



PROJECT COMPLETION REPORT

Project Title: “Cocoa of Excellence: Unravelling and celebrating diverse flavour qualities of cocoas to promote market differentiation”

Report No. 4



1. PROJECT SUMMARY

- a. Title: ***Cocoa of Excellence: Unravelling and celebrating diverse flavour qualities of cocoas to promote market differentiation***
- b. Number: CFC/ICCO/42FT
- c. Project Executing Agency (PEA): Bioversity International
- d. Location: Montpellier, France
- e. Starting Date: October 1st 2009
- f. Completion Date: September 30th 2011
- g. Financing (according to the Project Implementation Agreement):
 Total Project Cost: US\$ 337,125
 of which:
 CFC Financing Grant: US\$ 91,875 (27%)
 Counterpart Contribution: US\$ 153,250 (46%)
 Co-financing¹: US\$ 92,000 (27%)
 of which:
 WCF: US\$ 10,000 (cash)
 Mars Inc.: US\$ 57,000 (in-kind) & US\$ 15,000(cash)
 Belcolade: US\$ 10,000 (cash)
- h. Author of the report: Bertus Eskes, CIRAD/Bioversity
Stephan Weise, Bioversity
- i. Period Covered by this Report: 1/10/2009 to 30/09/2011
- j. Periods Covered by Previous Reports: 1/10/2009 to 31/03/2010, 1/04/2010 to 30/09/2010, and 1/10/2010 to 31/03/2011



¹ US\$ 5,000 extra co-financing has been donated by Barry Callebaut, to cover the higher sample processing costs at CIRAD in 2010.

Contents

1. PROJECT SUMMARY	i
Contents.....	ii
Acronyms.....	iii
Acknowledgements.....	iv
2. EXECUTIVE SUMMARY	1
3. BACKGROUND AND CONTEXT	5
3.1. Key commodity issues the project intended to address.....	5
3.2. Strategy of ICCO	6
3.3. Project objectives.....	6
3.4. Project outputs for each project component	6
3.5. Targeted beneficiaries	7
3.6. Project cost and financing plan.....	7
3.7. Management and implementation arrangements	10
4. PROJECT RATIONALE, INITIATION AND RESOURCE UTILISATION	11
4.1. Project rationale	11
4.2. Project approval, duration and initial implementation	11
4.3. Project resource utilisation.....	12
5. SUMMARY OF RESULTS ACHIEVED.....	13
5.1. The 2008/09 CoE activities and the 2009 edition of the ICAs.....	13
5.2. The 2009/10 CoE activities and the 2010 edition of the ICAs.....	15
5.3. The 2010/11 CoE activities and the 2011 edition of the ICAs.....	21
6. LESSONS LEARNED AND RECOMMENDATIONS DERIVED FROM THEM.....	24
6.1. Development lessons and recommendations	24
6.2. Operational lessons and recommendations	26
7. FURTHER CONCLUSIONS AND RECOMMENDATIONS	27
ANNEX 1: Planned Sample Numbers and origins.....	i
ANNEX 2: Sample Announcement.....	ii
ANNEX 3: Guidelines for sample preparation and quality control.....	vi
ANNEX 4: Shipment instructions for samples of the “Cocoa of Excellence” (CoE) celebration in 2010.....	vii
ANNEX 5: Sample providers’ questionnaire	viii
ANNEX 6: Report of the sensorial technical committee meeting March 2010.....	xi
ANNEX 7: Method for manufacturing/processing of the CoE/ICA chocolates	xv
ANNEX 8: Evaluation of chocolate flavour traits and prizes attributed.....	xvi
ANNEX 9: Salon du Chocolat, Event banner contents	xvii
ANNEX 10: Sample Quotas per country and year.....	xix
ANNEX 11: Quoting an award-winning farmer.....	xx

Acronyms

BC	Barry Callebaut
CFC	Common Fund For Commodities
CIRAD	<i>Centre de coopération internationale en recherche agronomique pour le développement</i>
CoE	Cocoa of Excellence
COPAL	Cocoa Producers' Alliance
CRU	Cocoa Research Unit (Trinidad and Tobago)
ICA	International Cocoa Awards
ICAM	ICAM SpA (Industria Cioccolato Affini Morbegnese-Italy)
ICCO	International Cocoa Organization
IRAD	National Agricultural Research Institute (Cameroon)
LAC	Latin America and the Caribbean
PEA	Project Executing Agency
PIA	Project Implementation Agreement
PIC	Project Implementing Committee
SdC	“Salon du Chocolat” in Paris, organised by Event International
TC	Technical Committee
T&T	Trinidad and Tobago
WCF	World Cocoa Foundation

Acknowledgements

We would like to thank all partners who have made this a successful initiative. Without any one of them, this would not have been possible. The Common Fund for Commodities (CFC) and the International Cocoa Organization (ICCO) for their belief in this initiative and for supporting it financially. Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), Bioversity International, Event International and Cocoa Research Unit (CRU) for keeping the technical and awards side on track. Mars, Barry Callebaut, Belcolade and Atlanta Chocolates for providing technical expertise and in-kind and financial support. And finally the Cocoa Producers' Alliance (COPAL) and World Cocoa Foundation (WCF) for their advice.

2. EXECUTIVE SUMMARY

The goal of the Cocoa of Excellence (CoE) project was to promote high quality cocoa origins. The specific objectives were:

- *To create awareness among producers and other operators in the national and international cocoa supply chain regarding the opportunities of high quality cocoa differentiation;*
- *To provide global recognition for these producers and “terroirs²” of high quality cocoa origins;*
- *To expose chocolate manufacturers and experienced consumers to the spectrum of flavours that exist in cocoa from different origins,*
- *To facilitate linkages between producers of quality cocoa origins and manufacturers of specialty chocolate products; and*
- *To stimulate, through the institutionalization of the CoE event, the capacity of producing countries to search for, to evaluate and to produce specialty cocoa types.*

Although the *Cocoa of Excellence* CFC/ICCO project officially covers only the 2010 First Edition, information on a Zero Edition implemented in 2009 and a Second Edition in 2011 are also included in this technical report to provide a fuller picture of the evolution of the overall initiative and the value added to the CFC/ICCO support.

The partners in the *Cocoa of Excellence* CFC/ICCO project were Bioversity International (the Project Executing Agency or PEA), CIRAD, Event International (organisers of the yearly “Salon du Chocolat-SdC”) in Paris and of the “International Cocoa Awards-ICAs”), the International Cocoa Organisation (ICCO), the Cocoa Producers’ Alliance (COPAL), the World Cocoa Foundation (WCF), Mars Inc., Barry Callebaut, Belcolade and Atlanta Chocolates (joined in 2011). In total, 27 cocoa producing countries participated in at least one of the three CoE/ICA editions: 2009, 2010 and 2011. Fourteen countries participated in all three CoE/ICA editions (Bolivia, Brazil, Cameroon, Colombia, Costa Rica, Dominican Republic, Ecuador, Gabon, Honduras, Malaysia, Mexico, Papua New Guinea, Peru and Trinidad and Tobago).

Bioversity set up a project coordination unit in 2008 at its Commodities for Livelihoods programme in Montpellier, France. A Project Implementing Committee (PIC) was formed in 2009, with representatives of all project partners, to oversee general decisions on project implementation, whereas *ad hoc* Technical Committees were created to decide on specific working procedures to be adopted in the project.

Cocoa producing countries were invited in 2008, 2009 and 2010 to send well-prepared fermented and dried cocoa bean samples representing diverse genetic and geographic origins. The participating countries were informed that for logistical reasons, the total number of samples had to be limited to 200 for 2009, 235 for 2010 and 94 for 2011. Eventually, 152, 147 and 119 bean samples were actually provided by 20, 19 and 22 participating cocoa producing countries in 2009, 2010 and 2011, respectively. More than 95% of the bean samples provided did not present any apparent defects, showing that the providers had taken special care in preparing the submitted samples.

Cocoa liquor samples were elaborated by CIRAD (2009 and 2010) and Mars (2011) from all received samples by using standardised working procedures. The liquor samples were evaluated by an international expert panel with 2, 3 and 4 members in 2009, 2010 and 2011,

² Terroir is described as a sense of place brought on by the unique interaction of soil, climate and location. This terroir gives a product of that origin its own identity.

respectively, by using methods standardised for the CoE project purposes. Eleven liquor flavour attributes were evaluated on a 0-10 point scale as follows: cocoa (chocolate), acidity, bitterness, astringency, fresh fruit, brown fruit, nutty, floral, spicy, sweet, and woody, and also a score for general appreciation was given. The cocoa liquor attributes of all samples provided were communicated to all National CoE Committees, in order to increase awareness regarding flavour quality attributes at the farm-level and, if needed, to help the producers to improve their quality.

Results of the liquor evaluations were used to identify 40 (2009) or 50 (2010 and 2011) high quality samples that were nominated to compete for the International Cocoa Awards. Chocolates were made of the nominated samples by Barry Callebaut and Mars Inc., also by applying a standardised method. The ICAs were attributed based on evaluation of a fixed set of flavour attributes of the chocolates by a jury made up of professionals and experienced amateurs during the SdC in Paris in October 2009 and 2010, and before the SdC in 2011. The number of nominated samples selected for each of the four different geographic regions identified in the project (Central America and the Caribbean, South America, Africa and South East Asia and the Pacific) was based on the relative numbers of samples received from each of these regions. The awards and origins of the nominated samples have been made public on the CoE website (<http://www.cocoaofexcellence.org>) launched by Bioversity in October 2010.

Cocoa producing countries were contacted in 2008, 2009 and 2010 about their interest in participating in the CoE/ICA editions. Focal points were identified and were asked to establish National Committees in the 27 cocoa producing countries that participated in the CoE between 2009 and 2011. The aim was to ensure effective coordination at the national level and effective communication with the individual cocoa producers, to raise awareness of the CoE/ICA initiative, and to increase the capacity of producing countries to locate, evaluate and produce specialty cocoa types. Individual cocoa farmers, groups of cocoa farmers, cooperatives, cocoa estates or national research centres could submit samples to the focal point/national organizing committee in their country.

Two types of samples could be sent: commercial or experimental samples. “Commercial” samples consisted of well-fermented dry bean samples prepared by cocoa producers from existing commercial plantations, or group of plantations, representing traditional or improved/modern cocoa varieties from different geographic/climatic origins. It should be possible to reproduce the same quality cocoa at commercial scale (several tonnes per year) in subsequent years. For “experimental” samples, well-fermented and dried bean samples derived from interesting new varieties (newly selected varieties or accessions with special quality traits) or through new post-harvest processes (e.g. novel fermentation method) could be submitted. These potentially interesting experimental samples would not be available yet for commercial scale production, but could become so within a few years time. These samples could be prepared by cocoa farmers or by research institutes.

