validated result to potential CBI propositions.

Objectives of the Conferences

- Share, discuss and validate the major results and findings of the value chain surveys conducted with the participants.
- Participants know what are and agree upon the bottlenecks within the relevant sub-sector;
- Consensus among the stakeholders what can be done to solve the bottlenecks and optimise export of (sustainable) products within the relevant sub-sector;
- Link the proposition of the CBI in terms of support services with the identified opportunities and constraints in a demand driven, context specific and responsive way.
- Provide specific and quantitative inputs to feed the formulation of a business case regarding CBI support to the food ingredients sector in SE Asia.

In the Indonesian workshop around 25 participants from different stakeholder groups gathered and discussed the findings of the value chain analysis.

During the workshop it was also tried to get feed-back from participants on their needs and preferences in terms of training and coaching services (modules) the CBI could potentially offer in the framework of a future programme on food ingredients. Responses were however scattered and cannot be regarded as representative indications.

⁴ Not for all sub-sectors data were found against mentioned parameters.

The initial ambition to extrapolate the results of the individual value chain analysis to the broader sub-sector during the workshops did not materialise. As a result the extrapolation of the results of individual chains to aggregated levels is not included in the findings, conclusions or recommendations.

1.1.1. Final recommendations

In order to move from the results of the 9 different value chain studies to a comparative analysis that can feed the decision making of CBI in terms of future investments (or not) in the food ingredient sector in SE Asia, it was tried to again judge and rank the results of the value chain studies according to the same set of criteria used in the initial short-listing:

1) Economic value and export potential

- v) Total export (global)
- vi) Volume of export to EU (and market trend)
- vii) Trends in prices

2) Sustainability

- ii) Sustainability (environmental and social accreditation schemes)

3) Local leverage

- iv) Number of smallholders involved
- v) SMEs involved
- vi) Potential for local or in-country value adding

Moreover, the additionality of the CBI interventions is judged as a fourth dimension for judgment

4) Additionality of CBI interventions:

- i) Potential partnerships
- ii) Availability of local BSOs
- iii) Attribution CBI interventions

For the ranking quantitative judgments are provided to each of the mentioned categories as follows:

1 = low; 2 = moderate; 3 = good / high.

In the total score the judgment for category 1, *economic value and export potential* is given higher importance by doubling the score.

The final scores are the backing the decisions as captured in the recommendations and business case provided in chapter 3 to this report.

Value chain - Country

<i>Criteria</i>	<i>indication</i>	<i>comments</i>	<i>Judgment (1to 3)</i>
Potential EU export			(x 2)
Sustainability			
Local leverage			
Presence of SMEs			
Partnerships			
BSOs			
Attribution			
Other issues			No score

End score: (max 8 X 3 = 24, minimum 8 X 1 = 8)

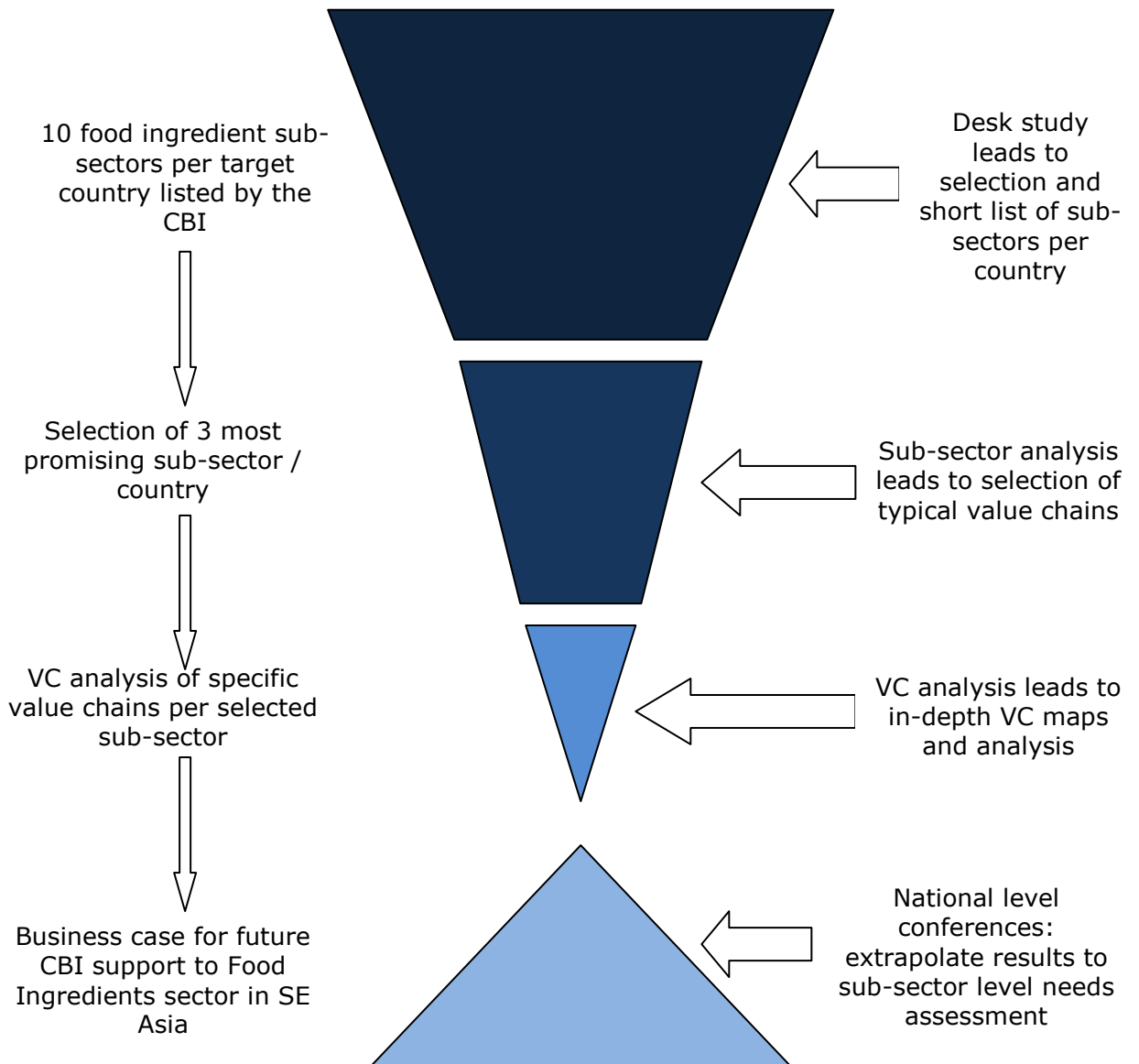


Table 1 Validation process

1.2. Rationale for CBI support to the Food Ingredient sector in S.E. Asia

There is an increasing consensus about the importance of private sector development in fostering sustainable economic development. For targeted country Indonesia, SMEs are the motor of the economy and of utmost importance in the generation of employment, local value adding and as a resilience factor in economic downfalls. Indonesia is an important EU sourcing destination for agricultural products as shown in table 1 below.

<i>Global ranking (based on value imports in Euro)</i>	<i>Total import to EU27</i>	<i>Import agricultural products to EU27</i>
Indonesia	# 23	# 6

Table 2 Global ranking EU27 imports (EuroStat, 2011)

Indonesia is a recommended target country for the CBI Export Development Programme (feasibility study EDP, 2005). In terms of absolute export volumes, the percentage of agricultural produce in this and the export volumes to EU27, Indonesia is the absolute most important partner country.

Indonesia has made an impressive move forward in terms of accessing agricultural world markets.

1.2.1. Rationale for CBI support to the agricultural sector

For targeted country Indonesia, the agricultural sector is still of major importance in both aspects, its contribution to the overall economy and GDP, as well as regarding its importance in securing livelihoods. The agricultural sector is also still by far the largest provider of employment opportunities in the country (WB, country reports 2010).

Indonesia is characterised by high percentages of smallholder farmers. In Indonesia (traditionally and more recently through accession by land-bond FDI projects) also big land holdings / commercial estates are common. Large commercial estates are increasingly competing for resources (land, water) but also for market shares, with smallholder farmers.

SMEs are the motor of the economy and of utmost importance in the generation of employment, local value adding and as a resilience factor in economic downfalls.

	Indonesia	
Total agricultural export to EU27 in million US \$	4277	
Annual growth overall export to EU27 in % (2005-2010)	11,5	
Agriculture as percentage of overall export to EU27	31	
Agriculture as percentage of GDP	16	

Table 3 EU Export figures/overall economic importance of the agric. sector (EuroStat, 2011)

On country level Indonesia shows clearly a high potential to improve EU export figures in the agricultural sector due to both, higher and increasing volumes and market shares (indicating greater competitiveness in EU markets), and through a relatively more supportive enabling trade environment. (annex 3)

1.2.2. Rationale for CBI support to the Food Ingredients sector

The international food ingredients sector is growing and at the same time becoming increasingly demanding and competitive, particularly when looking at EU import markets. SMEs in targeted country are at risk not being able to step up against increasing demands and compliance requirements. This would mean that they would lose part of their current market share which would hamper sustainable economic growth and its contribution to sustaining and improving livelihoods. Targeted support is required to keep the sector competitive. Such support should cover the entire value chain from producers to exporters as it is the functioning and performance of the entire chain that determines competitiveness.

For this reason an integrated approach is required in which CBI aligns support to its core actors (exporters, BSOs etc.) in the value chain with the support other organisations render to other actors (producers, financial institutes etc.) in the same chain. The opportunities for such complementarities are present in the studied sub-sectors.

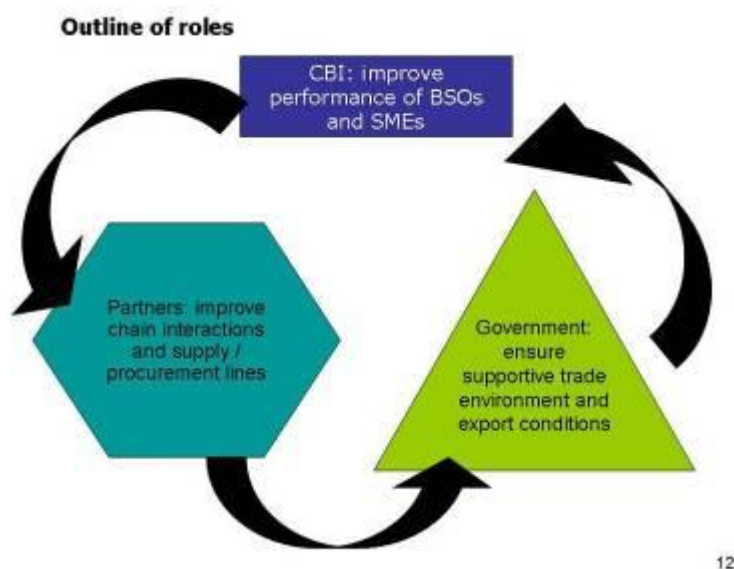


Figure 2 Outline of roles

1.2.3. Sustainability dimensions

Amongst the long-listed sub-sectors some are 'cleaner' and others more contaminating or polluting in environmental terms. Also the characteristics of production models in some sub-sectors are more disruptive in terms of environmental sustainability (palm oil due to deforestation due to intensive use of chemicals) than others (herbs and spices sector in Indonesia). But it is exactly in the most polluting sectors that most gains can be achieved through the introduction of more environmentally friendly production systems.

For this reason this study accepted the presence and level of application of accreditation schemes focusing on environmental and social sustainability as lead

indicator for sustainability of the chain. The accreditation through such schemes assures concrete and tangible gains in terms of sustainability.

External certification schemes regulating and assuring socio-economic (Fair Trade) and/or environmental sustainability (organic, UTZ certification, Rain Forest Alliance) are typically applied for the major commercial commodities (coffee, cacao, bananas) or at the complete other end of the spectrum, at the level of niche products (essential oils, honey, herbs).

Also sector-led (private certification) schemes are typically developed for major commercial commodities (palm oil, coffee). Some private sector initiatives are responding to the negative publicity in press and negative public perception of the sector like the Round Table on Sustainable Palm Oil.

It is however important to realise that for all types of certification schemes described, the percentage of certified produce as against overall production and traded volumes is (still) limited in Indonesia. This counts overall for certified products. Illustrative is that for coffee the most prominent crop amongst the certified commodities, exports of organic coffee in 2008 are estimated at just over 1.6 million bags of which 41 % went to Europe (or 0,64 million bags) as against of a total of almost 50 million bags of EU imports of coffee. Similarly, a 2010 study by ITC puts 2009 organic coffee imports at around 1.7 million bags or not quite 1.4% of the 126 million bags of 2009 world gross imports.

Label			Indonesia
Organic			Cacao, coffee, tea, essential oils, species and herbs, nuts
Fair Trade (FLO certified)			Cacao, coffee
National "green" certification schemes / IPM			
Sector driven schemes - IDH ⁵ , RSPO			Species, coffee, tea (IDH), palm oil (RSPO) ⁶
UTZ Certified			Coffee, tea, cacao
Rain Forest Alliance			Coffee, tea, cacao, nuts, fruits

Table 4 Certification Schemes per country and sub-sector/commodity

1.3. Ranking and prioritisation of sub-sectors

Based on the desk research an initial prioritisation of three sub-sectors per country was made. The initial choice was based on quantitative figures combined with qualitative rankings. In order to validate and check assumptions the tentative prioritisation and reasoning behind was discussed with CBI experts and in-country experts. In some cases these consultation rounds did result in changes in terms of prioritisation of sub-sectors. It is important to note that the ranking of sub-sector is an arbitrary judgment and has a relative value only.

⁵ IDH does not accredit sustainability but promotes existing certification schemes according to preferences of participating enterprises. For spices in Indonesia Rain Forest Alliance is preferred.

⁶ For palm oil the Round Table on Sustainable Palm Oil has developed the Certified Sustainable Palm Oil scheme that is backed by major players in the industry.

In order to compare the different sectors and justify prioritisation we weighed the different categories of indicators according to their importance to the CBI. Economic potential and export volumes are the leading indicator group, and we assigned a comparative weight of 60% to this category. Sustainability (the potential for an improvement / increase in sustainability features) and the potential for local economic development are the two other categories which we weight equally at 20% each. (annex 3)

This qualitative judgment was complemented with comments and suggestions from CBI experts and in-country resource persons approached, including the selected national consultants.

Qualitative ranking of sub-sectors

Sub-sector	End score⁷	Rank	Judgment experts CBI	Judgment in-country partners
Indonesia				
Oils and fats	8	1	No comments	Sector is dominated by large scale enterprises partly multi-nationals, high level of sustainability problems and also in socio-economic terms disputed. High occurrence of land grabbing / disputes and competing claims. Highly political.
Coffee, tea, cocoa	7	2	Fair Trade, organic, cocoa sub-sector more developed than coffee, speciality coffees (non-organic)	
Spices and herbs	6,2	3	Nutmeg (Fair Trade), EU target sector sustainability	Many other players active in spices sector. Good opportunities for collaboration. In Indonesia cartels monopolise the market
Processed Fruits	5,2	4	Not a typical SME sector	Innovative market. Need for market-led innovation (processing technologies, packaging etc.)
Edible nuts	5	5	No comments	
Grains and pulses (oils)	3,4	9		
Sugar (cane), syrups	4,2	8		
Processed vegetables	4,8	6		
Honey	3,2	10		
Essential oils	4,8	7		

Table 5 Qualitative ranking of sub-sectors

⁷ Based on qualitative ranking of sub-sectors per country as provided in annex 3

1.4. Final selection of sub-sectors per country

In the final selection of sub-sectors, the expert consultation led to a shift away from some of the economically dominant sub-sectors like palm oil in Indonesia. Reasoning was found in a combination of arguments related to the nature of the concerned sub-sector: i) sub-sector is dominated by merely large players with little room for SMEs and ii) sub-sector with little scope for in-country value adding or leverage to local economic development iii) sub-sector has a reputation for sub-optimal governance (human rights, un-fair labour conditions) and/or as a source of pollution.