In the pilot CoE/ICA celebration in 2009, the results of the liquor evaluations were used to identify 40 samples with outstanding flavour attributes identified out of 85 samples received from the Latin America and Caribbean regions. This was decided because the other cocoa regions, especially most African cocoa producing countries, were underrepresented with regard to the number of samples provided. The objective of this pilot phase was to reward diversity of flavour traits without discerning awards or prizes. Therefore, the top 10 samples were evaluated during the SdC in Paris in October 2009 by a jury made up of professionals and experienced amateurs for each of the following seven flavours: cocoa, sweet, fruity, floral, nutty, spicy and woody. The top ten samples for each of the seven flavour traits were announced during the SdC and subsequently on the CoE website. Certificates were sent to all sample providers and diplomas to the 40 samples nominated for the evaluation at the SdC in Paris in October 2009.

In 2010, among a total of 152 samples provided, 50 liquor samples were selected by the international experts and processed into chocolate. The 50 chocolate samples were then scored by a jury composed of professionals (chocolate manufacturers and traders) and informed amateurs (members of chocolate clubs), specialized journalists and oenologists during the SdC. The evaluations served to highlight the main sensory characteristics by geographic area. Three samples with the highest mean scores for representative flavour attributes for each of four regions (Central America and the Caribbean, South America, Africa and South East Asia and the Pacific) were awarded during the ICA ceremony held at the SdC in Paris (www.SalonduChocolat.fr) on 29 October 2010, totalling 12 prizes. The top 12 awards were announced during an event held in the conference room of the SdC in Paris, the "*Chocosphère*" in the presence of cocoa producers, journalists, industrialists and "chocolatiers". Certificates were sent to all sample providers and diplomas to the 50 nominated sample providers as well as special diplomas for the 12 ICA prize winners.

In 2011, the same procedure was applied as in 2010, with the difference that the jury evaluating the 50 nominated chocolate samples consisted of 25 professionals, mainly tasting specialists of chocolate manufacturers as well as a few professional cocoa quality scientists, who tasted the chocolates a few weeks before the SdC. Three prizes were attributed to each of the four cocoa producing regions based on the mean scores for global quality appreciation by the 25 members of the jury. The most expressed positive flavour attributes for each of the prized samples was mentioned for each winning sample. Four additional prizes were awarded, mainly based on overall preference of the chocolates, as evaluated by a 5-7 member jury of professionals, amateurs and journalists for the seven best samples of each of the four cocoa producing regions during the SdC in Paris on 20 October 2011. A ceremony, held on 29 October at the Salon, was animated by two well-known French TV presenters in front a large public audience to hand the diplomas to the 16 winners of the ICA 2011 edition.

During the SdC, the producing countries were invited to visit the CoE project stand to taste chocolate tablets of their nominated cocoa samples and to take some chocolates home. Chocolate manufacturers and other professionals present at the SdC were also invited to meet producers and encouraged to taste samples of any of the 50 nominated samples processed into chocolate. For example, in 2010, one chocolate manufacturer met with the country representative of a farmer that had provided a nominated cocoa sample resulting in a business link between the farmer and the manufacturer.

During the weeks following the SdC event, samples of chocolates were sent to 6, 26 and 25 interested chocolate makers in 2009, 2010 and 2011, respectively. The industry project partners of the project received all a full batch of chocolates and information on the origin of the nominated samples in each of the project years.

Results from the three CoE/ICA editions can be found on the Cocoa of Excellence website (<http://www.cocoaofexcellence.org/>). Event International has included full information on the International Cocoa Award celebration, including information on 2009, 2010 and 2011 nominated samples and prize winning samples, into a substantial press release provided to more than 5000 contacts after each ICA edition.

One important impact of the CoE/ICA celebrations is increased awareness and attention paid to the production of high-quality cocoa origins in the cocoa producing countries. One example is Peru, where yearly national competitions are now organised and where many persons have been trained in sensory evaluation of cocoa beans, liquors and chocolates. Another example is Brazil, who as a consequence of the CoE/ICA editions has invited Event International to organise the first Chocolate and Cocoa Show in Salvador, Bahia, in 2012. Yet another example is Cameroon where the national agricultural research institute IRAD,

stimulated by the prizes won by Cameroon in 2010 and 2011, has proposed an ambitious project on cocoa quality selection and improvement at research station and farmers' level.

Bioversity will shortly follow up on the key impact factors of the CoE and ICA celebrations, including: increased awareness and attention given to cocoa quality in cocoa producing countries; enhanced opportunities for farmers to improve and add value to their cocoa bean production, and interest raised concerning the CoE/ICA celebrations in the cocoa industry sector, especially the fine-flavour cocoa sector.

The next CoE/ICA editions will be carried out every two years during the professional show of the SdC in Paris, starting in 2013. Commitments for future engagement in the CoE/ICA celebrations have already been received from Event International, from several of the industry project partners, and also from public partners such as CIRAD and the Cocoa Producers' Alliance (COPAL). Bioversity, CIRAD, and Event International will continue to source for private sponsorships, in addition, industry partners will continue to provide technical input and support, while COPAL is considering the possibility of taking on the role of interfacing with producing countries and Bioversity supporting an overall coordination framework. Bioversity will send out information on the nominated chocolates in 2009, 2010 and 2011 to a list of 90 chocolate industries world-wide. These industries will be asked to express their interest in supporting the CoE and ICA celebrations.

Regarding resource allocations, the CoE project has used 95% of the total amount of funds made available by the CFC, i.e. US\$ 87,500 out of US\$ 91,875 allocated. Counterpart and co-financing contributions have been received and used as indicated in the Project Implementation Agreement (PIA) allowing for the full implementation of the 2010 Edition.

3. BACKGROUND AND CONTEXT

3.1. Key commodity issues the project intended to address

Compared with coffee, wine or tobacco, cocoa is still very much an un-differentiated and low-value industrial commodity, for which several factors are to blame, including:

- a) Geographical and cultural separation of cocoa producers from users and the concomitant lack of information feedback on cocoa quality along the supply chain;
- b) Mismatch between the predominant small-scale production and large-scale industrial use, typically forcing cocoa buyers to settle for a minimum standard
- c) Predominant use of cocoa as one of several (and not necessarily the most important), flavour ingredients in candy or other mass-market products;
- d) Confusion over the varietal and geographical origins of quality cocoa and its adulteration with inferior lower grades, leading some industry observers to believe that overall cocoa quality has declined in recent decades.

Cocoa producers tend to receive low farm-gate prices for a mostly undifferentiated raw material that competes for price on anonymous spot markets. The lack of incentives to produce special quality cocoa causes lack of interest on the part of the producers, who often neglect basic post-harvest and processing which are needed to obtain good quality cocoa beans. The cocoa industry observes that overall quality of commercial cocoa produced worldwide is declining. It is the convenience of agronomic production (for improved yields, disease tolerance and crop management) that determines the deployment of new cocoa varieties, while development of *cacao* varieties with specific flavour attributes is still largely in its infancy. Genetic erosion of traditional *cacao* varieties can be the consequence. For example, in Latin America, massive propagation of one particular high-yielding clone (CCN51) is currently replacing many of the autochthonous cocoa populations since these cannot compete on productivity grounds while their flavour potential remains largely unknown.

On the other hand, consumers are still largely unaware of the pleasures and complexities of cocoa flavours that can be as varied and fascinating as those of high-end wines. The partners of this project unanimously believe that cocoa production, profitability and consumption will greatly benefit from the increased differentiation of cocoa to which the project aims to contribute. Fuelled by the desire for product differentiation and growing consumer sophistication, the industry has recently embraced a new consumption trend toward high-quality cocoa and high-value chocolates that better transmit the intrinsic cocoa flavours to the consumer product. Many of the high-end chocolate makers depend on a rather small number of recognized premium cocoa sources. This is partly due to the lack of information on the quality potential of special cocoa origins.

This project will abstain from using the traditional, and increasingly misleading, terms of “bulk” or “commodity” cocoa in reference to African and Asian *Forastero* cocoas vis-à-vis “fine-flavour” *Trinitario*, *Criollo* and *Nacional* cocoa origins from Latin America. While indeed mostly devoid of the ‘fruity’ and ‘floral’ high notes of Latin American cocoa, *Forastero cacao* is appreciated in the industry for its intense “cocoa” aroma that is indispensable in blends or as stand-alone cocoa in upmarket chocolates. Many gourmet manufacturers currently source high-value cocoa, not only from traditional “fine-flavour” origins but also from less traditional areas in Africa and Asia. Moreover, with the geographic expansion of *cacao* cultivation and the spread of new varieties, novel flavour combinations resulting from the interaction of genotypes, *terroirs* and post-harvest management can be expected, and may eventually give rise to emerging production areas, just as has happened in the course of coffee and wine differentiation. Hence this project will use the term ‘cocoa origins’ to denote cocoa from

sources that are defined by the interaction of genotype, environment, crop and post-harvest management.

3.2. Strategy of ICCO

The International Cocoa Agreement, 2001 came into force on 1 October 2003. The Agreement explicitly requires ICCO to give due consideration to the sustainable management of cocoa resources. It aims to help provide fair economic returns to all stakeholders in the cocoa economy, to be achieved by applying the principles and objectives of sustainable development. ICCO has been developing and implementing the concept of a sustainable cocoa economy, which entails both sustainable cocoa production and sustainable cocoa consumption. The concept of sustainable cocoa production encompasses the three pillars of sustainability, which enable farmers to efficiently use and manage farming resources to maintain and/or increase farming productivity at levels that are economically viable, environmentally sound and socially fair.

The ICCO programme on a sustainable cocoa economy includes establishment of sustainable and competitive cocoa farming systems; diversification of cocoa farms; rehabilitation of old cocoa farms; production and delivery of good quality cocoa through more efficient post harvest techniques; training of farmers' groups; and promotion of cocoa consumption. A needs assessment for cocoa development undertaken by ICCO and CFC identified “*Cocoa supply-chain management for total quality*” as one of the priority areas for projects to be financed by the Common Fund. This priority area for CFC and ICCO would focus on the improvement of the supply chain for cocoa, while enhancing productivity on cocoa farms and emphasizing the increasing need for meeting the social, environmental and food safety requirements of quality.

This project scope is, therefore fully in line with the objectives of the International Cocoa Agreement, 2001 to achieve a sustainable world cocoa economy. The project is also in line with the “Programme Approach” of the CFC, being one of the priority areas identified for the period 2008 - 2012.

3.3. Project objectives

The overall **goal** of the project was to contribute toward greater diversification of cocoa markets through the identification of specialty cocoa origins (“*terroirs*”) with recognized or newly discovered flavour attributes.

The project had the following **specific objectives**:

- To increase awareness along the cocoa supply-chain of the diversity and complexity of cocoa flavours from diverse genetic and geographic sources;
- To create awareness among producers of the opportunities for high-value cocoa differentiation;
- To provide global recognition for the producers and *terroirs* of special origin cocoas; and
- To stimulate industry linkages to the providers of high quality cocoa origins.

3.4. Project outputs for each project component

Component 1 Identification and acquisition of samples of promising cocoa origins

Output 1	Special origin cocoa samples representing “commercial” and “experimental” sources received for central processing for analysis.
<i>Component 2</i>	<i>Cocoa liquor, chocolate production and sample evaluation carried out (by international expert panel)</i>
Output 2	Knowledge gained regarding distribution of sensorial attributes of cocoa origins. Novel sources of high quality cocoa origins identified.
<i>Component 3</i>	<i>Cocoa flavour diversity celebration and attribution of awards at the Salon du Chocolat in Paris</i>
Output 3	Cocoa origins of exceptional quality distinguished by awards. Heightened awareness achieved for the opportunities of using cocoa diversity for market differentiation.
<i>Component 4</i>	<i>Establishment of the global Cocoa of Excellence platform and dissemination of project results</i>
Output 4	Global platform for identifying and celebrating diversity of cocoa origins piloted and instituted. Greater awareness of diversity of cocoa flavours created.
<i>Component 5</i>	<i>Project coordination and execution</i>
Output 5	Shared understanding created of project procedures, responsibilities and timeframes among project partners and stakeholders. World-wide awareness created of cocoa supply-chain actors of project activities.

3.5. Targeted beneficiaries

Cocoa growers will benefit from higher farm-gate prices for high quality cocoa origins. Current premiums for high quality cocoa vary from 10% to 400% above world market prices for specialty cocoa types. However farmers will also gain negotiating power (through increased information on the potential quality of their cocoa) and become more effective supply-chain actors. In the long term, cocoa consumers can be expected to benefit from the greater range of cocoa flavours in terms of diversified product development and consumption. Cocoa scientists will use newly gained knowledge on the distribution of cocoa flavour attributes for improved hypotheses on the determinants of cocoa quality attributes, in terms of genetic origin, *terroir* and post-harvest management, and the interplay of these factors.

Increased differentiation of cocoa into a high-value product will provide demand-driven incentives for the on-farm conservation of traditional cultivars that may have special flavour attributes and that are currently not competitive *vis-à-vis* modern hybrid varieties.

3.6. Project cost and financing plan

The total costs of the project were estimated to be US\$ 337,125, of which US\$ 91,875 corresponds to CFC funding sought, US\$ 153,750 to counterpart funding (in-kind) and US\$ 92,000 to co-financing contributions (US\$ 35,000 in cash and US\$ 57,000 in-kind). Costs by project component and cost categories are indicated in Table 1.

Table 1: Budget in USD of fast track proposal on “Cocoa of Excellence: Unravelling and celebrating diverse flavour qualities of cocoas to promote market differentiation”

Cat.	Inputs required	Unit	Quantities		Unit price	Sub-total	Sources of financing (in USD)		
			Year 1	Year 2	(USD)	(USD)	CFC	Counter-part	Co-financing
Component 1: Identification and acquisition of cocoa samples									
III	Identification and preparation of samples at origins	bean sample	250		50	12,500		12,500	
III	Shipment of samples to processing facility	sample of 1.5 kg	250		120	31,000	5,000	16,000	10,000
Total Component 1						43,500	5,000	28,500	10,000
Component 2: Production of cocoa liquor and chocolate samples and evaluation of liquors by an international expert panel									
V	Evaluation of bean samples after reception	sample	235		50	11,750	5,000	6,750	
V	Processing of samples into liquor and distribution for panelling	sample	200		135	27,000	9,000	18,000	
V	Panelling of liquor samples	sample	200x4		75	60,000	10,000	10,000	40,000
V	Chocolate preparation	sample	50		500	25,000	8,000		17,000
V	Distribution of samples to jury members					5,000			5,000
V	Data analyses (Bioversity International and CIRAD)	lump sum	8000	8000		16,000	4,000	12,000	
Total Component 2						144,750	36,000	46,750	62,000
Component 3: Cocoa flavour diversity celebration and attribution of awards at the <i>Salon du Chocolat</i> in Paris, 2009									
III	Organization of stand	lump sum		1	14,000	14,000	6,000	8,000	
III	Expendables (stand decoration)	lump sum		1	10,000	8,000			8,000
VI	Travelling (Salon Paris)	traveller		4	1,500	6,000	6,000		

Cat.	Inputs required	Unit	Quantities		Unit price (USD)	Sub-total (USD)	Sources of financing (in USD)		
			Year 1	Year 2			CFC	Counter-part	Co-financing
Total Component 3						28,000	12,000	8,000	8,000
Component 4: Dissemination of results and establishment of the global "Cocoa of Excellence" platform									
VII	Organisation of a meeting to develop a sustainable CoE system	lump sum		1	15,000	20,000		15,000	5,000
VII	Public awareness materials	lump sum		1	7,000	8,000	3,000	5,000	
Total Component 4						28,000	3,000	20,000	5,000
Component 5. Project Coordination and Management									
IV	Coordination					57,000		50,000	7,000
VI	Coordination travel	cost p.a.	1	1	7,000	14,000	14,000		
Total Component 5						71,000	14,000	50,000	7,000
Sum Totals Components 1-5						315,250	70,000	153,250	92,000
Administrative costs Bioversity International						17,500	17,500		
Sub-total CFC grant requested							87,500		
Contingency (5% of 87,500), including CFC participation to the Awards ceremony						4,375	4,375		
Grand totals						337,125	91,875	153,250	92,000

3.7. Management and implementation arrangements

Project Coordination Team of the Project Executing Agency (PEA)

The Bioversity Coordination team was composed of Stephan Weise, Director of the Commodities for Livelihoods programme of Bioversity International (CfL) and Coordinator of the CoE project, Bertus Eskes, Senior Scientist Cocoa Breeder and Janis Thiriet, Programme Assistant. The coordinator for setting up the project and for the 2008/09 edition of CoE was Bertus Eskes (Bioversity/CIRAD), whereas after June 2009 the project coordination was ensured by Stephan Weise. The Project Coordination Team dealt with the day-to-day coordination of project activities, with communication among project partners, with the creation and management of a project website (*Cocoa of Excellence*), with financial aspects, reporting, and other matters. The team identified focal points in cocoa producing countries and established binding agreements with project partners ensuring implementation of project activities. This included a Letter of Agreement between Bioversity and CIRAD for the CIRAD activities in 2009/10 and an agreement between Bioversity, Event International (the organisers of the yearly Salon du Chocolat (SdC) in Paris) and CIRAD on distribution of tasks and funding of activities culminating in the attribution of the International Cocoa Awards (ICA) in 2010.

Project Implementing Committee (PIC) to oversee project execution

A Project Implementing Committee (PIC) was established to oversee the efficient and effective project execution. It decided on the general orientations to be adopted in the project together with Project Coordinator. The committee consisted of representatives of the institutions involved in the project implementation, i.e. the international research and development institutes (Bioversity International, CIRAD and CRU), chocolate manufacturers (Barry Callebaut, Belcolade and Mars Inc.), Event International, the World Cocoa Foundation (WCF), the Cocoa Producers' Alliance (COPAL) and ICCO. Initially, the Guittard Chocolate Company was also part of the committee, but because the fine chocolate specialist at Guittard moved to Mars at the end of 2008, the Guittard Company was replaced by Barry Callebaut and Mars in the first semester of 2009. As a new co-financier, Cacao Atlanta joined in 2011. CIRAD and Bioversity have been the main responsible institutions for communication and organization with Event International of the ICA activities at the SdC in 2009, 2010 and 2011. In July 2010, an agreement was signed between Bioversity, CIRAD and Event International indicating the role of each institute in the implementation of the CoE and ICA activities.

Technical Committee (TC)

In addition to the PIC, a Technical Committee (TC) was created as a smaller ad-hoc group (or set of sub-groups) of experts to agree on the sampling collection strategy, on methods for liquor and chocolate preparation as well as on sensory evaluation of the liquor and chocolate samples. The TC's reported their recommendations to the PIC.

Communication among members of the PIC and TC has relied mainly on e-mail exchanges and ad-hoc meetings, respectively. An important TC meeting was organised in April 2010 to agree on liquor-panelling methods and presence of the project partners was ensured at the SdC in 2009, 2010 and 2011.

The following institutes and persons were involved as a group TC or as sub-group TC's:

Project Partner	Person
Barry Callebaut	Valentine Detalle
Bioversity International	Bertus Eskes and Stephan Weise
CIRAD	Sophie Assemat, Emile Cros and Michel Barel
CRU	Darin Sukha
Event International	François Jeantet, Julien Rond
Mars Inc.	Ed Seguire
Cacao Atlanta	Kristen Hard (<i>joined for the 2011 edition</i>)

4. PROJECT RATIONALE, INITIATION AND RESOURCE UTILISATION

4.1. Project rationale

High-end chocolate makers are intent on reducing variations in the quality of their cocoa supplies to ensure consistently high product-quality for consumers. Thus an industry trend toward sourcing at origin is emerging. At the same time, cocoa producers are increasingly seeking opportunities to enhance their incomes through a transition into high-value, high-quality markets. Producers are recognizing that direct linkages with cocoa buyers allows them to build more sustainable and profitable relationships in which a primary focus on quality rather than costs becomes the overriding criteria. It is well known that differentiating an agricultural product in a consistent fashion for a high-end market gives producers more negotiating power and benefits.

The Cocoa of Excellence project aimed to contribute towards the greater diversification of cocoa markets through the identification and characterization of high-quality cocoa origins, enabling farmers to negotiate prices for their potentially good quality cocoa origins. The project developed the International Cocoa Awards (ICA) presented at the SdC in Paris in 2009, 2010 and 2011 for high-quality cocoa origins.

The idea for the ICA award system was a consequence of a shared proposal (by Event International, ICCO, and private and public sector partners in the CoE project coordinated by Bioversity International) to link cocoa growers with chocolate makers and raise awareness along the supply chain of the importance of craftsmanship at farm-level, as well as the diversity and complexity of cocoa flavours.