Moreover, interfering in commodity markets goes beyond the mandate and aspirations of the CBI.

Indonesia: Selected food ingredients export chains

Product	Import value in \$US to EU 27	% of total import to EU 27 from the world (\$US)	Comments
Coffee (HS901)	\$288,298,852	3.3% \$8,636,056,294	
Cacao (HS018)	\$148,780.596	2,1% of \$7,056,921,251	Main export destinations are USA, Brazil and Asian region.
Tea (HS0902)	\$47,598,942	6% of \$817,655,645	
Spices & herbs (SITC 075)	\$97,427,094	10% \$949,549,466	Global monopoly mace and nutmeg. 80% of global cassia market and 70% for cloves

Table 6 Import value per sub-sectors

Source: Comtrade UN, data 2010 <http://comtrade.un.org/db/dqQuickQuery.aspx>

After prioritising sub-sectors the final selection of value chains to be studied was taken in close consultation with the local consultant(s). This led occasionally to changes.

This resulted in the following choices in terms of value chains targeted during the field level value chain analysis.

Indonesia

1. Sub-sector coffee, tea, cacao with the recommendation to target the specialty coffee value chain as field level case study
2. Sub-sector spices and herbs for with the recommendation to target the nutmeg value chain as field level case study.
3. Sub-sector fruits and vegetables with the recommendation to target the fruit pulp / juice value chain as field level case study.

1.5. Limitation of the methodology and discussion

Limitations

The followed sequence of methodological steps did result in some constraints in terms of planning. For one, the time-frame was very short. In the end this resulted in the field level surveys being carried out in extreme short time spans, particularly in Indonesia. This clearly affected the completeness and depth of the value chain analysis, thus final results as captured in this report.

Secondly, the number of sources used varied broadly and did provide us with non-matching and sometimes even conflicting information and data. At the level of personal interviews, personal views, preferences and interest did sometimes colour the information provided. Structural cross-checking was however not carried out.

Thirdly, this was the first collaboration between the KIT and the CBI of this kind, during which both sides had to learn and adjust. The foreseen extrapolation of specific value chain analysis to sub-sector level turned out to be too much to ask for during the workshops and was pursued in the end.

Framing the results & recommendations

The sub-sector analysis and derived ranking and prioritisation is arbitrary and has a relative value only. Contextual factor play a role in determining the outcomes of future investments in the sub-sectors and value chains at various levels: international / global, national and local.

External conditions that cannot be predicted or foreseen, including economic developments at global and or national levels and not the least, climatic conditions and the occurrence of climate related disasters, will in reality strongly influence the success factor of any investment in any country or sub-sector. Also the specific local context and enabling environment will influence the potential for export growth and the success of any effort to nurture exports.

Predictions and expectations on export increases and expected return on investments, should, although justified by quantitative figures and/or qualitative judgments, not be over-valued and be seen as what they are; predictions rather than forecasts.

The strategic focus of the CBI to give priority to commercially most prominent sub-sectors, instead of for example prioritising sub-sectors having less economic importance but being frontrunners in terms of sustainability or leveraging local economic development, has led the researchers automatically to the most evident commodities. Would the CBI let go its focus on volume and overall economic turn-over and instead focus more stringently on for example, sustainability, a complete different ranking would have occurred.

The prioritised commodity based sub-sectors do however have segmented markets too. In this sense, the recommendation regarding CBI investments point towards high-end, specialty market segments, looking for promising product - EU market combinations.



CBI
Ministry of Foreign Affairs

Value Chain Analysis

Nutmeg Indonesia



1.2. Introduction

Indonesia has gone through a decade of economic stability and is doing overall well. GDP growth in Indonesia has been steady over the past years around 6%. Inflation rates balance around 5% with a spike in 2008 (9,8%).

The agricultural sector contributes around 16% to the overall GDP (down from 20% in 1990).

Imports to the EU27 reached 13,7 billion Euro in 2010 which ranks Indonesia as number 23rd biggest import partner to the EU27. From an Indonesian perspective this means that the EU27 is the second biggest (after Japan) export destination. Agricultural products count for 31,2% (4,28 billion Euro) of the total imports to the EU27 and the tendency is upwards. This makes Indonesia the 6th biggest importer of agricultural products into the EU27.

TDC01 (animal products) count for 0,9 % of total animal product imports to EU27, TDC02 (vegetable products) for almost 3% of total EU imports, while TDC03 (fats and oils) imports from Indonesia are covering for almost 30% of the total fats and oils imports to the EU27.

As of last year there was a 15% increase in exports in organic food from Indonesia. Several organisations have also worked towards raising the profile and benefits of organic food. The sector is still very much side-lined and promoted by external non-governmental organisations like the U.S.-based non-governmental organisation World Education.

Currently, Indonesia has seven organic food certification agencies. They have certified 48 organic farmer groups farming areas covering 102,000 hectares. The Indonesian government has announced plans to boost this number. As Go Organic 2010 mission is to make Indonesia as one of organic producers in the world. Certification can become bridge for the farmers to have access to international market which is predicted growing around 20-50% in a year.

1.3. Nutmeg – Indonesia

1.3.1. Economic importance - Baseline

Nutmeg tree (*Myristica fragrans*) or 'pala' in Indonesian language originates from Indonesia. The spices sector has an economic importance in the International trade from Indonesia since hundreds of years. According to the Directorate General of Plantation Ministry of Agriculture, in 2008, the total nutmeg plantation area in Indonesia is 75,062 ha of which 98% is smallholders' plantation. It is a source of livelihood for more than 104.000 families of smallholder whom the majority of them live in subsistence conditions.

Export statistics of 2009 to 2011 (January – August 2011) from Trade Agency of East Java Province shows that the value of nutmeg is increasing comparing to the previous years. In comparison to other processed products, shelled nutmeg is the biggest export earner in volume and value. See table 1 and figure 1.

Export of spices from 2009 till 2011-12-13

HS CODE	DESCRIPTION	2009		2010		2011*	
		VOLUME (KG)	VALUE (US\$)	VOLUME (KG)	VALUE (US\$)	VOLUME (KG)	VALUE (US\$)
0908100010	Nutmeg, in shell	549,507	1,654,962	988,698	5,283,890	716,748	4,837,609
0908100020	Nutmeg, shelled	5,231,034	15,224,230	6,080,992	23,728,666	4,405,557	27,867,353
0908200000	Mace	2,985,177	15,989,968	1,901,471	17,186,186	1,463,283	19,376,844
0908300000	Cardamoms	4,276,509	3,440,765	4,038,439	6,355,958	3,323,495	6,677,128

58,758,934

Table 7 Export of spices from 2009 till 2011-12-13

Source: Disperindag of Surabaya.

* = Data from January till August.

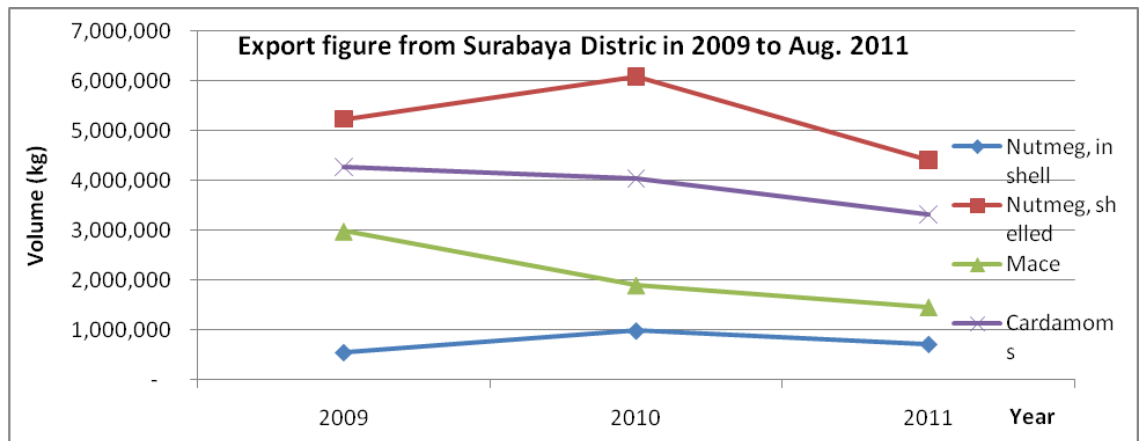


Figure 3 Export Nutmeg from East Java in 2009 to August 2011

If we look to the top ten countries destination, China and India are the main export destination of nutmeg as show in table 2 and figure 2.

Top ten destination countries for the nutmeg

No.	Code	Negara/Country	TOTAL (US\$)
1	CN	CHINA	15,692,611,103
2	IN	INDIA	9,915,038,943
3	AU	AUSTRALIA	4,244,396,928
4	NL	NETHERLANDS	3,722,455,122
5	DE	GERMANY, FED. REP. OF	2,984,670,615
6	FR	FRANCE	1,122,782,193
7	SA	SAUDI ARABIA	1,167,296,586
8	ZA	SOUTH AFRICA	680,723,050
9	CA	CANADA	731,910,614
10	CL	CHILE	192,651,824
		Total	40,454,536,978

Sources: Central Bureau of Statistic

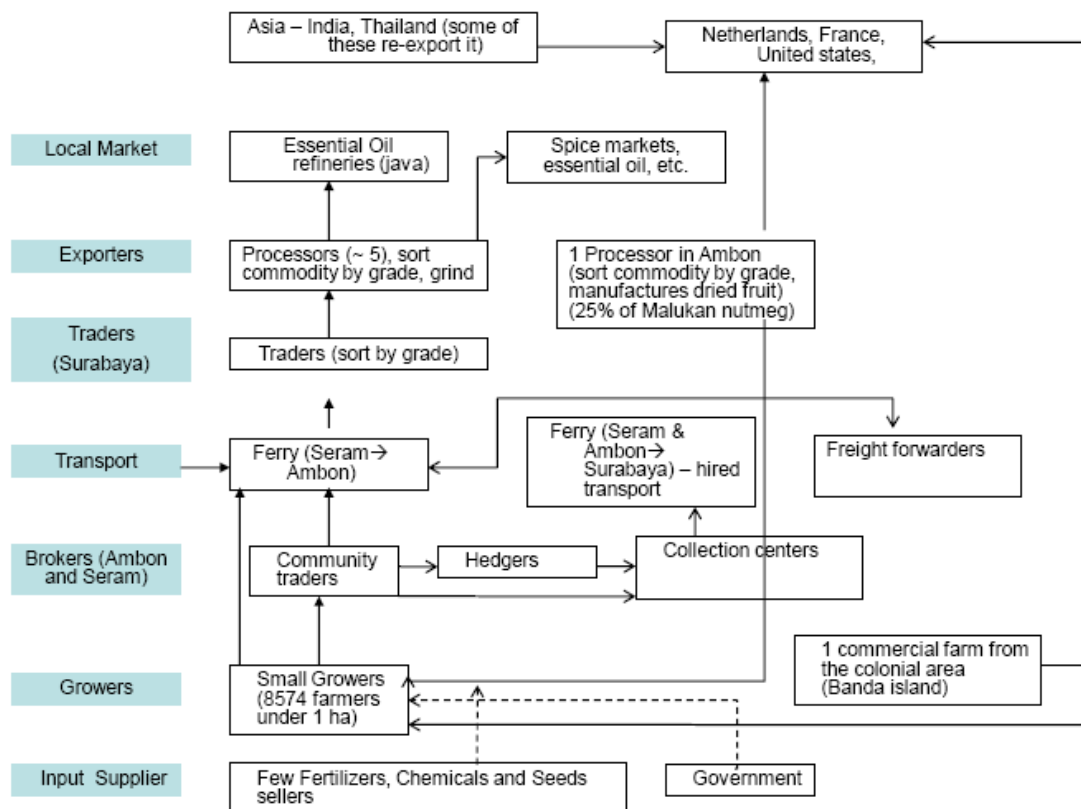


Figure 2. Export value (US\$) based on country destination

Indonesia is the biggest nutmeg exporting country in the world (76%) followed by Grenada (20%) and other countries such India and Sri Lanka. In 2008, there was 71,611 ha nutmeg estates with a total production of 9.378 ton. Nutmeg is a source of income for more than 104,000 smallholders.

Malukan is a core production area. Nutmeg is providing an income for 35,586 smallholders in the province. Total export value to the top ten country destinations is more than US\$ 40,00,000 in 2010. Meanwhile, from the beginning of 2011 until August of the same year, the export value had already reach USD 58,758,934. Export is channelled through companies in Surabaya, East Java.

1.3.2. Value chain



Value Chain 1 Nutmeg Indonesia (source Mercy Corps Spice Sector Assessment Report 2011)

1.3.3. Chain actors and their functions

The nutmeg value chain is principally governed by the export quality standards and estimated prices. However export quality standards and prices are generally imperfectly disseminated by the exporters to the smallholders through the value chain.

Farmers: The value chain starts with the small farmers which usually have less than 1.5 hectares of land. Usually they sell their commodity to village collectors (Independent community level traders) which then transport the commodity to the nearest collection centre. From Seram and Ambon Islands, collectors send the spices to Surabaya (East Java), which is the regional hub for spice exports from Indonesia. Usually village collectors are able to put together a large enough volume of spices to ship directly to Masohi (capital of Seram island), Ambon and Surabaya.

Collection centres/local traders: As mentioned in the value chain diagram, collection centres act as an intermediary between farmers and exporters. They are able to negotiate slightly different prices for different qualities with their buyers, who are

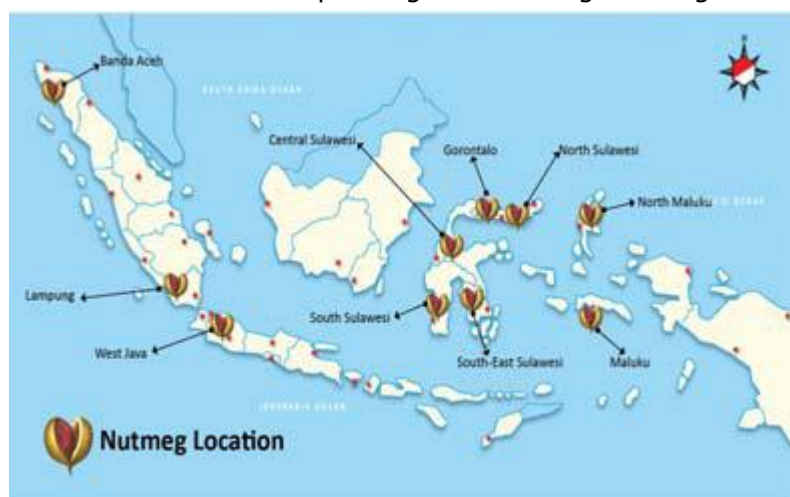


Image 1 Nutmeg in Indonesia

often exporters, intermediary traders and hedgersⁱ. However collection centres do not offer these price differentials to farmers and traders regardless of quality. However to widen their supply, collection centres do provide farmers a number of services including credit at no interest, quick payments, and transportation to the collection centre if farmers can gather a minimum volume of nutmeg at the community level.