4.2. Project approval, duration and initial implementation

The idea of setting up yearly “Cocoa of Excellence Celebrations” and an international award system for high-flavour cocoa samples with diverse geographic and genetic origins was initially launched by Bioversity and CIRAD scientists by the end of 2007. The proposal was discussed in some detail in January 2008 by a group of cocoa quality experts representing the following institutions: Bioversity, CIRAD, ICCO, Guittard, Mars, ICCO, INIAP (Ecuador) and CRU (Trinidad). The expert group agreed on the rationale for the project and requested Bioversity to develop a “fast track” CFC project proposal to be presented to ICCO. The group also recommended maximum quotas for participation of 31 cocoa producing countries (Annex 1) in the Cocoa of Excellence Celebrations. These quotas were identified by the group based on the expected diversity for flavour attributes in a certain country or region, as

well as by the amount of cocoa produced. The PIC later endorsed the quotas initially established, with minor modifications adopted in 2009 and 2010 (see Annex 10).

The ICCO council meeting in early September 2008 approved the project proposal and recommended it for CFC funding. The CFC Project Appraisal Committee Meeting held on 18 September 2008 recommended the CFC Consultative Committee to accept funding of the project. It indicated that the proposal needed to be approved officially by the next CFC Consultative Committee meeting in January 2009. The CFC Consultative Committee accepted the project for financing in February 2009, after having received satisfactory replies from the PEA (Bioversity International) on a few considerations presented by the Committee. The Project Agreement and the Project Implementation Agreement (PIA) were signed by Bioversity International, ICCO and CFC in September 2009.

CFC funding of the “fast-track” CoE project was originally for a duration of 18 months, from 1 April 2009 to 30 September 2010. Due to the delayed signing of the agreement, a No-Cost Extension was requested and granted to extend the project period to 30 September 2011, focusing on the 2010 First Edition. Nevertheless, due to the preparations already initiated in late 2008 and early 2009, a 2009 Zero Edition was implemented with the in-house support of Bioversity, CIRAD, ICAM (Italy), Barry Callebaut, and Event International. The positive feedback on the 2010 First Edition allowed for the planning of a 2011 Edition, and also to bring it into sync with the SdC that takes place every other year on odd years.

4.3. Project resource utilisation

The CoE project has used 95% of the total amount of funds made available by the CFC, i.e. US\$ 87,500 out of US\$ 91,875 allocated (Table 2). Resource utilisation by Component has exactly been according to the planned allocations, except for Component 5, because Bioversity was not allowed to utilise the contingency allocations.

Table 2. CFC resource utilisation in the CoE project for the 2010 Edition

Components	Budget 01 Oct 2009 to 30 Sep 2011	Actual To 30/09/11	Balance
1	5 000	5 000	0
2	36 000	36 000	0
3	12 000	12 000	0
4	3 000	3 000	0
5	35 875	31 500	4 375
Total	91 875	87 500	4 375

Counterpart and co-financing contributions have been received and used as indicated in the Project Implementation Agreement allowing for the full implementation of the 2010 Edition. An additional amount of US\$ 5,000 co-financing was received for the 2010 Edition to cover higher sample processing costs at CIRAD.

5. SUMMARY OF RESULTS ACHIEVED

(As compared to planned activities within each component, including dissemination of project results)

Although the *Cocoa of Excellence* CFC/ICCO project officially covers only the 2010 First Edition, information on a Zero Edition implemented in 2009 and a Second Edition in 2011 are also included in this technical report to provide a fuller picture of the evolution of the overall initiative and the value-added to the CFC/ICCO support.

The 2009 edition had to be considered as a pilot edition (called Zero Edition) because no financing of CFC was available before the event date in October 2009. Due to the importance attached to the project by the participating cocoa producing countries and by all project partners, especially CIRAD, Bioversity, Event International, Barry Callebaut and ICAM, the 2009 Edition could be implemented. The implementation of the 2011 CoE/Edition was made possible because of additional efforts made by all project partners.

5.1. The 2008/09 CoE activities and the 2009 edition of the ICAs

In August/September 2008 contacts were established by Bioversity with entities in 40 cocoa producing countries, including the 31 listed in Annex 1, that could be interested in setting up National Committees to collect, select and verify basic quality standards of representative cocoa bean samples with expected high and diverse quality attributes. Bioversity and CIRAD elaborated the following project documents that were communicated to all national contacts:

- *Letters of Announcement* in three languages of the 2008/09 CoE project rationale and activities and of the edition of the ICAs, to be attributed in October 2009; these letters were similar to the letters sent out in 2010 and 2011 (the English version of the 2011 version is reproduced in Annex 2),
- *Guidelines for Sample Preparation* in three languages (the English version of the latter is reproduced in Annex 3),
- *Guidelines for Sample Shipment* in three languages (the English version of the 2010 version is reproduced in Annex 4), and
- *Questionnaires* in three languages for sample providers to inform on the origin of each sample (the English version is reproduced in Annex 5).

Positive answers were received from 20 countries which provided samples to CIRAD between the end of February and early April 2009.

For several reasons, but mainly due to late availability of CFC funding, it was not possible to organize the ICA event for the SdC in Paris in October 2009 exactly as originally planned. A pilot CoE scheme was adopted in 2008/09. This was followed by the “Zero Edition” edition of the ICAs at the SdC in Paris on 12-18 October 2009. This pilot scheme allowed for learning to be built into the 2009/10 CoE activities and into the “First Edition” of the ICAs celebrated at the SdC in Paris in October 2010.

In total, CIRAD received 152 fermented and dried cocoa bean samples from 20 different countries (Annex 10). The basic quality parameters (fermentation level as evaluated by the cut test, humidity level and absence of defective beans and of impurities) of all the 152 samples received from 20 countries were considered satisfactory, as verified by CIRAD. Cocoa liquors from all the 152 samples were elaborated by CIRAD between April and July 2009. Cocoa sensory specialists, one of CIRAD and one of ICAM (Italy), evaluated the liquor flavour traits of all samples between July and August 2009. The seven flavour categories evaluated for the 152 cocoa liquors, as jointly decided by CIRAD and ICAM, were cocoa

(chocolate), sweet, fruity, floral, nutty, spicy and woody flavours. CIRAD sent the sensory results obtained by CIRAD and ICAM to all sample providers before the end of 2009.

Table 3. CoE/ICA Zero Edition participation in 2009

Region	Total #		# selected for Salon du Chocolat in 2009	
	samples	countries	samples	countries
Africa	23	2	0	0
South-East Asia & the Pacific	44	7	0	0
South America	62	6	22	3
Central America & the Caribbean.	23	5	18	4
Grand Total	152	20	40	7

As can be seen in 109 and Table 3, African countries (including Côte d'Ivoire and Ghana) were largely underrepresented, especially in view of the fact that Africa is the main cocoa producing continent. Eighty-five of the total of 152 samples were received from Latin America and the Caribbean regions (Table 3). These were also the most diverse according to genetic origin and flavour traits. Therefore, it was decided by the Project Implementing Committee (PIC) that the Zero Edition of the ICAs would include only the Latin America and the Caribbean samples. This allowed to celebrate the diversity of cocoa quality from these regions as a start and also to fulfil the obligations towards the SdC in 2009. Forty samples were selected, based on the highest scores for global preference, of the 85 samples provided by the Latin American and Caribbean regions: 3 from Bolivia, 2 from Costa Rica, 9 from Ecuador, 3 from Mexico, 6 from Peru, 6 from Trinidad and 13 from Venezuela CIRAD.

CIRAD prepared liquor samples from the remaining 800-1200g beans of the 40 selected samples in July/August 2009. Based on a request from CIRAD and from Event International, Barry Callebaut agreed to support the 2009 ICA edition by processing the liquor of the 40 selected samples into chocolates between August and early October 2009 as well as providing additional cash co-financing of US\$ 5,000. A standard method for chocolate manufacturing was applied by Barry Callebaut, as proposed jointly by Barry Callebaut and CIRAD (Annex 7).

The following ten flavour traits were evaluated for the 40 chocolates during the SdC in October 2009: cocoa (chocolate), acidity, bitterness, astringency, fruitiness (fresh fruit and brown fruit), nutty (dry fruits), floral, sweet (honey, caramel), spicy and woody (see Annex 8). The jury consisted of chocolate manufacturers, “gourmet” journalists and chocolate amateurs. Based on the mean scores given by the jury for the seven positive flavour traits (excluding the three basic flavour traits acidity, bitterness and astringency), the 40 chocolate samples were divided into seven groups of the ten top samples for each of the seven flavour traits for the Zero Edition of the ICAs at the SdC in October 2009.

The origin of the Latin American and Caribbean chocolate samples that rated among the top ten in each of the seven flavour categories was announced in a ceremony held the day following the blind-tasting of the chocolates by the jury at the SdC in October 2009. The results confirmed the reputation of Venezuela, Ecuador and Trinidad as producers of fine cocoa. They had the highest number of entries in the top ten for each flavour category: with 18, 17 and 10 samples, respectively. Trinidad came first in the fruity and sweetness categories but other categories were dominated by newcomers: Bolivia for the spicy, woody and floral categories, Mexico for the nutty flavour and Peru for the cocoa (chocolate) flavour trait.

Chocolate samples were distributed to:

- farmers and representatives of cocoa producing countries that participated in the CoE and were present at the 2009 SdC,
- chocolate manufacturers present at the Salon, and
- seven chocolate manufacturers that visited CIRAD after the Salon

Further dissemination of results has been carried mainly by the Bioversity managed Cocoa of Excellence website (<http://www.cocoaofexcellence.org/>) and by Event International. Information on the origins and main flavour traits of the 40 selected high-quality samples is provided on the CoE website, as well as e-mail contacts for the providers of the 40 samples (mainly national focal point contacts). Event International has included full information on the 2009 ICA celebration, including information on nominated samples and prize winning samples, into a substantial press release provided to more than 5000 contacts.

5.2. The 2009/10 CoE activities and the 2010 edition of the ICAs

Results are presented and compared to the planned activities according to the Project Implementing Agreement (PIA) within the five Project Components.

Component 1 Identification and acquisition of samples of promising cocoa Origins

1.1: Establish country committees for sample identification and commit to agreed course of action

The identification of focal points and the establishment of National CoE Committees had been proposed by Bioversity to the 31 target countries (Annex 1). Contacts were successfully established with 29 country focal points. However, participation in 2009/10 could be confirmed only for 19 out of the 31 countries. Seven countries were not able to participate because the main cocoa production harvest fell outside the limited period of sample preparation and shipment for the CoE. The proposed role of the National Committees was to oversee the collecting and selection of diverse high-quality fermented dried bean samples, within the quota established for each country, and the verification of basic quality standards adequate storing and shipment of samples to CIRAD in France. Samples were collected and prepared according to the guidelines distributed in 2008/09 (Annexes 2 to 5) with a few appropriate necessary local adaptations.

Table 4: Participation in the 2009/10 CoE activities and in the First Edition of the ICAs in October 2010

REGION	# countries			# samples			
	proposed	contacted	participated	Total proposed	Actual		
					Commercial	Experimental	Total
Africa	8	6	6	50	30	3	33
South-East Asia & the Pacific	8	8	2	45	17	8	25
South America	7	7	5	90	39	7	46
Central America & Caribbean	8	8	6	50	31	12	43
GRAND TOTAL	31	29	19	235	117	30	147

1.2: Delivery of samples for overall bean quality evaluation

Numbers of proposed and actually submitted commercial and experimental samples per region are detailed in Table 4 and in Annex 10. Out of 147 samples submitted, there were 117 commercial samples from 17 countries and 30 experimental samples from 10 countries. All samples met basic quality standards as verified by CIRAD (as done in 2009, see above).

Component 2: Cocoa liquor and chocolate production, and sample evaluation (international expert panel)

2.1. Standardized processing of cocoa beans into liquor.

An *ad hoc* sensorial technical committee met in March 2010 to decide on:

- procedures and methods to be applied for regional assignment of selected samples;
- flavour categories for the cocoa liquor evaluations by three international experts (Darin Sukha, Sophie Assemat and Ed Seguine);
- method of processing of cocoa beans into liquor; and
- organisation and timing of activities culminating in the first edition of the ICA in October 2010.

The report of this committee is attached as Annex 6. These procedures did not really differ much from the 2009 procedures applied in the CoE.

2.2. Evaluate sensory quality of cocoa liquor samples

CIRAD roasted sub-samples of the submitted 2.5 kg bean samples and prepared liquors of these subsamples according to standard working procedures (Annex 6). The liquor samples were used for sensorial evaluation by three international experts (Darin Sukha of CRU, Trinidad; Sophie Assemat of CIRAD and Ed Seguine of Mars Inc.) according to 12 flavour characteristics as well as global preference (see Annex 6).

2.3. Identify 50 cocoa samples for chocolate making

Fifty samples were pre-selected, based on highest mean scores for global preference given by the international experts, to be transformed into chocolates nominated for the ICAs at the SdC in Paris in October 2010. Mars Inc. and Barry Callebaut agreed to prepare each 50% of the chocolate samples, divided by regions (Table 5), according to the agreed working procedure for chocolate manufacturing (Annex 7).

Table 5: List of cocoa liquor samples distributed to Barry Callebaut and to Mars Inc. for chocolate preparation

25 samples for Barry Callebaut	Number of cocoa	Samples from
West Africa	3	Cameroon
	8	Ivory Coast
	1	Gabon
	3	Ghana
	1	Sao Tome
Southeast Asia	3	Malaysia
	3	PNG
Oceania	3	Madagascar

25 samples for Mars-USA	Number of cocoa	Samples from
South America	7	Brazil
	1	Bolivia
	1	Colombia
	5	Ecuador
	3	Peru
Central America & Caribbean	1	Costa Rica
	1	Honduras
	1	Jamaica
	1	Mexico
	1	Dominican Republic
	3	Trinidad

Component 3 Cocoa flavour diversity celebration and attribution of awards at the Salon du Chocolat in Paris in October 2010

3.1. Communicate purpose of CoE/ICA celebration to an international lay and industry audience

The CoE website (<http://www.cocoaofexcellence.org/>) and content was created by Bioversity during 2010. Detailed information on the CoE project objectives, activities and results were included on the website. Press releases and other public awareness pieces have been produced, including web articles ready for the launch of CoE which occurred in October 2010. A CoE/ICA event banner (Annex 9) was prepared for the SdC in October 2010, introducing the event including the context of cocoa producers, cocoa diversity and the threats it faces, and marketing cocoa fine-flavoured cocoa. A map of countries participating in the 2010 CoE/ICA event was also prepared.

CoE set up its stand at the SdC to encourage meetings between producers and “chocolatiers” around the selected chocolate samples to meet the demands of chocolate consumers and producers interested in the initiative of ICA (International Cocoa Awards).

3.2. Evaluate preferences for 50 single-origin chocolates by professionals at the 2010 Salon du Chocolat in Paris.

Three prizes were attributed during the SdC on 28 October 2010 for each of the four cocoa producing regions by a jury of 30 members including professionals (chocolate artisans, chocolate industry tasting experts, and scientists), chocolate amateurs (“connoisseurs”) and journalists. The jury was subdivided into four groups of 7-8 members with each group carrying out sensory evaluations of all nominated samples from one of the four regions (Central America and Caribbean, South America, Africa, and South East Asia and the Pacific). They scored the following flavour attributes on a 0 to 10 point scale: cocoa

(chocolate), acidity, bitterness, astringency, sweet, floral, fresh fruit, brown fruit (raisin, dates, prunes), nutty (walnut, hazelnut, almond), sweet (caramel, honey), spicy, woody and overall quality perception.

3.3. Distinguish top-rated cocoa origins with the International Cocoa Awards at the SdC.

The results were compiled and processed by CIRAD overnight during the SdC, which allowed for highlighting the three main sensory characteristics by geographic area. The prizes were attributed based on ranking of the samples for the means of all positive flavour traits (excluding the three basic flavour traits: acidity, bitterness and astringency). Samples which had the highest mean scores for one of the three most expressed flavour traits in each region received a prize, totalling 12 prizes (Table 6).

The results were announced on Friday 29 October 2010 during an event held in the conference room of the SdC in Paris, the "*Chocosphère*" in the presence of many producers, journalists, industrialists and artisan "chocolatiers". Detailed information on the origin of the 50 nominated and awarded chocolate samples has been placed on the CoE website (<http://www.cocoaofexcellence.org>).

Table 6: List of award-winning producers by region in October 2010

Region	Country	Producer	Main sensorial characteristics							
			Cocoa chocolate	Dried fruit	Floral	Fresh fruit	Spicy	Sweet	Woody	
				<i>apricots, dates, prunes,</i>		<i>pear, raspberry</i>	<i>cinnamon, liquorice, vanilla</i>	<i>Caramel, honey</i>		
West Africa	Cameroon	Fugicpan								
	Côte D'Ivoire	ZAMPOUR Boukary								
	Ghana	JB Ackonor CRIG								
South America	Brazil	João Dias Tavares Bisneto								
	Colombia	Luis Melo Uribe								
	Ecuador	Limber Moran								
Central America & the Caribbean	Jamaica	Cocoa Industry Board Richmond Farmentary								
	Trinidad	La Reunion Estate (<i>twice</i>)								
South East Asia & Oceania	Madagascar	Millot								
	PNG	CPL Plantation - Gunanur								
	PNG	PNG CCIL Commercial Plantations (Tavilo)								

Impact of the CoE and ICA celebration, distribution of chocolate samples and dissemination of results

Fifteen countries out of the 19 cocoa producing countries that participated in the 2009/10 CoE celebration were represented at the SdC in October 2010: Bolivia, Brazil, Cameroon, Colombia, Côte d'Ivoire, Dominican Republic, Ecuador, Gabon, Ghana, Madagascar, Mexico, Papua New Guinea, Peru, Sao Tome and Trinidad. Only Costa Rica, Honduras, Jamaica and Malaysia were absent.

The nine following producer countries that participated in the CoE had a stand at the event: Bolivia, Brazil, Dominican Republic, Ecuador, Ghana, Madagascar, Mexico, Peru and Sao Tome. Thirteen ambassadors of cocoa producing countries attended including those from Bolivia, Colombia, Dominican Republic, Ecuador, Gabon, Ghana, Guatemala, Honduras, Ivory Coast, Mexico, Nigeria, Peru and Venezuela attended the salon.

During the SdC, the CoE booth distributed pieces of chocolate to representatives from countries that had presented one or more nominated samples. Pieces of chocolates were also made available to many of the artisan ‘chocolatiers’ and manufacturers present at the Salon. Chocolate tasting meetings between producers and industrial chocolate makers were organized around the Cocoa of Excellence booth.

For example, the country representative of a farmer who had a nominated chocolate sample was contacted, through the Bioversity representative at the CoE booth, by one of the chocolate manufacturers present at the Salon who had tasted and liked the farmers’ chocolate. As a result, the farmer and the chocolate manufacturer became business partners.

Twenty-three artisan “chocolatiers” or manufacturers registered during and after the Salon to receive tablets of all of the 50 nominated samples. Sixteen were important industrial chocolate manufacturers, mostly fine-flavour industries: Cémoi, Barry-Callebaut, Belcolade, Bonnat, Chapon, Cluizel, Criollo, Hévin, ICAM, Lepecq, Mars, Morin, Pralus, Sampaka, Valrhona and Weiss. CIRAD provided these samples during the weeks after the SdC. In a follow-up planned for 2012, we will investigate whether the distribution of these chocolates has generated new contracts between producers of the nominated CoE samples and chocolate manufacturers.

Certificates prepared by Event International for each of the providers of CoE cocoa bean samples as well diplomas for the 50 nominated samples have been sent to the national focal points to be handed over to the farmers. The diplomas for the 12 prize winning awards were handed over to country representatives of the awarded farmers that were present at the SdC.

Further dissemination of results has been carried mainly by the Bioversity-managed Cocoa of Excellence website (<http://www.cocoaofexcellence.org/>) and by Event International. Information on the origins and main flavour traits of the 50 high-quality samples nominated for the ICAs is provided on the CoE website, as well as e-mail contacts for the providers of the 40 samples (mainly national focal point contacts). Event International has included full information on the 2010 ICA celebration, including information on nominated samples and prize winning samples, into a substantial press release provided to more than 5000 contacts.

Component 4 Establishment of the global CoE platform and dissemination of project results

4.1. Use of the Bioversity website as communication tool

The website has been activated, articles have been posted, detailed information on the origin of the nominated cocoa samples has been provided and dynamic communications are on-going. A recommendation was received from the industry partners that the International Cocoa Awards press release needs to be made as broadly (internationally) available as possible. WCF, Bioversity and COPAL assisted in this endeavour.

4.2. Presentation and publication of results at adequate events and in popular/scientific journals

Information leaflets on the CoE/ICA initiative were made available at the October 2010 WCF Partnership meeting and a presentation was made at their May 2011 meeting, exposing hundreds of industry members to this initiative.