Traders: Once the nutmeg is delivered to Surabaya, the nutmeg may go through other traders and hedgers before actually reaching a final buyer/exporter. Hedgers hold the commodities in warehouses until the value increases but tend to damage the quality of the commodity as the storage facilities are inadequate, leaving nutmeg at risk to fungus and pest attacks. Furthermore, hedgers tighten profit margins for others as each actor in the value chain takes a profit share. The bulk of Maluku nutmeg exported from Surabaya is low quality and not suitable for European or American markets. Most is then sold to lower paying markets such as China, India and Thailand where it is processed and re-exported.



Figure 4 Profit margin nutmeg chain

1.3.4. Chain Supporters and their functions

- AEPA (Association of Nutmeg Exporters), this is the organisation of Nutmeg Exporters in Indonesia; however there is little information on the activities of this organisation. Contacts are difficult to obtain considering there are telephone numbers given.
- Ministry of Agriculture
- District Agriculture Advisory (Bakor PP, Perikanan dan Kehutanan)
- This is a district government agency that assists farmers in producing better quality crops based on good agricultural practices
- Research and Development Directorate Ministry of Agricultural.
- This Directorate conducts research and development on harvesting technology of nutmeg and also on how to increase production by conducting research on various varieties.
- Fertiliser companies, sometimes fertiliser companies also provide trainings towards farmers in crop management and how to conduct harvesting procedures. However most of this is also commercially based.

1.3.5. Bottlenecks of the value chain

The main bottleneck in export is the poor quality of the products caused by improper handling. Major constraints concentrate on the supply side of the value chain:

- **Lack of technical knowledge:** Spice farmers lack a wide range of technical knowledge including how to rehabilitate lower-producing trees or differentiate between male and female trees. Also the

provinces small public budget is not sufficient to service a significant number of farmers with extension. The university in Maluku also doesn't provide outreach trainings towards the farmers.

- **Lack of access to inputs and services:** Farmers in remote communities cannot access needed inputs and services for basic production and post-harvest handling of products. Consequently farmers are unable to rehabilitate crops, withstand pest attacks and maintain trees. Warehouses, drying structures and seedlings are equally unavailable. Lack of access to finance also pressures farmers to sell nutmeg early, before it is mature or dry, which further compromises quality.
- **Low quality and diminishing production:** Low technical capacity and limited access to inputs and services inhibits farmers ability to increase production. Low returns for the commodity have also contributed to diminishing production of nutmeg. Nutmeg trees are most productive from age eight to twenty, and farmers do not see a value in investing to rehabilitate trees that have passed their production prime. Instead, some farmers are shifting to cultivating higher paying products like clove.

Constraints at trade / export level:

- **Limited export markets:** At the wholesale level, many sellers lack the technology and know-how needed to package and process spices. Some exporters also lack knowledge of export requirements and processes to treat spices for Aflatoxins and Salmonella, which is required to export to some countries.

The common root cause of these constraints is lack of cooperation between sector actors and this can also been seen in other commodities. As stated above, price at the farm-gate level is relatively low and not differentiated by quality. Thus farmers do not have the incentives to invest time and financial resources in improved production. We also see the lack of commitment from farmers to their contracts and sell to a competitor if prices offered are higher.

1.3.6. Conclusions Nutmeg

The demand of nutmeg is still high and which also can be seen in the figures regarding export value that are still increasing year by year. However the inconsistency of quality and lack of incentives towards the farmers on nutmeg makes it difficult to obtain good quality spices. The lack of initiatives and also the low awareness of sustainable sourcing and sustainable spices create also problems for exporters where they are pushed by their principal buyers to only source sustainable products.

The international trade in nutmeg is dominated by a cartel of a few big (Indonesian) players, holding virtually a global monopoly on nutmeg trade. The relations in the International market are well established and allow little room for new players. These well-established traditional monopoly relations will influence any intervention in the nutmeg sector.

Supporting the SME based nutmeg sector is therefore complex and not without risk. Market trends (sustainability, specialty or boutique markets) offer (limited) scope for SMEs to capture market shares in Europe. The establishment of direct contacts between SME level exporters and EU based buyers is however essential to by-pass the cartel dominated trade routes. Specialisation of domestic value

chains in terms of certification and /or outstanding quality are a condition to do so.

Nutmeg - Indonesia

Criteria	Indication	Comment	Ranking
Potential EU export	Good at short / mid-term	The Indonesian spices sector incl. nutmeg is still showing growing export figures. Past dominance is decreasing through new Int. competitors.	2-3
Sustainability	Good	No major constraints reported	2-3
Local leverage	Reasonable	Typical smallholder crop. However smallholders are pure price-takers leading to low profit margins.	2
Presence of SMEs	Low	The sector is dominated by big companies holding a monopoly market position and shading out SMEs.	1
Partnerships	Good	Some major Int. players like UNCTAD	2-3
BSO	Moderate	No preferred BSO identified yet	1-2
Attribution	Low	Not an easy sector to enter or address constraints due to structure and established interests.	1-2
Other issues		Direct connection between SME exporters and EU importers are required to by-pass monopoly of big companies.	

Total: 16

Table 8 Chain evaluation

Specialty Coffee Indonesia



1.4. Specialty Coffee - Indonesia

1.4.1. Economic Importance - Baseline

In 2009, Indonesia was the third supplier of coffee to the European market (6% of total supply) behind Brazil and Vietnam. (ITC Coffee guide). At that moment, coffee represented 0.6% of total GNP and 17% of all agricultural products exports in Indonesia. Coffee was harvested on 1.3 million hectares of land; coffee plantings yielded approximately 600,000 tons of green coffees. About 67% of all coffee produced in Indonesia is for export, with Indonesia offering a number of specialty coffees. In 2007, Indonesia exported about 7% of world coffee production.

Major Markets of East Java Coffee Exports

Year	Total Export (ton)	Japan (%)	EU (%)	USA (%)	Other (%)
2001	41.870	33	35	6	26
2002	41.604	33	32	4	31
2003	43.778	33	28	5	34
2004	48.463	32	32	4	32
2005	68.228	19	44	7	30
2006	63.544	22	41	8	29

Table 9 Major Markets of East Java Coffee Exports
(source AEKI: <http://aeki-jatim.awardspace.com/market.php>)

The Government of Indonesia has decided in 2010 to make Arabica coffee a national priority for the development of the coffee sector. There is only limited growth possible for the Robusta sector with limited room for production and land expansion. The GOI aims to reach the level of at least 30% exports of Arabica. The Government also wants to protect the speciality coffees with geographical labels. To achieve its goals the GOI as a rejuvenation and replanting program of Arabica trees. As much as 12 500 hectares of Arabica trees have been planted since 2007 with a required investment of 5 million dollars. Furthermore, the Government is advocating for the application of the good agricultural practises and sustainable coffee production as well as the production of high value, export quality products through 'coffee industry clusters'.

The largest share of coffee cultivated is Robusta with 85 to 90% of which 65% coming from Southern Sumatra, 10 to 13% Arabica and 1 to 2% others such as Liberica. As a share of agricultural exports from Indonesia, coffee is reported at 17%.



Image 2 Specialty coffee in Indonesia

Coffee is produced by about 2.33 million household smallholder farmers cultivating an average holding of 1.0 to 1.5 hectares and deriving approximately \$ 910.00/year per hectare under Robusta cultivation and \$ 1680.00/year per hectare of Arabica coffee production. Small-scale farmers produce about 95% of the Indonesian coffee. (LMC International 2006). Sumatra dominates both coffee production and the area under coffee. Nearly 75% of production is from the island, with Lampung and South Sumatra being the largest producing regions. (LMC international 2006)

The demand for specialty coffee originating from Indonesia is very high on the international market, but the inability to increase production is a constraint reported by a number of coffee suppliers. Efforts are underway to rehabilitate abandoned hectares in Aceh and to rejuvenate undernourished hectares in other regions. (USAID 2007). The following areas market coffee under a geographical brand: Kintamani Coffee (Bali Arabica), Banjawa Coffee (Banjawa District, Nusa Tenggara Timur), Jaya Wijaya Coffee (Papua), Mangkuraja Coffee (Lampung and Bengkulu area) Gayo (Aceh), Mandheling (North Sumatera), Lintong (North Sumatera), Mangkuraja (South Sumatera), Java, Bali, Bajawa (Nusa Tenggara), Kalosi/Toraja/Celebes, Baliem Valley (Papua). Geographical labelling of coffee and traceability is important for speciality coffee. The mix of coffee types to please consumers' demand had negative impacts on traceability of the coffee. Hence the government is pushing for an increase in geographical coffee labelling and its promotion. (USAID 2007) The UTZ Certified and Rain Forest Alliance are certifying Indonesian specialty coffees assisting in the setting-up of due tracking and tracing systems and providing the assurance of responsible production and sourcing. Several exporters have obtained Fair Trade and/or Organic certification.

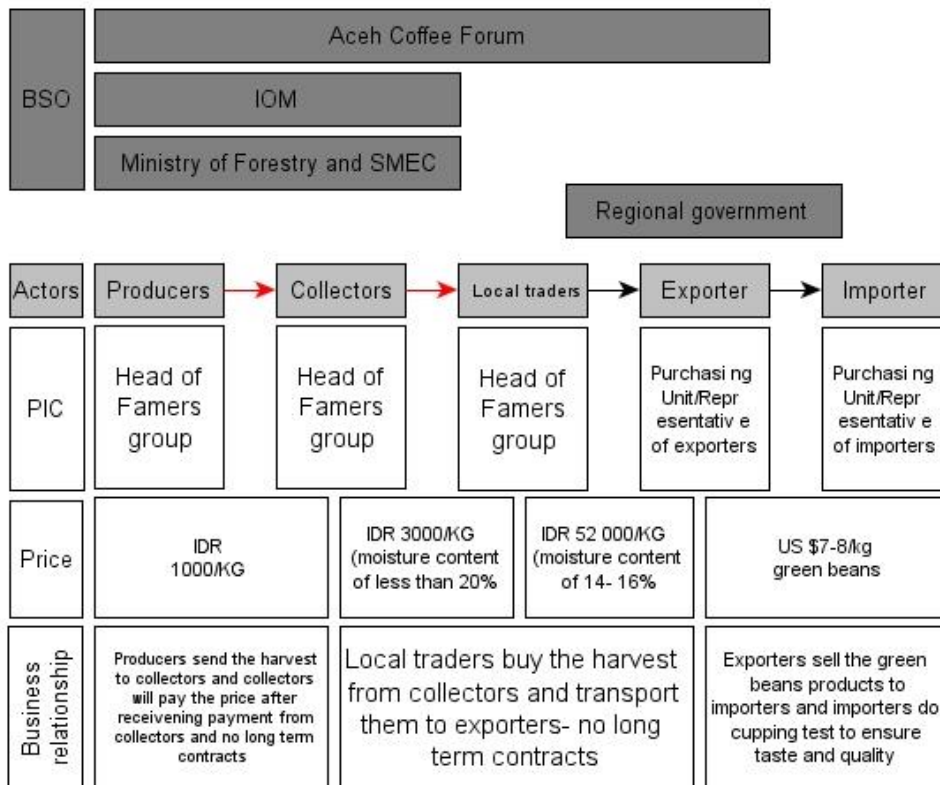
The area planted with coffee increased between 2009 and 2010 as many farmers switched from cocoa to coffee production due to the announcement by the Ministry of Finance of a new tax levied on cocoa exports of 10% as of April 1st 2010, fluctuating with the international prices of cocoa. This new tax had the effect of reducing the price of cocoa of 8% at farm gate, pushing more farmers in coffee production.

1.4.2. Value chain

Supply chains for specialty coffee are usually extended and there is modest evidence that farmers have direct relationships with buyers, but rather have to work with middlemen and processors. Market linkages exist and are stronger between those in the middle of the supply chain: exporters and importers, exporters and international trading companies. (USAID 2007)

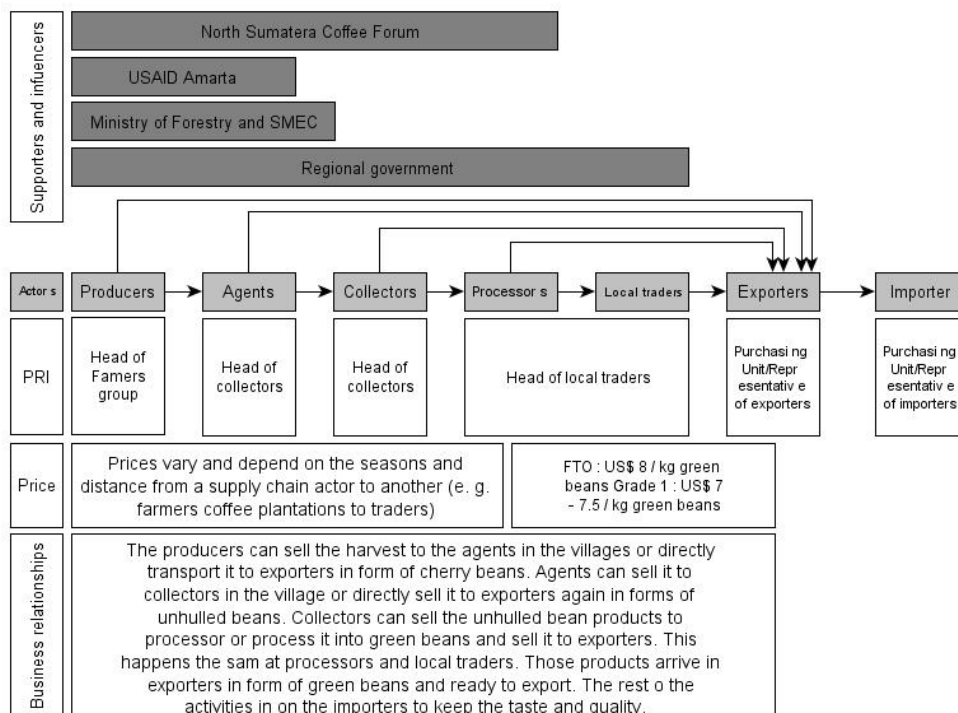
Below the value chain maps for Gayo specialty coffee and North Sumatera specialty coffee are given. The difference of Coffee Supply Chain between Gayo and North Sumatera is merely size of the sourcing area. Gayo covers three residences only and North while Sumatera as an entire province counts as sourcing area.

Gayo area



Value Chain 2 Gayo Coffee Indonesia

The product flows almost in straight line. The stages are from producers – collectors – local traders – exporters and importers.