A description of the International Cocoa Awards (ICA) was published in the ‘*La Revue du Chocolat*’ magazine No. 10. Following the *Salon du Chocolat*, an article quoting one of the award-winning farmers was published by Bioversity International (Annex 11).

4.3. Development of a sustainable CoE and award system for promotion of cocoa origins

Discussions were initiated in mid-2010 to continue the CoE project activities in 2010/2011 and to implement a Second Edition of the International Cocoa Awards at the SdC in October 2011. This was possible due to commitment of the partners to this initiative. (See also under Section 5.3)

Component 5 Project coordination and execution

5.1. Establish Project Coordination Team

The project was coordinated by Stephan Weise in 2010/11 through the CfL programme of Bioversity International in Montpellier. Janis Thiriet, as supporting programme assistant, carried out the bulk of communications with focal points in 29 cocoa producing countries and coordinated the shipment of the samples from the cocoa producing countries to CIRAD or Bioversity in Montpellier. Leïla Er-rachiq of CfL became actively involved in 2010 with the design of the CoE website and is afterwards continuously introducing information on the CoE website.

5.2. Establish Project Implementing Committee (PIC) to oversee project execution

The PIC had been established at the onset of the project in 2009 and continued to communicate frequently in 2010 to address implementation issues during this phase. Among other important decisions in 2010, the PIC had decided to continue with a second CoE/ICA Edition in 2011. The additional Technical Committee continued to oversee the technical elements required for the 2010 Edition of CoE and ICA.

5.3. Communicate project purpose and “rules of the game” to stakeholders in selected countries.

This has been ongoing when communicating to entities in 29 cocoa producing countries that are potential providers of CoE cocoa bean samples. Communications continue through the CoE website launched by Bioversity in October 2010.

5.3. The 2010/11 CoE activities and the 2011 edition of the ICAs

As in 5.2., results are presented and compared again to the planned activities according to the Project Implementing Agreement (PIA) within the five Project Components.

Component 1 Identification and acquisition of samples of promising cocoa Origins

1.1: Establish country committees for sample identification and commit to agreed course of action

Committees already established and course of action agreed.

1.2: Delivery of samples for basic bean quality evaluation

Participation in 2010/11 was confirmed for 22 out of the 31 cocoa producing countries contacted (Annex 10). The maximum quota for these 22 countries was adapted for the total amount of samples not to exceed 200. The 22 countries presented a total of 119 fermented and dried bean samples. Shipment and reception of samples from producing countries to France was coordinated by Bioversity. Basic quality of these samples was considered satisfactory by CIRAD.

Component 2 Cocoa liquor and chocolate production, and sample evaluation (international expert panel)

2.1. Standardized processing of cocoa beans into liquor.

Liquors were prepared from all 119 samples this time by Mars Inc., which represents a significantly increased in-kind co-funding contribution by Mars Inc.

2.2. Evaluate sensory quality of cocoa liquor samples

Cocoa liquor samples were evaluated according to standard working procedures (Annex 6) by four international experts, Sophie Assemat of CIRAD, Darin Sukha of CRU, Ed Seguine of Mars Inc. and, as a newcomer, Kristen R. Hard of Atlanta Chocolates (USA).

2.3. Identify 50 cocoa samples for chocolate making

Fifty samples were selected, based on mean scores for global preference given to each sample by the international experts. These were transformed into chocolates by Mars Inc. and Barry Callebaut, again according to the agreed working procedure for chocolate manufacturing (Annex 7).

Component 3 Cocoa flavour diversity celebration and attribution of awards at the Salon du Chocolat in Paris in October 2011

3.1. Communicate purpose of CoE/ICA celebration to an international lay and industry audience

The CoE website (<http://www.cocoaofexcellence.org/>) content has constantly been updated during 2011. The CoE set up its stand at the SdC with full support being provided by Event International.

The CoE set up its stand at the SdC to encourage meetings between producers and “chocolatiers” around the selected chocolate samples to meet the demands of chocolate and producers interested in the initiative of ICA (International Cocoa Awards). The persons present at the stand were Sophie Assemat and Nelly Forestier-Chiron (CIRAD), Bertus Eskes (CIRAD/Bioversity), Janis Thiriet (Bioversity) and Julien Rond (Event International).

3.2. Evaluate preferences for 50 single-origin chocolates by professionals before the 2011 Salon du Chocolat in Paris.

A jury made up of 25 chocolate specialists (mainly experienced tasters for chocolate manufacturers, but also a few cocoa-quality scientists) evaluated the following thirteen flavours: cocoa (chocolate), acidity, bitterness, astringency, sweet, floral, fresh fruit, brown fruit (raisin, dates, prunes), nutty (walnut, hazelnut, almond), sweet (caramel, honey), spicy, woody and spicy. Global overall flavour quality was also assessed (Annex 8).

3.3. Distinguish top-rated cocoa origins with the International Cocoa Awards at the SdC.

Three prizes for each of the four cocoa producing regions were attributed a few weeks before the SdC, based on mean ranking of the samples by the 25 jury members for global quality appreciation. The three samples with the highest global quality scores for each of the four cocoa producing regions were awarded a prize, and the most expressed flavour trait for each of the three samples was identified for each prize winning sample (see below).

One additional prize for each of the four regions was attributed during the SdC on 20 October 2011 based on the sensory evaluation by a jury of 5-7 cocoa sensory quality specialists (chocolate manufacturers), “gourmet” journalists and chocolate amateurs. The main trait considered by the jury was global quality appreciation (prized samples are indicated below).

The following samples received the prizes:

West and Central Africa

Cameroon, Magamba, Ngueno François, *Chocolate*
Côte d'Ivoire, Gagnoa, Yeboue Kouassi, *Fresh fruits*
Togo, Well-Kopé, Donkor Maxwel, *Dried fruit*

South America

Brazil, Bahia, Ilhéus, João Dias Tavares Bisneto, *Dried fruit*
Colombia, Arauquita, Saul Tirado Fuentes, *Sweet*
Ecuador, Guayaquil, David Pastorelli, Sulagro, *Floral*

Central America and the Caribbean

Dominican Republic, Santo Domingo, José Antonio Martinez, *Woody*
Mexico, Cunduacan, Clara Echeveria Diaz, Finca La Joya, *Fresh fruits*
Trinidad and Tobago, Gran Couva, George Bernard, Montserrat Cocoa Farmers Cooperative, *Spicy*

South-East Asia and Oceania

Malaysia, Sarawak, Cyril Anak Langin, *Spicy*
Malaysia, Pahang, Koh Ah Kau, *Chocolate*
Papua New Guinea, Kerevat, NGIP/AGMARK, Tokiala Plantation, *Dried fruit*

Additional Awards attributed by the jury of the Salon

Cameroon, Magamba, Ngueno François
Costa Rica, Upala, Finca la Amistad
Ecuador, Catarama, Association Campesinos de Catarama

Malaysia, Sarawak, Cyril Anak Langin

A ceremony, held on 21 October at the Salon, was animated by two well-known French TV presenters in front a large public audience to hand the diplomas to the 16 winners of the ICA 2011 edition.

Detailed information on the origin of the 50 nominated and awarded chocolate samples as well as contact e-mail addresses for these samples has been placed on the CoE website (<http://www.cocoaofexcellence.org>). The website provides contact details for all the winners: http://www.cocoaofexcellence.org/index.php?option=com_content&view=article&id=73&Itemid=93

Eleven cocoa producing countries out of a total of the 22 countries that have participated in the 2011 CoE/ICA edition were represented at the SdC, and eight countries had a stand on the SdC. Certificates prepared by Event International for each of the providers of CoE cocoa bean samples as well diplomas for the 50 nominated samples will shortly be sent to the national focal points to be handed over to the farmers. The diplomas for the 16 prize winning awards were handed over to country representatives of the awarded farmers that were present at the SdC.

Impact of the CoE and ICA celebration, distribution of chocolate samples and awards and dissemination of results

Bioversity will shortly be assessing impact factors of the CoE and ICA celebrations including: increased awareness and attention given to cocoa quality in cocoa producing countries' opportunities for farmers to improve and add value to their cocoa bean production, and interest raised of the CoE/ICA celebrations in the cocoa industry sector, especially the fine-flavour cocoa sector, as well as in the general public sector.

Bioversity will send out information to a list of 70 chocolate industry e-mail contacts worldwide, presenting the main results of the CoE/ICA Editions for 2009, 2010 and 2011, including the nominated chocolates and prizes attributed by each Edition.

Further dissemination of results has been carried by the Bioversity-managed Cocoa of Excellence website (<http://www.cocoaofexcellence.org/>) and by Event International. Information on the origins and main flavour traits of the 50 high-quality samples nominated for the ICAs is provided on the CoE website, as well as e-mail contacts for the providers of the 40 samples (mainly national focal point contacts). Event International has included full information on the 2011 ICA celebration, including information on nominated samples and prize winning samples, into a substantial press release provided to more than 5000 contacts.

Component 4 Establishment of the global CoE platform and dissemination of project results

4.1. Use of the Bioversity website as communication tool

The website has been constantly updated with information on the 2011 CoE/ICA Edition.

4.2. Presentation and publication of results at adequate events and in popular/scientific journals

Edition 2011 was promoted at the WCF Partnership meeting in May 2011.

4.3. Development of a sustainable CoE and award system for promotion of cocoa origins

The 90 fine-flavour chocolate industries that will be contacted shortly by Bioversity will be asked to express their interest in the continuation of the CoE and ICA celebrations. Based on feedback and further contacts with the project partners, Bioversity will soon develop a plan for sustainable Cocoa of Excellence editions and ICA celebrations to be carried out every two years during the professional show of the SdC in Paris.

Commitments for future engagement in the CoE/ICA celebrations have already been received from Event International, from several of the industry project partners, and also from public partners such as CIRAD and the Cocoa Producers' Alliance (COPAL). Bioversity, CIRAD, and Event International will continue to source for private sponsorships, in addition, industry partners will continue to provide technical input and support, while COPAL is considering the possibility of taking on the role of interfacing with producing countries and Bioversity supporting an overall coordination framework.

Component 5 Project coordination and execution

5.1. Establish Project Coordination Team

The project was coordinated by Stephan Weise in 2010/11 through the CfL programme of Bioversity International in Montpellier. Janis Thiriet, as supporting programme assistant, carried out again the bulk of communications with focal points in 22 cocoa producing countries and coordinated the shipment of the samples from the cocoa producing countries to CIRAD or Bioversity in Montpellier. Leïla Er-rachiq of Cfl continued actively to update the CoE website.