Value Chain 3 North Sumatera Coffee Indonesia

1.4.3. Chain actors and their functions

Producers; Coffee is a typical smallholder crop in Indonesia providing an income to many rural families. Production systems are extensive, shading coffee by trees.

Production methods/ number of farmers and production volumes

	Number of farmers (F)	Total production (Tons)	Area under cultivation (Ha)	Average productivity (tonnes/ha/year)
Gayo				
Extensive	66101	35694	95290	
Semi intensive	-	-	-	-
Intensive	-	-	-	-
North Sumatera				
Extensive	160000	60126	79545	62835
Semi intensive	-	-	-	-
Intensive	-	-	-	-

Based on the survey, 69% of the producers sold their harvest as unprocessed beans to collectors, 27% to local traders and only 4% made direct transactions with roasters. The quality of the unprocessed beans is generally low and unfit for exports. The moisture content is more than 16% and some of beans contain over 20% of moisture (maximum water content is 12.5%); default is more than 22%.

Collectors and Local Traders: the role of the middleman in improving the quality is limited; it is usually an additional task for exporters/roasters, especially to fit with export quality. AEKI claimed that the institution has given trainings, facilitated government interventions and supported the acquisition of drying facilities.

Local processors: the small scale processing facilities of Indonesia are usually situated close to people's home and plantation areas such as Lampung, Bengkulu, South Sumatera, North Sumatera and East Java. Usually reunited in small processors groups, they buy low grade beans for the bigger processors and sell their products on the local market. The medium size processors are also running low level industrial processing facilities and are sometimes registered as SMEs with the Ministry of Industry. They offer ground coffee and coffee beverage, simply packaged.

Most **big commercial coffee processors** are producing for a high-end international market. They offer a wide array of products such as packaged green beans for export, roasted beans, ground coffee, instant coffee, and other coffee based products and beverages. A fair share of these products are exported but also consumed locally. Nicely packaged and having a long shelf-life.

In the core specialty coffee sourcing areas some dozens of SME level processors / exporters are operating business, most of them having prior experience in exporting specialty coffee to USA and Europe (pers. comm. workshop).

Number of processing establishments per state/province (data for 2010)

Province	Number of processing establishments
Nanggroe Aceh Darussalam (Gayo Coffee)	20
North Sumatera (North Sumatera Coffee)	58
Total	78

Exporters

Several exporters in Aceh or Medan are considered established companies. The some supply chain process is established, the management is fine and some of them already have certification as exports requirements. The main target is USA, Japan and Germany.

Starbucks: In 2007, the majority of Arabica coffee exported from Indonesia, between 60-80 %, was sold to one buyer being Starbucks Coffee. Exporters supplying coffee for Starbucks adhere to their CAFÉ Practices and are promoting training at the farm level to demonstrate correlation between good agronomic practices and quality coffee.

Phase	Forms of Products	Supply Chain Level
Cherry Beans	Harvest picked by producers	Producers Agents Exporters
Pulp Cherry	Cherry beans dried up forms	Agents Collectors Exporters
Parchment	Hulled dried cherry beans	Collectors Local traders Exporters
Raw Material	Dried for second time	Local traders Exporters
Green Beans	Hulled forms	Exporters

Table 10 Processing of speciality coffee

1.4.4. Chain supporters and their functions

AEKI (Association of Exporters of Coffee Indonesia)

This is the organisation of coffee exporters and industries in Indonesia. As exporter's organisation, the coffee business becomes their expertise and the map of supply chain actors can be observed. For Value Chain Analysis, the interview must be conducted right with the supply chain actors

SCAI (Specialty Coffee Association)

As an association of specialty coffee of Indonesia, the industry of Indonesian specialty coffee is accommodated by this institution. Companies dealing with specialty coffees in each Geographical Indication have become members of SCAI and the networks also have been built. SCAI also help all supply chain actors to establish Geographical Indication to protect brand names such as Gayo, Lintong, Toraja or Flores.

1.4.5. Bottlenecks of the value chain

Constraints along the specialty coffee value chains studied do concentrate largely at the lower levels of the chain. Particularly production and supply problems hamper the performance of the chain.

Besides production problems, systems, capacities and at times commitment to, due quality compliance is lacking, resulting in sub-optimal quality standards.

- The blending of coffee products is done in Medan Belawan Port and the quality can be destroyed here (the blending from a specialty coffee with another variety due to low supervision)

- High price and high demands make the exporters neglect the quality inspection (they still can sell the bad / black coffee somehow) and this makes producers become overconfident with the harvest
- Intensification of coffee products can be a 'boomerang' to producers (in case of exporters reduces the demands of coffee and the prices drop).

Specific challenges in accessing EU markets:

- Taste of coffee is not the same for all importing countries. The sector has so far focused on the American markets and is not familiar yet with the specific taste requirements and specifics at the European markets.
- Quality inspection from producers until final packing is low, resulting in non-compliance with strict export requirements
- Promotion of specialty coffee is not planned or structured well. So far, there are several buyers from Germany, yet the bigger EU market is still unknown.
- Only few exporting companies are certified and/or able to deliver certified produce, while the demand for such assurance is growing.
- Exporters are the gateway to the buyers / importers. If the exporters cannot maintain the taste of the products, probably the importers will cancel the whole transaction.

1.4.6. Sustainability (People, Planet, Profit)

According to the IDH sustainability issues in the coffee sector are as follows:

People	Planet	Profit
Child labour (variable by country)	Forest conversion	Low incomes / wages
Health and safety issues	Water use	Price volatility
Poor working conditions (job insecurity, discrimination, housing)	Water pollution	Insecurity of supply
	Chemical (pesticide) use	Yield performance

Table 11 Sustainability (People, Planet, Profit)

Particularly in North Sumatra, pests and diseases are a problem, forcing producers to apply high levels of chemicals. Epidemic pest and diseases (cherry borer) are beyond control and threatening major production areas particularly in Sumatra.

1.4.7. Conclusions Specialty Coffee Indonesia

The export oriented specialty coffee market currently focuses on the US and other market; with only limited volumes exported to the EU. However, stakeholders see the potential of introducing Arabica specialty coffee to EU markets. The specialty coffee sector is well organised and chain stakeholders have their own platforms for exchange, dialogue and coordination. These multi-stakeholder initiatives (like the Association for Specialty Coffee and the North Sumatra Coffee Forum) are evident partners for future CBI interventions / programmes.

Main constraints in the specialty coffee chain are situated at production level. During the workshop all participants agreed upon the urgent need for capacity enhancement of farmers as first priority. Marketing of the produce was seen as less a problem.

Condition for CBI assistance to the specialty coffee sub-sector is that other organisations do address does constraints complementary to any CBI intervention to stimulate exports. Such partners could be the (GIZ), Royal Dutch Coffee and

Tea Association (KNVKT), The European Coffee Federation (ECF) and the Tropical Commodity Coalition (TCC), IDH and partners like UTZ, Fair Trade, Rain Forest Alliance.

Coffee – Indonesia

Criteria	Indication	Comment	Ranking
Potential EU export	Moderate at short / mid-term	The Indonesian specialty coffee sector focuses on USA and not yet has a clear strategy for accessing EU markets	1-2
Sustainability	Low-moderate	Epidemic pest & diseases threaten production	1-2
Local leverage	Reasonable	Typical smallholder crop. However smallholders are pure price-takers leading to low profit margins.	2-3
Presence of SMEs	Low	The sector is dominated by Starbucks as most dominant enterprise. SMEs operate in its shade.	1-2
Partnerships	Good	International (USAID) as well as Netherlands (IDH) partners	2-3
BSO	Moderate	No preferred BSO identified yet, but availability confirmed	2
Attribution	Moderate	Besides constraints in the lower part of the chain, EU market access could be stimulated	2
Other issues		Direct connection between SME exporters and EU importers are required to by-pass monopoly of big companies	

Total:15

Table 12 Chain evaluation

Processed fruits



1.5. Processed Fruits - Indonesia

1.5.1. Economic importance - Baseline

The fruit juice subsector has one of the fastest growing markets, especially in the European Union. Indonesia has a strong potential for production of tropical fruits, but at present, Indonesia's exports are small compared with its potential. Therefore, the processed fruits industry could exploit the opportunities offered by the EU market by focusing on product development. This will however be a long term and demanding (investments, capacities) trajectory.

According to the data on Export statistics from 2007 to 2011 (Jan-Sept), the exports value is increasing if compared to the previous years. In 2009, there was a decline in export value but it returned to normal in 2010. If we look at the top ten destination countries, Japan and China are the main countries for fruit juice export destination as expressed by Figure 1.

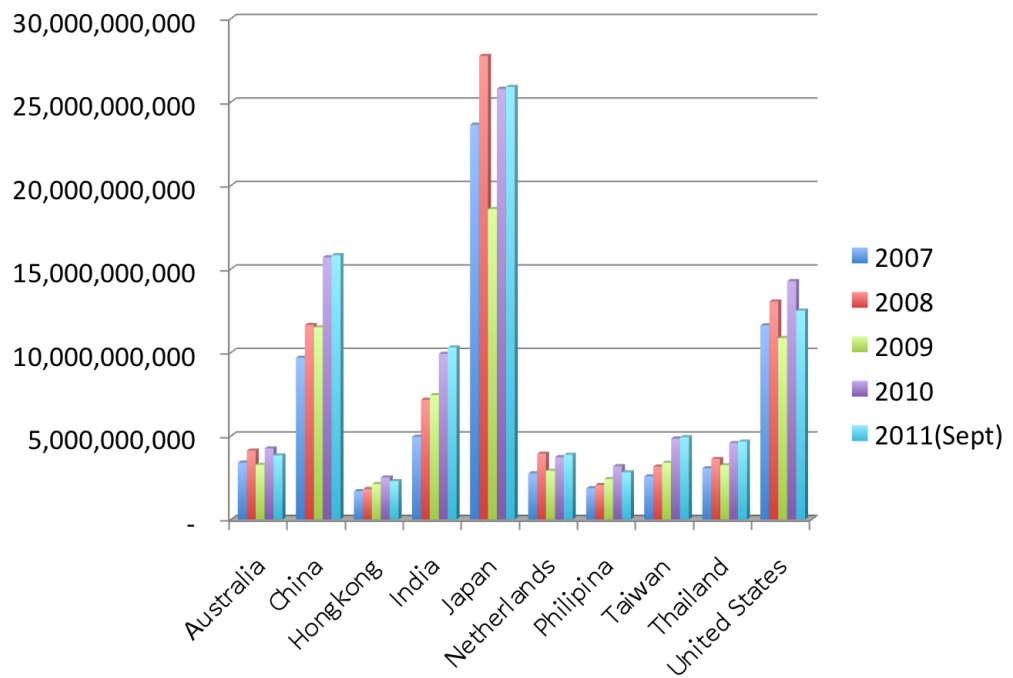


Figure 5 Export Value (US\$) Fruit Juice 2007 to 2011 (until Sept)
Source : www.bps.go.id

In 2010, total exports value to the top ten country destinations is more than US\$ 88 milliards. Whereas in 2011, until September, the export value reached nearly US\$ 86 milliards and has the potential to grow.

Top Ten Export Destination Country, year 2011 (until September) :

No.	Destination Country	Value (US\$)	Volume (Kg)
-----	---------------------	--------------	-------------

1	Japan	25,890,329,745	47,717,283,738
2	China	15,818,175,609	140,314,910,232
3	USA	12,498,854,819	3,839,729,541
4	India	10,288,481,478	62,369,145,508
5	Taiwan	4,913,587,971	22,669,176,222
6	Thailand	4,656,374,963	12,727,075,122
7	Netherlands	3,863,932,607	5,384,161,077
8	Australia	3,828,025,055	7,710,891,363
9	Philippines	2,815,589,327	9,305,463,438
10	Hong Kong	2,283,147,708	9,355,848,876

Table 13 Top Ten Export Destinations – value volumes, year 2011

Looking at the different fruit products exported by Indonesia, it is rather clear that pineapple juice with high brix level is the most promising product in terms of value and volumes. Large quantities of pineapple are grown by small and larger farmers.

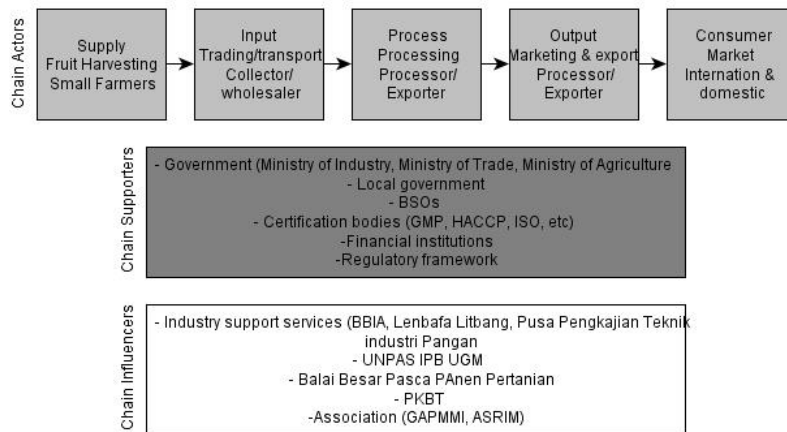
Fruit Juice's Export, year 2011 (until September)

HS Code	Description	Value/US\$	Weight/Kg
2009110000	Orange juice, frozen	298,011	318,379
2009120000	Orange juice, not frozen, of a brix value not exceeding 20	21,151	27,920
2009190000	Orange juice, not frozen, of a brix value exceeding 20	470,662	274,090
2009290000	Other grapefruit juice of a brix value exceeding 20	184,149	70,516
2009390000	Other juice of any other single citrus f of a brix value exceeding 20	14,034	1,073
2009410000	Pineapple juice, of a brix value not exceeding 20	35,004	35,880
2009490000	Other pineapple juice, of a brix value exceeding 20	29,469,180	16,319,417
2009690000	Other grape juice (including grape must) of a brix value exceeding 20	414	1,169
2009710000	Apple juice, of a brix value not exceeding 20	41,673	73,721
2009790000	Other apple juice of a brix value exceeding 20	65,962	28,434
2009801000	Blackcurrant juice	30,000	10,000
2009809000	Other juice of any other single fruit or vegetables	1,657,462	1,773,482
2009900000	Mixtures of juices	414,550	614,717

Table 14 Fruit Juice's Export, year 2011 (until September)

Source : www.bps.go.id

1.5.2. Value chain



Value Chain 4 Processed fruits Indonesia

1.5.3. Chain actors and their functions

Direct chain actors

The production of fruit juice is dominated by one major company who has its own plantation, while the rest of the processors are SMEs. Local SMEs producing fruit juice are spread across several provinces in Indonesia, such as North Sumatera, Lampung, East Java, West Java, Bali, etc. Most of SMEs are solely producing juice for domestic markets. Farmers are barely organised, making aggregation of raw material difficult for traders and industries, which partly explains why larger exporting companies prefer to have their own plantations. Furthermore, through this system, companies can better managed quality, supply regularity as well as avoiding working with small farmer.

Some individual farmers do their own production as well as marketing, but most sell their supply to traders and intermediaries. Most production is oriented towards the domestic market. Only a few manage to reach the export market.