5.2. Establish Project Implementing Committee (PIC) to oversee project execution

The PIC had been established at the onset of the project in 2009 and continued to communicate frequently in 2011 to address implementation issues during this phase. The additional Technical Committee continued to oversee the technical elements required for the 2010 Edition of CoE and ICA.

5.3. Communicate project purpose and “rules of the game” to stakeholders in selected countries.

This has been ongoing when communicating to entities in 22 cocoa producing countries that are potential providers of CoE cocoa bean samples. Communications continue through the CoE web-site launched by Bioversity in October 2010.

6. LESSONS LEARNED AND RECOMMENDATIONS DERIVED FROM THEM

6.1. Development lessons and recommendations

The following development lessons have been learned during project implementation:

- It has been noted that the bottleneck for providing samples lies with the capacity of the national focal points or National CoE Organising Committees to organise effective and fair local CoE sample identification and selection activities. Especially in the 2009 edition, contacts were sought mainly with research institutions that were effective in selecting genetically and geographically diverse high-quality cocoa

samples, but which did not necessarily have the infrastructure and political backing to represent all farmers in a country.

- Therefore, in the 2010 and 2011 editions, contacts were sought more with farmers' associations and national cocoa boards, which in turn often relied on research institutions to assess basic quality parameters and to carry out an equitable selection, based on scientific arguments, if more samples were proposed than allowed according to the country quotas.

Recommendation 1: *With sustained CoE/ICA celebrations, it is recommended that the International Organising Committee stimulates National CoE Committees to become more institutionalised, including through the adoption of guidelines, accepted by all national stakeholders, to be applied at national level to identify and select a limited number of samples for participation in the CoE/ICA celebrations.*

These guidelines should be inspired by basic considerations adopted at international level in the current CoE project, i.e. mainly to select samples representative for the genetic and geographic diversity of cocoa at national level. This was the basis for the “Celebration” of the coca flavour origins in the 2009/10/11 CoE/ICA editions.

- The current CoE project has adopted quotas for maximum numbers of samples to be provided by a country and by a region, based on the expected diversity for flavour attributes in a certain country or region, as well as by the amount of cocoa produced. Most countries have respected these quotas, but many countries were not able to provide the maximum number of samples allowed to be presented or could not even present any samples at all.

Recommendation 2: *It is suggested that with sustained CoE editions no countries are invited to participate that do not have an effective National CoE Committee that applies minimum international and national acceptable standards for identification and selection of CoE samples within the quota number as decided by the International Implementation Committee of the CoE/ICA editions, and that is able to avoid any conflict of interest in the identification and selection of new CoE samples.*

- The fact that the countries altogether presented fewer samples than allowed for in the quota system has been of benefit to the project. This is so because it appeared that the maximum number of samples allowed for each year (varying from 194 to 235) was considerably higher than could be handled with the logistics in place of the current project partners concerning time, space and/or labour availability required for adequate implementing of the intensive and time-limited sequential working steps in each of the CoE sample preparation processes: sample reception, basic quality verification, liquor preparation, sensory evaluation of liquors, preparation of large quantities of liquors for the 40 or 50 nominated samples, chocolate making from these selected samples, distribution of liquors and of chocolate samples, and manufacturing and packaging of chocolate samples. The actual number of samples received (varying from 119 to 152) appeared already to be near to the upper limit of the project partners' capacities. This was somewhat buffered by the strong commitment and diligence displayed by the staff of CIRAD, Mars Inc., Barry Callebaut, Bioversity and of the international tasting experts involved in the liquor evaluations.

Recommendation 3: *It is therefore suggested that in case of sustained CoE/ICA celebrations, a lower maximum number of samples should be adopted, possibly in the range of 150 samples worldwide. This implies also reviewing the quotas allocated to each country*

- The CoE project suffered in the beginning from low participation of small to medium fine chocolate manufacturers in the CoE/ICA activities. A large number of such manufacturers had been contacted jointly by CIRAD, Bioversity and Event International in 2009, requesting support for the 2009 CoE edition in view of the absence of CFC financing for that edition. However, only very few replies were received at all, be it that the few replies received were quite positive.

Recommendation 4: *It is therefore proposed that new more pro-active ways of contacting small and medium fine-flavour chocolate manufacturers should be explored to involve these companies more closely in the CoE/ICA celebrations. In the short term, it is proposed that the publicly available information on the total of the 140 nominated cocoa bean samples in the 2009/10/11 editions is communicated to these chocolate companies, asking them about the interest they may have in a sustained continuation of the CoE/ICA editions and possibly in receiving any cocoa beans from providers of nominated samples to be evaluated by these companies.*

i

es from these companies will provide food for thought on how to find the most effective foundations for sustaining the CoE/ICA editions.

- Another problem encountered in the CoE project was that the questionnaires to obtain information on the origin of each sample were initially quite cumbersome in that they contained too many questions, and some of the questions were not straightforward to answer. Furthermore, the use of hard copies to be introduced into Excel sheets is cumbersome and has caused some mistakes to occur. The questionnaire has been simplified between the 2009 and 2010 CoE editions (see Annex 5).

- **Recommendation 5:** *To further simplify the questionnaire, limiting the information to be provided to the strict minimum required for the CoE/ICA purposes.*

e

setting-up of the website proved to be a very important communication tool in the project, which is yet to be fully exploited.

Recommendation 6: *The website should systematically display all public domain information that may help to bring cocoa producers and manufacturing industries in closer contact. Special attention is to be paid to making available the liquor and/or chocolate sensory evaluation data of all the 140 nominated samples in the 2009, 2010 and 2011 editions as well as the data on sample origins and contacts for each of the nominated samples. This process is currently being carried out by Bioversity.*

6.2. Operational lessons and recommendations

- At the start of the 2009 edition of the CoE project, some misunderstanding developed between the partners. If logistics had allowed a project inception-workshop involving all project partners and other major stakeholders in the cocoa value chain, such would have facilitated developing procedures for efficient implementation from the beginning of the project. This constraint was overcome in the latter part of 2009 by intensive communication led by Bioversity and maintained by the implementing partners through 2010 and 2011.

- The effective collaboration among a large number of private and public partners from different continents appeared to be more difficult in the beginning of the project than originally foreseen. These stakeholders were not necessarily used to working together, let alone making collective decisions. They sometimes held different views on how and what CoE was expected to accomplish and who was to be involved. On top of this, the late signature of the project Implementation Agreement by ICCO, Bioversity and CFC caused complications for the partners involved directly in the implementation of the 2009 CoE/ICA edition. It was only thanks to the strong commitments made by certain project partners, such as CIRAD, Event International, Barry Callebaut and Bioversity that the 2009 edition could be effectively implemented, albeit as a modified pilot scheme rather than according to the original plans. However, the lessons learned from the 2009 edition have certainly helped strongly to improve communications and decision making procedures in the 2010 and 2011 CoE/ICA editions.
- In the 2010 and 2011 CoE/ICA editions, strong commitment was received from all industry and public sector partners which have been working together very effectively and in good order. The especially strong support by Mars Inc. And Barry Callebaut should be acknowledged. The effective coordination of Bioversity, through very intensive communications with project partners and especially with national focal points and contacts established in more than 25 cocoa producing countries, has also been part of the success of the 2010 and 2011 CoE/ICA editions.

Recommendation 7: *It is suggested that in any sustained CoE/ICA celebration editions, due attention is paid to the need for strong decision-making mechanisms and strong coordination of the implementation of the activities, which are expected to be highly decentralised.*

7. FURTHER CONCLUSIONS AND RECOMMENDATIONS

Cocoa producing countries were invited by the PEA in 2008, 2009 and 2010 to send well-prepared fermented and dried cocoa bean samples representing diverse genetic and geographic origins. The participating countries were informed that for logistical reasons, the total number of samples had to be limited to 200 for 2009, 235 for 2010 and 194 for 2011. In the end, 152, 147 and 119 bean samples were actually provided by 20, 19 and 22 participating cocoa producing countries in 2009, 2010 and 2011, respectively. More than 95% of the bean samples provided did not present any apparent defects, showing that the providers had taken special care in preparing the submitted samples.

The efficient and effective implementation of the CoE project relies on well-functioning national organisations with the capacity to coordinate the process at the national level and liaise efficiently with the many producers of cacao for fine chocolates. It was noted that in most of the cases where participation was lower than anticipated, it was due to the lack of national coordination and of entities with a clear mandate for coordinating this project at the national level. Out of the 27 countries that participated in at least one of the three editions, 18 have a national association such as a Cocoa Board or a Producers Association to facilitate the coordination of the CoE project and act as the focal point. Out of these 17 countries, it is not surprising to note that all of the 14 that participated in the three Editions have such a national coordination structure in place.

The CoE/ICA editions were successfully implemented in 2009, 2010 and 2011. A total of 40, 50 and 50 samples were nominated for the International Cocoa Awards. The results of the 2009 pilot CoE/ICA edition were very useful for the implementation of the 2010 and 2011 editions.

Bioversity is communicating information on the CoE website on all nominated and prize-winning chocolates in 2009, 2010 and 2011. Bioversity now plans to contact 90 chocolate industries world-wide to provide them with information on flavour quality attributes of all nominated and prize winning chocolate samples as well as on the sample origins and e-mail contacts of the providers of these cocoa samples. The objective is to intensify communication of results with potentially interested chocolate industries and artisans. The industries and artisans will be asked to express their interest in the continuation of the CoE and ICA celebrations.

Recommendation 8: *Bioversity is developing a plan for sustainable CoE/ICA celebrations to be carried out every two years during the professional show of the SdC in Paris starting in 2013. This will build on study of the impact the CoE initiative has been able to achieve. A workshop may need to be organised for interested parties to consolidate the implementation of future CoE/ICA editions.*

Promises for continuous future engagement in the CoE/ICA celebrations were received already from Event International, from several of the industry project partners, and also from public partners such as CIRAD and the Cocoa Producers' Alliance (COPAL). In the future, Bioversity will continue to play an overall coordination and administrative role.

Bioversity will shortly implement an initial impact assessment for the 2009, 2010 and 2011 CoE/ICA celebrations, including increased awareness in all sectors of the cocoa industry, increased attention given to cocoa quality aspects in cocoa producing countries, increased opportunities for farmers to improve and add value to their cocoa bean production and interest raised by the CoE/ICA celebrations in the cocoa industry sector, especially the fine-flavour cocoa sector.