The SMEs usually get their raw materials from two to three suppliers. Besides, as a processor, they also act as exporters. Some small companies have experience of exporting to countries in South East Asia such as Singapore, but it is not going well as competition is fierce and quality requirements are high.

1.5.4. Chain supporters and their functions

Ministry of Agriculture, Ministry of Trading, and Ministry of Industry
Local Government (Provincial Government)

GAPMMI (Gabungan Pengusaha Makanan dan Minumna Indonesia) is the association which represent the industry. Most producers do not join the association as they are not interested, due to the fact that they are not aware of the benefits of participating in such a structure. Some of them do not even recognise the association. It seems that the organisation is rather weak, unable to provide support to the processors and unaware of market trends and prices. Buyers are the usual providers of export market information to the producers, and for the local market, processors have their own loyal customers, purchasing fixed volumes.

1.1.1. Chain influencers and their functions

As it seems that the sectors is strongly influenced by larger companies, it seems that the government, as influencer would have an important role to favour the emergence of strong SME sector with interesting incentives for entrepreneurs to

start their business. Furthermore, a stronger producer organisation could favour sourcing from smallholders in an effective fashion.

1.5.6. Bottlenecks of the value chain

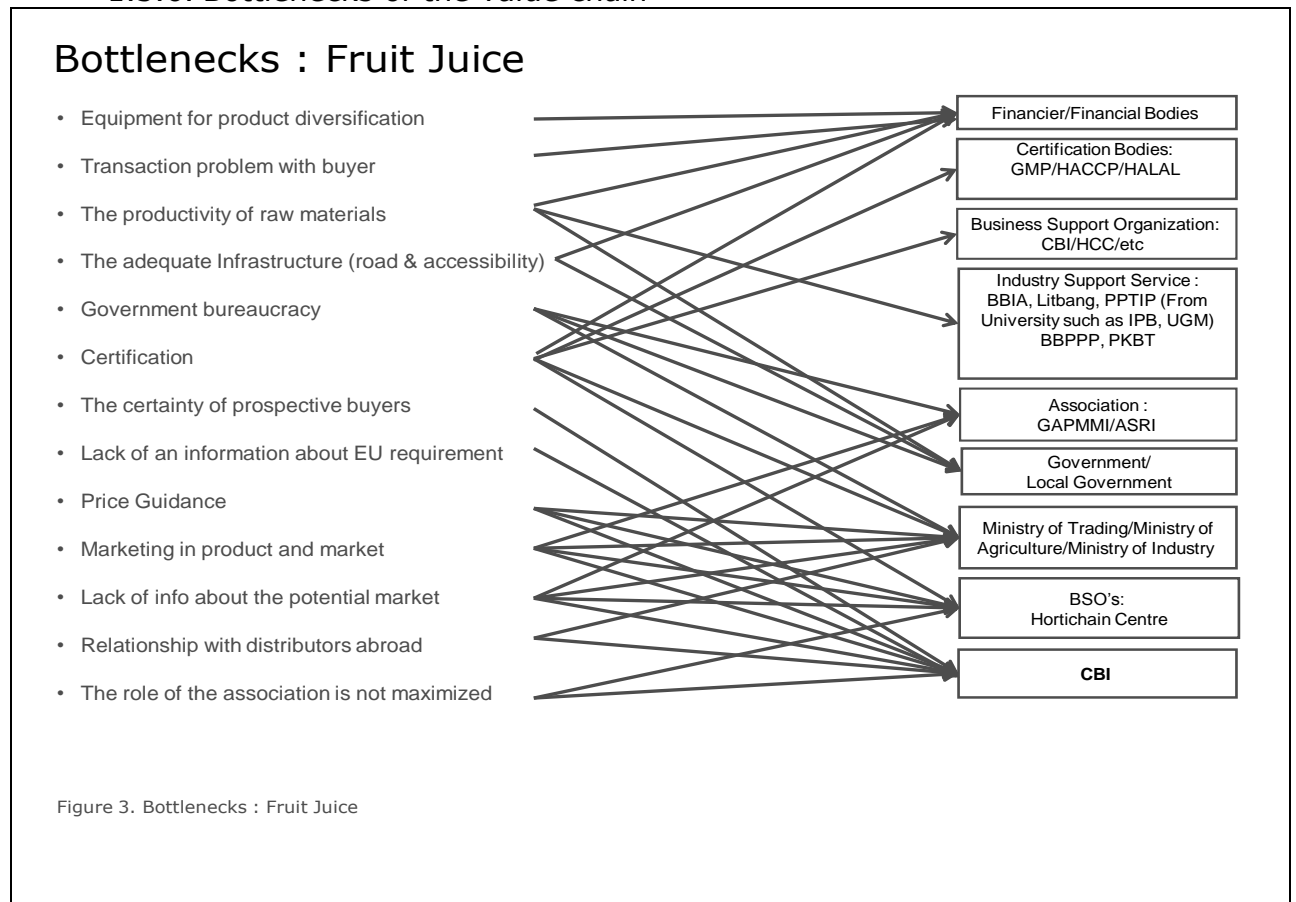


Figure 6 Constraints mapping processed fruits

The main bottleneck for export is the lack of information about the potential markets (prices, requirements, certifications, volumes, destination, usage, etc.). Processors express little desire to meet export standard if they do not see any secured and good opportunities. On the other hand, processors are not in a position to push suppliers to provide greater volumes of raw materials as they do not have secured buyers.

SMEs have difficulty accessing technology suitable for the volumes they process. Often too expensive and mechanised, only large companies can afford to have quality equipment. Furthermore, access to the raw material with adequate ripeness level for processing is difficult due to limited cultivation technique at the farmer and compliance to GAP. Limited means of transportation as well as the lack of cooling units for storage and transportation of fruits further complicates production for SMEs.

Other constraints are:

Productivity of raw materials: The fresh fruit is gathered from many small farmers, so it is difficult to secure quantities and quality, especially for seasonal fruits.

Infrastructure: The plantations are located in rural areas with difficult access from the plantations to the factories as they are in remote areas and most of the roads are damaged, increasing delivery costs and time.

Financial: To fulfil the export demand, producers need to have adequate machinery to do large-scale production. Difficulties in obtaining bank loans to purchase new machinery and increase production capacity force processors to produce in accordance with the capacities of existing infrastructures only. Most bank do not support agriculture based companies.

Government bureaucracy: There is a lack of synergies between central government, regions, and agencies who are involved in the chain.

Certification: Certification costs are high and requirements are many. Standards and requirements of certifications vary from on to the other and are often unknown to processing companies. An assured market is often the only incentive for processors to obtain certification.

Access to market information: SMEs have poor access to export market information and especially difficult access to EU requirements.

For SMEs to be more competitive on the international market, reliability of sourcing should be addressed through capacity building and strengthening producer organisation. Once this addressed, technology should be adapted to production needs as well as market requirements. Market information is definitely lacking, but it remains uncertain whether, even with support, small enterprises could compete with larger well established companies.

Fruit juices - Indonesia

Criteria	Indication	Comment	Ranking
Potential EU export	Moderate at short / mid-term	The Indonesian fruit juice sector is not eyeing EU markets yet. Only big player does focus on international markets in the region.	1
Sustainability	Good	No major constraints reported	2-3
Local leverage	Reasonable	Typical smallholder crop. Fresh fruits dominate the production system.	2
Presence of SMEs	Low	The sector is dominated by one big company. SMEs are almost absent or operating at low levels.	1
Partnerships	Low	No identified partners yet	1
BSO	Moderate	No preferred BSO identified yet	1-2
Other issues		The SME based fruit juices sector is at a nascent stage and requires significant investments in order to develop functional chains and become competitive at international level	

Total: 10

Table 15 Potential, issues and sustainability

1.6. Conclusions Indonesia

The results of the value chain studies confirm the export potential of the selected sub-sectors; coffee, spices and processed fruits. At the same time structural constraints and bottlenecks were identified.

For the speciality coffee the export oriented market does focus on US and other market with only limited volumes being exported to the EU. However, stakeholders see a feasible potential in introducing Arabica specialty coffee to EU markets. The specialty coffee sector is well organised and chain stakeholders have their own platforms for exchange, dialogue and coordination. These multi-stakeholder initiatives (like the Association for Specialty Coffee and the North Sumatra Coffee Forum) are evident partners to future CBI interventions / programmes.

Main constraints in the specialty coffee chain are situated at production level. Condition for CBI assistance to the specialty coffee sub-sector is that other organisations do address does constraints complementary to any CBI intervention to stimulate exports.

In the initial short-listing of value chains, cacao was mentioned as another promising chain. Contrary to the coffee market, the international cacao market is focussing more on EU markets. For cacao, the EU market has more stringent quality demands, increasingly including social and environmental sustainability requirements, but in general offers higher prices and a broader range of market segmentation. Also, the cacao sector is well organised. Particularly the Coalition for Sustainable Cacao, in which all major stakeholders are represented (private sector, government and NGOs) offers great potential for partnerships to the CBI.

Similar to coffee, major bottlenecks in the chain are at production level, hampering consistent supply of cacao.

The spices sector in Indonesia is an iconic export sector with long traditions of exports to Europe sometimes dating back to colonial times. The results of the nutmeg value chain study do confirm the traditional character of the sector and the dominance of the Indonesian spices sector in the global markets.

The nutmeg chain is dominated by a few big players, virtually holding a monopolistic share of the global markets. As chain relations are established since past times, opening up the market is challenging. However, market prospects are good and (the few) SMEs operating in the sector indicated that with future support of the CBI they would be able to increase their share in EU exports.

The UNCTAD programme on spices and herbs is an evident partner to future CBI programmes the more regarding the fact that the UNCTAD does focus very much on production and supply issues while the CBI would focus on complementary (export) marketing dimensions.

For a country being famous for its excellent quality and broad variety of tropical fruits available, the processed fruit sub-sector in Indonesia is not-well developed. Reason is that Indonesia does focus on fresh (table) fruits, lower quality being sold at domestic markets, rather the being processed.

The export oriented processed fruit sub-sector operating is again dominated by one big player. SMEs are struggling at both fronts; to arrange for supply and to

access markets. Investments in the SME level processed fruit sector will be significant and long term with high risks.

Recommendations

Based upon the value chain analysis we recommend focusing CBI interventions on:

- Specialty coffee and (certified) cacao
- Spices (perhaps broader than nutmeg only)



2. Recommendations

From value chain analysis to formulation of a business case

2.1. Summary Recommendations

The international market for food ingredients is growing and at the same time becoming increasingly demanding and competitive, particularly when looking at EU import markets. SMEs in targeted country are at risk of not being able to step up against increasing demands and compliance requirements. This would result in losing part of their current market share thus not being able to contribute to sustainable economic development in the agricultural sector.

Based on analysis done (desk studies, value chain assessments, validation conferences) this business case proposes an integrated, regional programme on food ingredients in S.E. Asia, focusing on the following sub-sectors:

Core integrated programmes:

- Coffee, tea, cacao (Indonesia)
- Spices and herbs: Indonesia (nutmeg, cassia)

Pilot programmes (market orientation / training / limited MI assistance):

- Oils and fats (coco oil, Indonesia)⁸

The business case implies the implementation of integrated programmes, conditioning CBI's engagement in the sub-sectors to the opportunities for alignment with programmes/projects addressing downward chain actors and activities. Partners can include national as well as inter-national agencies. Most obvious CBI partners for the core sub-sectors are:

Cacao, coffee, tea: UTZ certification, Solidaridad, Tropical Commodity Coalition, partnership for sustainable cacao (Indonesia), Association for specialty coffee (Indonesia)

Spices and herbs: UNCTAD, IDH, Fair Trade,, CORDAID (Indonesia).

For both sub-sectors the EU market are moving towards an increasing demand for certified sustainable standards. Social and labour criteria are increasingly added (Fair Trade certification). Another emerging market trend in the coffee and tea sub-sectors is the urge towards product diversification feeding a demand for specialty coffee and tea. (KIT, 2010)

The proposed programme takes the above market trends as starting point. In terms of market segmentation the programme will focus on specialised product-market combinations, targeting specialty (niche-) markets rather than targeting (bulk oriented) commodity markets. Distinct product features and/or qualities can be obtained through certification (organic, Fair Trade, UTZ, RF Alliance) and/or intrinsic quality features (taste, appearance, functional qualities like health benefits).

Most government programmes, as well as donor supported programmes in the targeted sub-sectors, address constraints in the production / supply part of the

⁸ Tailored Market Intelligence for specialty coco-oil products only

value chains. The CBI adds value to these efforts by bringing in a complementary pull factor through the facilitation of export linkages and increased export volumes.

A detailed programme planning will have to be further elaborated per sub-sector and country but would include i) export coaching to targeted exporters (initiated with approximately 70 enterprises), ii) Market Intelligence and iii) Strengthening of Business Support (4 BSOD trajectories) and iv) facilitation of Public-Private-Partnerships. One or two geographical target areas are defined per country, allowing for concentrated, effective and well aligned programme implementation including provision of CBI modules. Tentatively the selected focus areas are: North Sumatra (coffee, cacao) and Maluku (spices) in Indonesia.

2.2. Ranking value chains

Overall results of the quantitative indications per chain and ranking are as follows:

Value Chain	Overall result quantitative judgment
Specialty coffee Indonesia	15
Nutmeg Indonesia	16
Fruit juices Indonesia	10

Table 16 Overall Chains evaluation

Specialty coffee in Indonesia score the second best, following the logic used in the ranking. Fruit juices in Indonesia close the rank.

In translating the above ranking into concrete recommendations for future CBI programme investments another factor was taken into account. In cases where a value chain was judged as contributing low on a certain aspect / criteria (marked as a 1), it was judged whether or not, such low qualification could possibly be overcome through taking specific measures or through adapting the programme design. In cases where this was not found feasible we recommend the CBI not to invest in the concerned sub-chain, although the overall score may be comparatively good.

This is the case for:

- Nutmeg Indonesia scoring the lowest score (1) on presence of SMEs
The nutmeg sector is dominated by big well established companies that not only dominate the supply (availability) of nutmeg but also the markets and pricing. It is however judged that, partly because of the existence of strategic partners (IDH – SSI, UNCTAD) these monopolies can be partly by-passed through the establishment of direct relations between SME level exporters and EU importers. Therefore, we still recommend to the CBI to include nutmeg (and cassia) in the design of a regional programme on food ingredients.
- Fruit juices in Indonesia scores the lowest score in three of the 7 criteria and we do recommend not to further invest in this sub-sector.

The results of the comparative analysis feed into the recommendations as described in the chapters below.

2.3. Proposed strategy

2.3.1. Need for integrated approach

In all targeted sub-sectors constraints in the value chain are not confined to marketing constraints only but concentrate to certain extent in down-ward linkages. Reliability of supply lines is core to successful market development.

For reasons of complementarities an integrated approach is recommended in which CBI aligns support to its core actors (exporters, BSOs etc.) in the value chain / sub-sector with the support other organisations render to other actors (producers, financial institutes etc.) in the same chain or sub-sector (see figure 1 below).

Multiple support dimensions

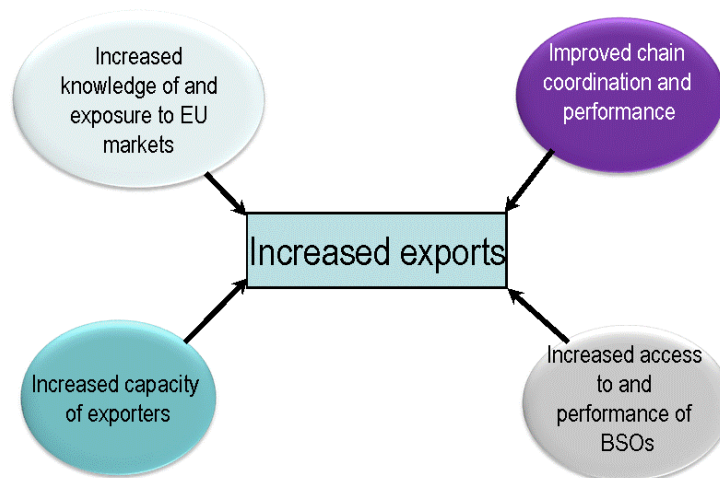


Figure 7 Multiple support dimensions

Direct programme partners to the CBI will be: selected SME-level processor/exporters, selected BSOs and private sector commodity based associations or federations. Indirect partners will include: government agencies, development organisations and financial service providers.

Direct objectives for the CBI programme are:

- Increase knowledge of and exposure to EU markets (participation in trade fairs, business visits, trade missions, MIS systems etc.) for targeted enterprises
- Improve chain coordination and chain performance through partnering with other support organisations to ensure support to the entire chain
- Increased capacities of the targeted enterprises in complying with EU trade conditions and market demands through customised capacity building trajectories on enterprise level and generic training packages for targeted enterprises
- Increase the access to and performance of local BSO and BDS service providers through training and coaching trajectories

Moreover, efforts to improve the policy environment for export oriented trade are required. This tasks lies largely with government agencies as mentioned before. Private sector associations can fulfil however an important advisory role towards the government and can engage in advocacy to promote favourable trade

conditions. In Indonesia such private sector associations are operational, generally organised around main commercial commodities. An effective dialogue and inter-action between these bodies and policy makers should be stimulated.

Observed constraints in the value chain	Critical constraints? (Y/N)	Solvable in short time (Y/N)	If a solution yet provided? If yes, CBI or others?	Risk that it be effectively solved (high/low)
Quantity and quality of supply and reliable procurement modules	Y	Y (within 5 years period)	Mostly government led programmes supported by development partners are addressing supply constraints	Medium
EU export market readiness of processor / exporters	Y	Y (within 5 years period)	No, CBI has unique proposition in this	low
BSO – BDS support to SME sector	Y	Y (within 5 years period)	To certain extend but at insufficient scope	Low

Table 17 Value chain constraints analysis

2.3.2. Need for an area focus

To ensure effectiveness of the CBI interventions vis-à-vis interventions of other support organisations an area based approach is proposed. The core concept is an area confined and sub-sector or value chain based Public Private Partnership (PPP). Scope of interventions combines Value Chain Development with Local Economic Development (LED) at sub-national (mainly Provincial) level. Targeted Provinces are selected upon:

- i) Being major production areas
- ii) Characterised by significant presence of SME level processors / exporters engaging in targeted sub-sectors
- iii) Priority areas for public investment in concerned chains/sub-sectors (alignment with policies)
- iv) Presence of partners and potential or complementarities and synergy (integrated programme) and/or multi-stakeholder initiatives around the targeted sub-sectors
- v) Concentration of various sub-sectors targeted by the CBI Food Ingredients programme in one geographical area.

Based upon the above criteria the selected focus areas are: North Sumatra (coffee, cacao) and Maluku (spices) in Indonesia.

It is expected that buy-in and commitment of required programme partners and effective functioning of the sub-sector PPP's can be achieved more easily at sub-national level. Successful PPPs could thereafter be up-scaled / rolled-out to other Provinces.

2.3.3. Push – pull linkages

Intervention areas do respond to identified constraints in the (export) value chain in an integrated manner (see table 56 above). The parallel increase of sub-sector linkages and sub-sector coordination with increased capacity of exporters and an improved service environment due to capacitated BSOs will create synergy as

interventions and their results will mutually re-enforce each other. The complementarities between production oriented support intervention (push factors) by partners and the pull marketing brought in through the CBI support will be complementary and increase effectiveness, efficiency and leverage.

The precise mixture and targeting of the various CBI modules has to be finalised in a customised way based on the specific characteristics of the country, the targeted sub-sector and the capacities of participating exporters and BSOs. Regarding the generally low capacities of most exporters, a clear graduation sequence has been regarded in the design of the Export Coaching trajectories; participation in business development modules will be required prior to engagement in export oriented coaching modules, certification and market entry.

2.3.4. Safeguarding social dimensions

The SME sector is typically the back-bone of the economy in Indonesia, providing the majority of the income and jobs for both men and women. In the food ingredients export sector SME level processors/ exporters are competing with bigger companies. In case not assisted they will not be able to stay on even competitive levels losing out market shares which would lead to the loss of much needed jobs and income. The proposed programme will strengthen the resilience of the SME food ingredients sector, increase competitiveness, market penetration and export potential, leading to sustained employment creation and income generation. Moreover, the promotion and adaptation of certification schemes focusing on sustainable and fair production and trade (RF Alliance, IDH, organic etc.) and CSR concepts will lead to tangible improvements in terms of sustainability (People, Planet, Profit);

People: generate employment and income for the (rural) poor under fair conditions, promote gender balance and ban child labour, promote Fair Trade certification.

Planet: strive for sustainable production methods and promote / facilitate certification (organic, RF Alliance, IDH)

Profit: contribute to sustainable economic development in the agricultural sector through employment and income generation, in-country value adding.

2.4. Sustainability of the programme (results)

As the programme results and impact are grounded in increased capacities and linkages (within the value chain and import-export) which are in nature irreversible, results and impact will sustain beyond the programme duration.

Targeted support is required to keep the sector competitive. Such support should cover the entire value chain from producers to exporters as it is the functioning and performance of the entire chain that determines competitiveness.

For this reason an integrated approach is required in which CBI aligns support to its core actors (exporters, BSOs etc.) in the value chain with the support other organisations render to other actors (producers, financial institutes etc.) in the same chain. The opportunities for such complementarities are present in the studied sub-sectors.

Solution design

Constraints	Why does this prohibit exports?	How can this problem be solved?	Can this be achieved through a CBI module
Quantity and quality of supply	Unreliable exports, low responsiveness to	Production enhancement, increased	No

and reliable procurement modules	market dynamics and demands	value chain coordination	
Export readiness exporters 1); Exporters are not aware of requirements and / or lack capacities to comply	Low compliance with EU market requirements, lack of certification (HACCP, GAP etc.)	Capacity building trajectories for selected exporters	Yes, through Export coaching modules: audit, BD, export capacity, certification
Access to EU market intelligence	No forecasting nor product-market differentiation and low competitiveness	Access to tailored EU market Intelligence	Yes, MI modules
Access and quality of BSO and BDS	Lack of guidance and advise hampers (EU) market direction and compliance	Strengthening of BSO and increased access to services	Yes, BSO modules
Market linkages			Yes, Market entry modules

Table 18 Solution design

2.5. Result framework

Programme: Export Development Food Ingredient Value Chains S.E. Asia			
Goal	Contribute to sustainable economic growth in the target country through employment and income generation in the food ingredients sector.		
Objective	Increase the export capacity of 50-60 SMEs and improve the enabling environment for EU export through strengthened BSOs, accessible Market Intelligence and improved sector coordination.		
Project 1	Increase export capacity for 50-60 SMEs across four sub-sectors		
Output 1	Increased business planning and performance for 70 SMEs	Activities: (Export coaching modules) - Business audit (70) - Business Planning Development (70)	Un-intended result:
Output 2	Increased export capacities, compliance with EU import requirements and certification (50-60 SMEs)	Activities: (export coaching modules) - Export Capacity Building - Certification	Un-intended results:
Output 3	Increased linkages to EU markets and	Activities: (Export Coaching Modules) - Market entry	Un-intended results:

	Import-Export linkages (50 SMEs)	regional and EU (50)	
Project 2	Improved service environment for SME export through customised and accessible business support services and market intelligence		
Output 4	4 BSOs have the capacity to respond to business support needs of SMEs	Activities: (BSOD and MI modules) <ul style="list-style-type: none"> - BSO diagnoses (6) - Market intelligence (4) - Export Development and promotion (4) 	Un-intended results: Disturb BSO market due un-equal competition. Mitigation: open tender for participation
Output 5	Market Intelligence is accessible to SMEs through commodity based private sector associations (4-6 associations)	Activities: (MI modules) <ul style="list-style-type: none"> - Market Intelligence - Tailored Intelligence (coco-oil niche products, processed fruits) - Export intelligence 	Un-intended results:
Project 3	Improved sub-sector coordination through (informal) Public Private Partnerships around targeted sub-sectors development.		
Output 6	Improved coordination and alignment in 2 core sub-sectors	Activities: <ul style="list-style-type: none"> - Advocate for / facilitate (informal) PPP mechanism 	Un-intended results:
Output 7	Improved access to other service providers like financial services, certification / accreditation agencies etc.	Activities: <ul style="list-style-type: none"> - engage with stakeholders from start - Inception workshop 	Un-intended results:

Table 19 Result framework

See the figure below for the detailed result chain.

Regarding the attribution of results and outcome and impact, precise estimates can typically not be forecasted for integrated programmes in which capacity enhancement is the major driver for change.

We are however able to judge the attribution of the CBI investment to outputs and outcomes as follows:

Attribution level 1	Development would not occur without mentioned interventions
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Attribution level 2	Development would occur without mentioned interventions but at a slower pace
Attribution level 3	Development would occur without mentioned interventions

We characterise attribution as follows for the different result levels:

Output level: 1 (would not occur without CBI intervention)

Outcome level: 1 (would not occur without CBI intervention)

Impact level: 1-2 (would not occur or occur at a slower pace without CBI interventions)

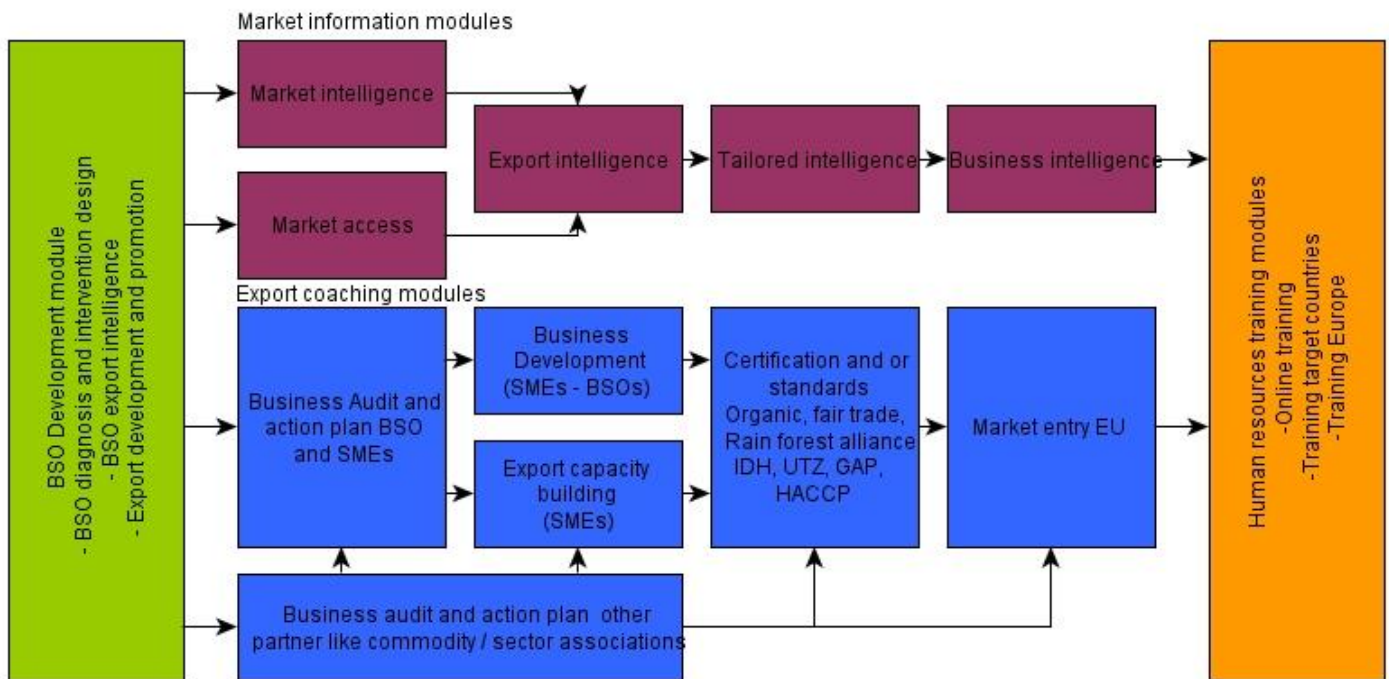
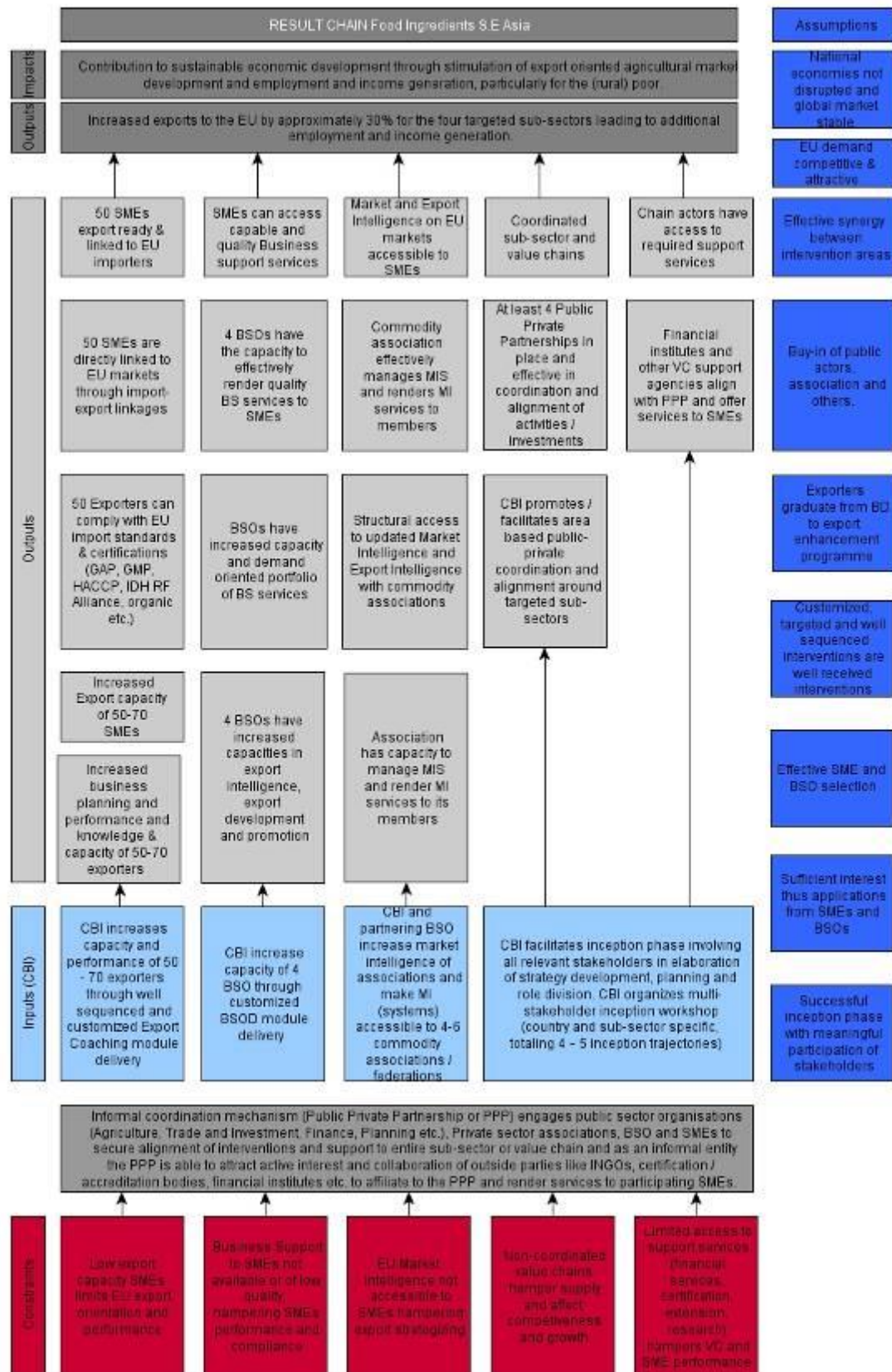


Figure 8 Modules sequencing

Result Chain CBI programme Food Ingredient South East Asia



Result Logic 1 CBI programme Food Ingredient South East Asia

2.6. Risk assessment

Risk assessment and mitigation

Risk event	Potential impact(s) on proposed CBI interventions	L	I	Risk mitigation measures
Risks on Programme (strategic and planning) level				
The programme cannot identify promising businesses and/or high potential businesses do not show an interest in the programme offer	Sub-optimal client selection leading to lower results and impact	1	5	Use existing networks, linkages and CBI partners to identify, select and communicate with potential target businesses. Formulate a clear proposition regarding CBIs offer to be disseminated amongst potential clients.
No suited / capable local BSO partners can be located and interested to collaborate.	Hampering sustainability and outreach of the interventions.	1	4	In the early phase BSO are actively approached and invited to engage in the process of developing the programme.
Wrong match between the CBI service offer and real challenges / demand of businesses involved	Non effective / efficient programme implementation leading to sub-optimum results	2	4	In-depth participatory analysis of constraints and challenges in the chains and sub-sectors taking into account perspectives of all relevant stakeholders. Cross-checking of findings is necessary.
Averse economic developments at EU side hampers exports to EU	Foreseen impact in terms of increasing export figures are threatened	3	4	A flexible programme design led by a due monitoring system that allows for a timely response to changing external market conditions
Averse changes in the in-country policy environment relating to trade and exports of agricultural products	Foreseen impact in terms of increasing export figures are threatened	2	3	Including sector organisation with a strong lobby / advocacy agenda in the programme design and implementation.
No / limited government buy-in	Government agencies do not engage / support and parallel structures prevail, losing out on synergy.	2	3	Public stakeholders are approached and invited to be part of the design process of the programme from the very beginning.
Challenges encountered in target value chains and sub-sectors are too big to handle for CBI or not relating to CBI's support offer.	CBI interventions are not targeting real challenges and constraints resulting in foreseen impact being threatened	3	4	Due value chain analysis and involvement of other support programmes / initiatives that are complementary to the CBI programme in terms of VCD. CBI interventions should also focus on building linkages and improved coordination within the sub-sectors and targeted VCs.
Development "fatigue" of SMEs / private sector due to large number of external	SMEs / private sector loses interest in partnerships and	4	4	Coordination and alignment between different external sector project and programmes is an absolute necessity. CBI should from the beginning look for synergy

interventions	collaboration with support initiatives			and complementarities and not act in isolation.
Emergence of a negative "competitive" culture and attitude amongst SMEs threatens joint agenda setting on behalf of the sub-sector.	Unwillingness to coordinate and collaborate leading to in-efficient / in-effective collective agenda setting and action on behalf of the sector and SMEs	3	2	Ensure inclusiveness of the CBI support with clear eligibility criteria. Balance specific support to SMEs with support to the sector as a whole.
Interventions of CBI are not well aligned thus not complementary	Foreseen synergy between various intervention levels is not happening hampering effectiveness and overall results	3	4	Align and sequence interventions well. Refrain from isolated interventions and strive for a complete support package addressing all constraints identified in the chain and in the chain environment
Interventions and results of interventions are not sustainable	Results will fade after CBI interventions	2	4	Adopt from the off-set a strategy of empowering local support providers through improving the capacities of local BSOs and BDS service deliverers. Fee for services programmes should be promoted.
Foreseen Public Private partnerships are not functional	Supportive context and leverage potential is missing, supply problems can hamper targeted exports.	3	3	Invest in buy-in of concerned governments and other partners. Ensure clarity about objectives and expected roles through multi-stakeholder inception workshop prior to programme initiation.

Table 20 Risk assessment and mitigation

Key

L = Likelihood	(5 = Almost certain, 4 = Likely, 3 = Possible, 2 = Unlikely, 1 = Rare)
I = Impact / Consequences	(5 = Severe, 4 = Major, 3 = Moderate, 2 = Minor, 1 = Negligible)
High likelihood ranking plus high Impact ranking (L x I) indicates high risk level (max risk 5x5 = 25 versus min. risk 1x1 = 1)	



CBI
Ministry of Foreign Affairs

Annexes

Annex 1 Initial long-list of eligible food ingredients sub-sectors

The CBI listed 10 sub-sectors in the food ingredient sector as follows:

- Fruits (dried fruit, pulps, puree, juices, concentrates, jams etc.)
- Vegetables (preserved, pastes, stir-fry kits etc.)
- Edible nuts (oils, butter etc.)
- Grains, pulses and seeds (cereals, oils etc.)
- Herbs and spices (sauces, oils, oleoresins)
- Coffee, tea and cocoa (green beans, powder, paste, liquor, butter)
- Honey (wax, pollen, royal jelly etc.)
- (Cane) sugar and syrups
- Oils and fats (coconut, palm oil etc.)
- Essential oils, oleoresins, plant extracts, natural food colors,

Annex 2 Country level indicators

Criteria	Indicators	Indonesia			
		Absolute quantity or score	Relative score: 1-3 ⁹		Relative score: 1-3
Export general ¹⁰	Total current export (in US \$)	130,338,875,842.00	1		2
	% export growth (last 5 years)	6.88	2		1
	Average annual growth of exports towards EU	11.50	1		2
	Growth of export to EC (in %) average 2001-2009	5.40	2		1
	Percentage agro-sector in total export to EU27 (in %)	31.00	1		2

⁹ Relative score 1 to 3 in which 1 is optimum (relatively best out of three target countries) and 3 is relatively weakest out of three target countries. Highest score indicates lowest comparative competitiveness, lowest score the highest competitiveness at country level.

¹⁰ Data derived from DG Trade 2011 and EUROSTAT. Please note that some figures are provided in US\$ while other are mentioned in Euro.

	Percentage of agro-sector in overall GDP (in %)	16.00	2				
	FDI (in million US \$)	13304.00	1				
Score	SUB TOTAL SCORE		1,5				
Enabling Trade Environment ¹¹	Doing business (ranking)	121	2				
	Cross-border Trade (ranking)	47	1				
	Enforcing contracts (ranking)	154	3				
	Lead time to export (median case – days)	18	2				
Score	SUB TOTAL SCORE		2				
	SUB TOTAL SCORE		3,5				

¹¹ Data derived from WB at <http://data.worldbank.org/data-catalog> and <http://www.ciesin.org/IC/wbank/sid-home.html> and <http://www.photius.com/rankings/> (Photius) and <https://www.cia.gov/library/publications/the-world-factbook/> (CIA)

SME sector ¹²	Total number of MSMEs	22,655,831	1				
	Income equality: Gini Coeficient	34,7	1				
Score			1				
TOTAL SCORE						4,5	

¹² Data derived from UNDP, FAO, WB http://en.wikipedia.org/wiki/List_of_countries_by_income_equality

<https://www.cia.gov/library/publications/the-world-factbook/> and <http://faostat.fao.org/> and <http://www.fao.org/economic/>

Annex 3 Qualitative Ranking of sub-sectors per country

Qualitative ranking sub-sectors¹³

<i>Sub-sector</i>	<i>Economic potential and export volume to EU</i>	<i>Potential to improve sustainability dimension of the sub-sector</i>	<i>Local leverage (SME, added value and smallholders)</i>	<i>End score</i>	<i>Rank</i>
	Weighing factor 60%	Weighing factor 20%	Weighing factor 20%	Total 100% (maximum score = 10)	
Indonesia					
Oils and fats	10	7	3	8	1
Coffee, tea, cocoa	8	8	4	7	2
Spices and herbs	7	3	5	6,2	3
Processed Fruits	4	7	6	5,2	4
Edible nuts	5	3	7	5	5
Grains and pulses (oils)	3	4	4	3,4	9
Sugar (cane), syrups	3	5	7	4,2	8
Processed vegetables	4	6	6	4,8	6
Honey	2	2	8	3,2	10
Essential oils	4	4	8	4,8	7

¹³ The absolute numbers given are arbitrary and based on indicative judgments of the sector against indicator groups. The weighing factor is based on priorities as indicated by the CBI.

Annex 4 Assumptions in calculating increase in export value

Predicting the outcomes of CBI investments in terms of additional export volumes and value of such increase in exports is challenging. We are talking about highly volatile markets, at unstable economic times.

Uncertainties do not only exist at production level due to increasingly unpredictable weather conditions and ecological hazards that can change product flows dramatically from one year to another, but also due to rapid changes at the demand side. International trade and particularly international trade in luxury and/or high-end products depend highly on the overall economic developments at the importers side. Additionally, consumer preferences experience unprecedented dynamics in terms of quality, taste, appearance etc.

And again, changing consumer preferences and overall economic performances are strongly inter-linked.

Destinations and trade directions can switch easily as a result of recessions / low economic growth in one part of the world and/or fast economic growth in other parts.

In short, in order to predict future outcomes of any CBI investment, many variables have to be taken into account and assumptions have to be made.

The attached business case takes investments in 3 sub-sectors and 8 value chains as a starting point. The base-line of participating SMEs in terms of current export capacities vary greatly per value chain. Moreover, great differentiation between SMEs exists in size and export figures within one value chain. It is impossible to define a "typical" SME in the food ingredient sector in terms of export capacities, volumes and values, so estimates are based upon estimated averages of a diverse array of SMEs interviewed during the study.

The overall estimates in terms of prognosis increased in export volumes (percentage) and overall value of such increase should be seen in the light of the above.

Three main assumptions are key:

i) Number of SMEs participating:

Figures are based upon a total of 50 to 70 selected SMEs participating in a 4-years programme. The precise numbers of SMEs participating per sub-sector and country will largely depend on real interest and current capacities of SMEs.

ii) Increase in export volumes / value per enterprise

Furthermore we estimated an average of 30% increase in export volumes per participating SME enterprise that have engaged in the entire support trajectory offered by the CBI. Also this figure varies widely per value chain (from an estimated 300% increase for cacao to an estimated 5-10% increase for coco oil products).

iii) base-lines of SME enterprises at times of intake.

Again this figure varies widely per chain. Current export volumes / values will be relatively small for processed fruits in Indonesia, middle size for coffee in Indonesia. Also based on the experience CBI gained in former support interventions in the food ingredient industry an average of 100,000 to 150,000 Euro increase in export value per SME enterprise is estimated. This implies an

average export value of participating SME enterprises at times of intake ranging from 300,000 to 500,000 Euro.

Minimum scenario: 50 enterprises X 100,000 Euro increase in export value = 5,000,000 Euro

Optimum scenario: 70 enterprises X 150,000 Euro increase in export value = 10,500,000 Euro

<i>Sub-sector</i>	<i>End score¹⁴</i>	<i>Rank</i>	<i>Judgment experts CBI</i>	<i>Judgment in-country partners</i>
Indonesia				
Oils and fats	8	1	No comments	Sector is dominated by large scale enterprises partly multi-nationals, high level of sustainability problems and also in socio-economic terms disputed. High occurrence of land grabbing / land disputes and competing claims. Highly political.
Coffee, tea, cocoa	7	2	Fair Trade, organic, cocoa sub-sector more developed than coffee, speciality coffees (non-organic)	Commercially interesting. Cacao sector well organised and supported.
Spices and herbs	6,2	3	Nutmeg (Fair Trade), EU target sector sustainability	Many other players active in spices sector. Good opportunities for collaboration.
Processed Fruits	5,2	4	Not a typical SME sector	Innovative market. Need for market-led innovation (processing technologies, packaging etc.)
Edible nuts	5	5	No comments	
Grains and pulses (oils)	3,4	9		
Sugar (cane), syrups	4,2	8		
Processed vegetables	4,8	6		
Honey	3,2	10		
Essential oils	4,8	7		

¹⁴ Based on qualitative ranking of sub-sectors per country as provided in annex 3

Annex 5 The Cocoa sector in Indonesia

Global perspective

Indonesia is with 450,000 metric tons of cacao beans (2005/2006), the third largest producer of cocoa in the world after Ghana and the Ivory Coast, and the most significant cocoa bean supplier in East Asia. Indonesia's biggest competitive advantages include its low cost, high production capacity (availability of supply), efficient infrastructure and open trading/marketing system (business environment).

The U.S. imports 136,000 MT of Indonesian cocoa and is the most important market for cocoa beans from Indonesia. (The U.S. is the second largest buyer of cocoa beans in the world.) Other major buyers of Indonesian cocoa beans include Brazil, China and the Philippines. Markets in Asia (most notably in Malaysia and Singapore) also offer expanded export opportunities for Indonesian cocoa beans.

The International Cocoa Organisation (ICCO) shows an increase of the cocoa export from Indonesia of 8% in the period 2005-2010. The ICCO predicts the Indonesian cocoa sector to further capture a 8% growth of the global market share of cocoa towards 2012-2013.

Cocoa in Indonesia

In addition to raw cocoa beans, Indonesia also produces and exports a small volume of processed cocoa products including powder, paste/liquor, cake and butter. Total Indonesian cocoa exports (cocoa beans and processed cocoa products) are valued at approximately \$600-700 million per year and provide the main source of income for over 400,000 smallholder farmers and their families. Smallholder farmers working on plots ranging from 0.5 to 1.5 hectares grow over 85 percent of Indonesian cocoa beans on the island of Sulawesi.

Sulawesi cocoa is traded on the global market as an unfermented, fat, bulk bean. Processors and manufacturers use Sulawesi bean as filler, due to its sufficient fat content and lower cost, and blend it with other fermented beans that add flavor. Global demand for these unfermented bulk beans has become relatively inelastic and is not significantly affected by changes in price.

U.S. chocolate manufacturers are the largest international buyers of processed cocoa products from Sulawesi, purchasing about 40 percent of total cocoa butter exports, followed by European and Southeast Asian buyers. The market for Sulawesi cocoa powder is split fairly evenly between buyers in the U.S, Southeast Asia and Europe. The Netherlands, as one of the main ports into Europe, leads in imports of beans; the US, with significant production of cocoa complementary food products, leads in imports of powder; and United Kingdom, one of the biggest chocolate consumption per capita markets, leads in retail chocolate.

The cacao sector in Indonesia

Although the cocoa value chain in Indonesia has experienced phenomenal growth over the past few decades, its continued competitiveness is threatened by inconsistent and poor quality production. Widespread pest infestation, especially from the cocoa pod borer (CPB), is a primary cause of poor cocoa bean quality. In order to address the problems of CPB infestation, various public and private sector initiatives have been undertaken to conduct research, train and improve the traditional practices of smallholder cocoa farmers in Indonesia. Despite these

efforts, adoption of improved production and post-harvest skills by cocoa farmers has been limited.

The governance of cocoa bean trading is generally price-driven and market-based. The Indonesian cocoa bean value chain is globally competitive due to its ability to provide large volumes of a low cost filler bean in a relatively efficient manner. With a large number of smallholder farmers and multiple levels of local and international cocoa bean buyers fiercely competing on price, a smallholder cocoa farmer in Indonesia has many selling options and market channels for his/her production. Moreover, existing demand even for poor quality cocoa beans (especially from buyers in China) means that global buyers are not willing to offer a quality premium for Sulawesi beans.

Indonesia's biggest competitive gap is the inconsistency of cocoa bean quality. According to one multinational manufacturer, even a lower quality cocoa bean can be used as long as its specifications are known and consistent. It is not possible, however, to adjust the manufacturing process to compensate for fluctuations in waste percentages.

Sustainability

Cacao is still a low-input crop in Indonesia meaning that the use of chemicals still is limited. Increasingly farmers do experience problems with pests and with decreasing soil fertility, urging farmers to increasingly apply chemicals as well as fertilisers.

The market for sustainably produced cacao is however flourishing and offers good prospects for the cacao farmers in Indonesia. Some INGOs (VECO – Vredeseilanden, Oxfam-Novib) and private sector parties (MARS, companies engaged with IDH) are investing in smallholders' capacities to produce cacao under sustainable management practices.

In 1993 the Max Havelaar Foundation began marketing chocolate with the Fair Trade (FT) label in the Netherlands and Switzerland, with the cocoa for its products coming from farmer cooperatives in Bolivia, Colombia, Ecuador, Ghana, Peru and Sierra Leone. In the UK, the Fairtrade Foundation label was first used for chocolate in 1994. In 1996, TransFair began introducing FT brands of chocolate in Germany, Austria and Luxembourg. Other types of FT cocoa products now on the market include instant cocoa powder, chocolate spread and chocolate covered nuts and raisins. The table below compares the FT prices paid for cocoa (which apply worldwide and have remained constant since 1994) with the current mainstream price for standard quality cocoa.

Other initiatives include the Ethical Trade Initiative and the Initiatief Duurzame Handel (IDH). The Ethical Trading Initiative (ETI) is a UK based partnership of NGOs (including Oxfam, the Fairtrade foundation and Save the Children), trade unions and high street companies, with support from the government. The ETI's aim is to ensure that internationally recognised labour standards are observed at all stages in the production of high street goods sold in the UK. IDH targets to improve the income and livelihood of 300,000 cocoa farmers by 2013 through private sector certification.

Local leverage

Smallholders

An estimated 70% of the world's cocoa supply is provided by smallholders, who cultivate on average around 3 hectares each. World prices, and the proportion of export price captured by smallholders, and the wages paid to labourers on cocoa

farms, have a critical bearing on poverty and vulnerability, including the ability of rural households to meet health and education costs.

There are approximately 400,000 smallholder farmers in Sulawesi producing bulk, unfermented cocoa beans. Average yield on these farms ranges from 400 to 800 kilograms per hectare. Farmers sell to local collectors at farm-gate or directly to local traders. There are few examples of cooperative-type horizontal linkages or group marketing among smallholder farmers in Sulawesi; most smallholder farmers prefer to deal independently with private collectors and traders.

Unlike other export commodities in Indonesia, cocoa has not been affected by price controls, trade licensing requirements or direct involvement of government-sponsored procurement or logistics agencies. In fact, limited government involvement in the cocoa bean value chain has been a factor in its growth and competitiveness. The “hands off” approach of the government, combined with vibrant marketing channels, have allowed cocoa farmers to receive a higher percentage of the international price (approximately 75-85 percent of the prevailing export price versus 50-65 percent for farmers in West Africa) albeit for a lower quality product.

Structure of the sector and the involvement of SMEs

Cocoa processing, or grinding, entails the transformation of dried cocoa beans into a variety of processed products including cocoa paste or liquor, cake, powder and butter. Processors have strict quality standards and expect their suppliers to meet these standards. Only 10 percent of Sulawesi cocoa bean production is processed locally, the rest is exported as raw beans. In Sulawesi, one of the largest processors is *PT Effem* (a subsidiary of Mars/Masterfoods). PT Effem sells processed cocoa products to other Mars manufacturing plants in the U.S., Brazil and other parts of Southeast Asia—as well as to the Ceres Group. The *Ceres Group* is the only fully integrated cocoa processor and cocoa product exporter in Indonesia. Ceres has a local manufacturing plant and has expanded its processing operations in Malaysia.

Many of these local exporters have found it increasingly difficult to compete with the large-scale international exporters and have begun to sell to them rather than continue to export independently. Approximately 80 percent of Indonesian cocoa beans are sold by the five main *multinational affiliate exporters* in Sulawesi: EDF & Man, Olam, Cargill, ADM and Continaf (these firms have offices worldwide engaged in international commodity trading). These large-scale exporters purchase bulk beans from traders who deliver to their warehouses, sort and grade for quality, and sell to buyers (primarily in the U.S., Malaysia, Singapore and Brazil) for processing.

ASKINDO is the national cocoa association but most of its members are local traders and exporters. ASKINDO facilitates horizontal linkages among cocoa traders in the industry and provides a variety of technical and advocacy support services including: extension research and dissemination, model cocoa bean production pilots, and quality management techniques. Another association, APIKCI, was recently established to represent cocoa processors and manufacturers.¹⁵

Potential partners

IDH, Mars, Vredeseilanden, Oxfam-Novib, ASKINDO, APIKCI

¹⁵ ¹⁵ Sources: World Cocoa Foundation, International Cocoa Organisation, ICCO, WCF, Vredeseilanden, Oxfam-Novib, USAID.

Annex 6 Other spices and herbs in Indonesia

The global picture

European spice companies source globally more than 200 kinds of herbs and spices through a large range of suppliers and intermediaries. As a result, the actual origin of spices and the conditions in which they have been produced is unknown. This lack of transparency and traceability leaves a lot of questions unanswered: what are the working conditions of farmers, and under what conditions they produce.

Besides such challenges, the spices & herbs sector also faces a tremendous opportunity to show its added value in terms of producing, processing and trading products which offer employment and income to millions of people, many of whom are small farmers, in the global South. Products are often grown or harvested in diversified, sometimes biodiversity rich, land use systems and thereby contribute to environmental stability. These questions are also strategic for producing countries: because of the economic importance of spices the sector has the potential to deliver an important contribution to local economic, social and environmental sustainability.

Out of the almost 400 products of the herbs and spices category, about 40 to 50 are of global economic and culinary importance. Spices are grown in diverse geographical and climatic conditions. They can be collected from the wild or cultivated in schemes that rank from home gardens to monoculture plantations. Each of them is subsequently marketed, processed and used in a specific manner, either locally or internationally. The spice supply chain is extremely complex. International spice processors need to source numerous products from various origins according to strict products specifications. Indonesian pepper sets an example.

The Indonesian Spices and herbs sector

Pepper

From 2004-2007 Indonesia was the largest producer of pepper (20%), followed by India (19%), Vietnam (19%), Brazil (18%) and China (6%) worldwide. As of 2008, Vietnam is the world's largest producer and exporter of pepper, producing 34% of the world's pepper. Other major producers include Indonesia (9%), India (19%), Brazil (13%), Malaysia (8%), Sri Lanka (6%), Thailand (4%), and China (6%)%. Pepper production in Indonesia has seen drastic fall in last couple of years due to bad weather conditions. Pepper production significantly contributes to local economies. 99% of pepper in Indonesia is produced by smallholders. Indonesia remains the second largest pepper exporting countries in the world contributing together with Vietnam, Brazil, India, Singapore (re-exports), and Malaysia. to 90% of the international trade.

Lampung province of Sumatra is the major black pepper producing region in Indonesia while Bangka region produces white pepper. The harvesting season is from the month of July to October. The production is in the region of 22000-25000 tons contributing 9-10% of the world's production.

In Lampung, during January - June 2010, trading activity in local market did not indicate a significant movement, as material from the previous low crop has exhausted. Trading at local market took place only for limited quantity. In the international market however, the export of Lampung black pepper was more

largely due to the carry over stock of the previous crops. In first quarter of 2010, Indonesia exported 6,525 mt of black pepper, increased by 2% from 6,378 mt in the January- March 2009. During the second quarter, export of black pepper from Indonesia was around 7,250 mt, decreased from 12,810 mt in the same period last year. During first half of 2010, export of black pepper from Indonesia was around 13,800 mt as against 19,190 mt in the corresponding period, a decrease of 28%.

During January 2010 local prices in Lampung stood at Rp.23,000/kg (USD2,478/mt) throughout the month and decreased to Rp. 21,500/kg (USD 2,350/mt) in the mid of March. The price then increased gradually to reach Rp.27,500/kg (USD 3,035/mt) at the end of June. Fob price of Lampung black increased from USD 2,950/mt in February to USD 3,500 in June end.

During January - March 2010, local prices of Sarawak black pepper were relatively stable at MYR 9,360/mt (about USD 2,750/mt). The price then increased steadily to reach MYR 10,560 (USD 3,260) per mt at the end of June. Fob price of Sarawak black increased from USD 3,900/mt at beginning of the year to USD 4,800 at the end of June. Compared to the prices prevailed in January - June 2009, the average price this year was higher by 50% and 46% respectively for local and fob.

Cassia (cinnamon)

Cinnamon is one of the most important spices (after black pepper and capsicums) sold in U.S. and European markets. Annually 50,000 MT is imported in these markets, 80% of this or approximately 40,000 MT is of the Kerinci type (20,000 MT for Europe and 20,000 MT for the USA). 95 % (38,000 tons) originates from Kerinci and immediate surroundings.

Indonesian cassia faces only limited competition from other cassia producing countries. Sri Lankan cinnamon, also referred to as "true" cinnamon, is a different botanical type than Indonesian cassia. It comes from a bush looking tree. Its bark is soft (breakable by hand) and lighter in colour (light brown). It is not as strong and spicy. Its taste is subtle and sweet. It is approximately 8 times more expensive than cassia. Some countries, Mexico in particular, are particularly keen on this type of cinnamon. Until the end of 1970s, Sri Lanka was the leader in production and export of this commodity, controlling the market of Europe and the Americas.

Since the 70s however, export from Indonesia has increased while the Ceylon cinnamon export remained the same and to date Indonesian cassia is controlling the global market. The Indonesian cassia is known for its strong (spicy) taste. It has a strong bite and is very popular in the USA, and northern Europe (colder countries).

Other major types of cassia are the Vietnamese and Chinese cassia types. The Vietnamese cassia (also known as Saigon cinnamon) is a similar product as the Indonesian. They are from the same botanical type. Vietnamese as well as Chinese cassia is more used for oil applications.

Cassia is an established natural food flavour. Main industries using natural cassia ingredients are bakery, cereal, food and beverage manufacturers, retail and foodservice spices packers, blends, pharmaceutical and nutraceuticals. Food technologists and food manufacturers find it very difficult to imitate cassia with synthetic substitutes. The earliest attempt to imitate Cassia flavour was by using synthetic cinnamic aldehyde. Although cinnamic aldehyde gives a very crude

imitation of Cassia, it does not closely resemble the natural flavor. Consequently there is no competition from artificial substitutes.

The consumption of cassia is stable. It hardly depends on food fashion or trends. It is deeply rooted in our culinary heritage and the usage has grown sharply and steadily over the last 45 years, along with population growth.

Mace

Like with nutmeg Indonesia still has an almost monopolistic situation in the global mace markets. Despite the very high prices there is no indication of more supplies reaching the market. Of course, new plantings will take some years to come into bearing but the current price levels might have been expected to stimulate better husbandry, collecting and processing in Indonesia. Meanwhile, India and Vietnam provide the only alternative sources.¹⁶

Sustainability

The spices and herbs sector is a relative clean sector and intensive use of chemicals is not common. However, the organic spice market is comparatively small at present (a little more than 1% of the total spice demand) but is growing, which can be attributed to the desire to consume natural, safe and healthy products. Organic spices command a 15-20% premium in the international market.

The spices & herbs sector provides a tremendous opportunity to show its added value in terms of producing, processing and trading products which offer employment and income to millions of people, many of whom are small farmers, in the global South. Products are often grown or harvested in diversified, sometimes biodiversity rich, land use systems and thereby contribute to environmental stability.

Potential partners

IDH, Cord Aid, Both Ends, Swiss Contact, UNCTAD

¹⁶ Sources: IDH, Both Ends, Cord Aid, Swiss Contact, UNCTAD, International Organisation of Spice Trade Associations (IOSTA)

Annex 7 List of interviews Indonesia

No	Chain Actors	Name	Organisation
1	BSO	M Kirom	Association of Coffee Exporters of Indonesia
2	BSO	Conrad Clos	IOM Aceh
3	BSO	M Madya Akbar	IOM Aceh
4	BSO	T Fawaaz	IOM Aceh
5	BSO	Sabam Malau	North Sumatra Coffee Forum
6	BSO	Mustafa Ali	Society of Gayo Coffee Protection
7	BSO	Ina Muwarni	Specialty Coffee Association of Indonesia
8	Exporters / Collectors	Armiyadi	Baburayan
9	Exporters / Collectors	Rizwan Husein	CV Aridalta
10	Exporters / Collectors	Robert Holthausen	P.T. CWT Commodities Indonesia
11	Exporters / Collectors	Venesha Yamandianara S	PT Coffindo
12	Exporters / Collectors	Naugan S	PT Coffindo
13	Exporters / Collectors	Agam Pahlevi	PT Menacom
14	Exporters / Collectors	A Syafrudin	PT Sabani Internasional
15	Exporters / Collectors	Edi Susmadi	PT Soegee Gayo Coffee
16	Producer	Rahmat Kinara	Farmers
17	Exporters	CV. Prima Indonesia	Fruit processing
18	Exporter	PT. Agosari Sentra Prima	Fruit processing
19	Exporter	PT Monysaga Prima (Indadi Utama Group)	Fruit processing
20	Exporter	PT.Ollop	Nutmeg

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