The current CoE project and ICA prizes have triggered a very strong interest in many of the cocoa producing countries due to the potential benefits of recognition of the quality of ICA nominated samples and prizes attributed as International Cocoa Awards. At the SdC of 2011 in Paris some country representatives mentioned that the award is a very important recognition of the work of the many producers who all benefited, even if only one or a few of them end up winning a prize. However, it can also create tension between producers.

In some cases, these quotas were not respected by the country and in a few cases more samples were sent to France, leaving the decision by the Project Implementation Committee to retain or eliminate samples, which is a very delicate situation that could create unnecessary tensions. Therefore during the project, all received samples, unless very few that were eliminated for low basic quality, were processed into liquors.

Recommendation 9: *The experience of the project suggests that new quotas for sending CoE samples should be proposed and agreed by all partners before a new CoE edition cycle is initiated and that the quota should not be adjusted during the course of an edition. They should also be clearly communicated to the countries.*

ANNEX 1: Planned Sample Numbers and origins

(Tentative maximum numbers of cocoa samples to be accepted from 31 countries for the cocoa of excellence celebrations, as suggested by the expert group meeting in January 2008, mainly based on expected genetic and geographies diversity for high-flavour attributes of each country)

Africa	Number of samples	South-East Asia & the Pacific	Number of samples
Cameroon	10	India	5
Congo	5	Indonesia	5
Côte d'Ivoire	10	Malaysia	10
Ghana	5	Papua New Guinea	10
Madagascar	5	Samoa	5
Nigeria	5	Vanuatu	5
São Tomé	5	Vietnam	5
Togo	5		
Total # samples	50	Total # samples	45
South America	Number of samples	Central America & the Caribbean	Number of samples
Bolivia	5	Costa Rica	5
Brazil	20	Cuba	5
Colombia	10	Dominican Republic	10
Ecuador	20	Grenada	5
Guyana	5	Jamaica	5
Peru	10	Mexico	5
Venezuela	20	Nicaragua	5
		Trinidad & Tobago	10
Total # samples	90	Total # samples	50

ANNEX 2: Sample Announcement

Participation in the “Cocoa of Excellence” (Coe) Celebration 2011

Scope of the project

The goal of the CoE is to promote high quality cocoa origins. The specific objectives are:

- *To create awareness among producers and other operators in the national and international cocoa supply chain on the opportunities of high quality cocoa differentiation;*
- *To provide global recognition for the producers and “terroirs” of high quality cocoa origins;*
- *To expose chocolate manufacturers and experienced consumers to the spectrum of flavours that exist in cocoa from different origins,*
- *To facilitate linkages between producers of quality cocoa origins and manufacturers of specialty chocolate products; and*
- *To stimulate, through the institutionalization of the CoE event, the capacity of producing countries to search for, to evaluate and to produce specialty cocoa types.*

Cocoa producing countries will be invited to send well-prepared fermented and dried bean samples representing the genetic and geographic origins of their regions. Cocoa liquor samples will be characterised and evaluated firstly by an international panel using standardised methods. Results will be used to identify diverse quality cocoa origins (“terroirs”). High quality samples from different origins, with recognized or with interesting new flavour attributes, will be processed into chocolates and nominated for the “International Cocoa Awards” to be attributed by professionals and by experienced amateurs at the occasion of the Chocolate Salon of Paris (“Salon du Chocolat”) in October 2011. The awards and results of the quality characterization of nominated samples will be made public.

International organisation of CoE

The initiative is supported by several research institutions, chocolate manufacturers and cocoa organizations.

National organising committees

Each participating country should set up a National Organising Committee. The national organising committee may consist of representatives of one or more of the following stakeholders: research and development institutions, national cocoa boards, quality control centres, NGO's, export promoting institutions, etc. The national organising committee is responsible for announcing the CoE at national level. The international organisers will contact with priority national research and sector development institutions to organize the national committee. The coordinator of the national organising committee will be in charge of the contacts with the international organisers.

Sample providers

Providers of cocoa samples for the CoE should either be individual cocoa farmers, groups of cocoa farmers, cooperatives or cocoa estates, national research centres, etc. that have shown their interest to participate and that are able to produce high quality cocoa batches. The national organizing committee should ensure that the samples they provide will represent the variability of the whole country.

Type of samples

1. “Commercial samples”.

Well fermented dry bean samples (3 kg) prepared by cocoa producers from existing commercial plantations, or group of plantations, representing traditional or improved/modern cocoa varieties from different geographic/climatic origins. It should be possible to reproduce the same quality cocoa at commercial scale (several tonnes per year) in subsequent years.

2. *Experimental samples.*

Well fermented and dried bean samples (3 kg) derived from interesting new varieties (newly selected varieties or accessions with special quality traits) or through new post-harvest processes (*e.g.* novel fermentation method, *etc.*). These potentially interesting experimental samples may not be available yet for commercial scale production, but may become so within a few years time. These samples may be prepared by cocoa farmers or by research institutes.

Number of samples

For logistical reasons, the international organising committee has limited the total number of samples to 235. It is aiming at a distribution of samples from the four geographical cocoa producing regions participating in the CoE as follows:

- South America:90,
- Central America, Mexico and the Caribbean:50,
- Africa and the Indian Ocean:50, and
- South-East Asia and the Pacific: 45 samples.

National organising committees will be asked to propose a limited number of samples (generally varying between 5 and 15) **representing diverse geographic and genetic origins in their country**. Up to 30% of these samples may be “experimental” samples. In case more samples are being proposed than can be accepted, the international committee reserves the right to reduce the number of samples per country proportionally according to the above mentioned criteria.

Preparation of samples

Fermentation should be according to the best available technologies that bring out the intrinsic qualities of the samples. The amount of wet beans should be at least 100kg, to allow for adequate fermentation conditions. Depending on the varieties, the time of fermentation and the numbers of turn-over may vary. Only experimental samples may be produced through a “micro-fermentation” method (in mesh bags placed inside large cocoa fermentation masses).

Drying

Final moisture content of the samples should be less than 8%.

Defects

Samples with obvious defects in preparation should be eliminated by the national organising committee. Diseased, insect damaged, mouldy, smoky and under- or over-fermented bean samples cannot be accepted for evaluation by the international expert panels.

Collecting and storage of samples

The national organising committee is responsible for the collection/receipt of the cocoa bean samples. Three kg of each of the samples will be sent to France.

Information on the origin of the cocoa sample and method of preparation

The national organising committee should obtain detailed information on the origin of the cocoa samples, on the farm, and on how the samples were prepared. The national organising committee is responsible for the quality of the information provided with each sample. An electronic template with the data to be provided on the origin and on the method of preparation of each of the samples will be made available by the international organisers to the national committees. The aim is to classify the samples correctly and to facilitate reproducibility of obtaining samples with the same quality profile. Samples that are not accompanied with a duly filled template are not traceable and cannot be considered.

Shipment

The national organising committee will send 3 kg of each of the commercial and experimental samples as soon as they become available. The samples will be shipped from the countries to Bioversity International Montpellier, France and should arrive there **not later than the end of March, 2011**. Detailed shipment instructions will be provided later. However, it should already be noted that samples should be sent in suitable containers, at least made of rigid carton, to avoid loss or contamination of cocoa beans. The cost of the shipment will be born by the providers or by the national organising committee.

Processing of samples

Samples received will be verified to ensure that the moisture content, cut tests, presence of defective beans, mouldiness, smoky flavours, *etc.* of the fermented beans are all within acceptable limits. Beans with evident off-flavours or with other defects above internationally acceptable thresholds will not be considered for further evaluation.

Evaluation of cocoa liquors

About 500 to 600 g of each bean samples will be used to prepare cocoa liquors that will be evaluated (blind tasting) by four or five international experts in sensory evaluation of cocoa samples. The assessment criteria will be harmonized to enable consistency in evaluation methods and scoring. Besides specific flavour traits, scores will be given also for “preference/utility” to assess the overall interest of the sample in making high quality chocolates (including possible blends). The details of the evaluation procedure will be refined as necessary by a technical committee.

Nomination of samples for International Cocoa Awards at the Salon du Chocolat, Paris, October 2011

Nomination for the “International Cocoa Awards” (*honourable distinctions*, without money value) will be based on the results of the evaluation of the liquor samples by the international experts. Fifty high quality samples will be selected representing the best flavour quality diversity and the geographic and genetic origins of samples. Chocolate samples will be prepared from the remaining cocoa beans of each nominated sample. These will be tasted blindly by a “professional” jury (mainly chocolate manufacturers and traders) and by an “informed public” jury (experienced amateurs of chocolate clubs, journalists of the specialized press, oenologists, ..) at the SdC. The main criterion to be evaluated by the members of the

juries is “preference/utility” for manufacturing high quality chocolates of single or blended origins. The international organizers will identify the award categories in advance of the selection process.

Distribution of results

The outcome of the assessments by the experts and juries will be treated as confidential, unless specifically indicated. Feedback on raw bean evaluation and on liquor flavour profiles of individual samples will be given, as soon as available, to the national organising committees to be transmitted to the providers of the cocoa samples. Unless there is specific objections, this information will be used for scientific analysis and reporting while ensuring anonymity. If desired and with prior agreement of sample providers, information on raw bean evaluation and liquor flavour profiles can be made available to interested commercial parties. However, ***the information on the nominated samples and on the awards attributed will be made public*** (including by publication on the CoE web-site).

Website

Please refer to the website www.cocoaofexcellence.org for all the latest information and guidelines, including the contacts in each country responsible for assembling the samples. It also includes information on previous editions.

ANNEX 3: Guidelines for sample preparation and quality control

General recommendation on use of best available practices

Good practices include:

1. Harvesting of ripe (green-yellow or yellow pods) and healthy pods only
2. Only seeds from healthy pods are used for fermentation
3. Removal of the placentas, empty and diseased beans can best be done after pod breaking
4. Fermentation in large enough amount (minimum 100 kg = 1000 pods)
5. Heap or box fermentation
6. Fermentation mass to be covered with banana leaves and jute bags
7. Fermentation mass to be protected from rain and/or cold
8. Duration of fermentation: depends on the variety and local conditions (5 to 6 days in general)
9. Turning of the fermentation mass in an appropriate way, depending on cocoa variety (if unknown use 24, 48 and 96hrs after initiation of fermentation)
10. Sun-drying recommended (when possible)
11. Protection from rain is required
12. Covering of beans required during the night
13. Thickness of layer of drying between 3 and 5 cm to avoid mouldiness or over-fermentation
14. Optimum drying is to 7% humidity (with duration of 5 to 10 days, generally)
15. Drying is complete when beans are crispy and have lost elasticity when pressed in the hand
16. Damaged or empty beans and remaining placentas are to be removed before bagging
17. Use of clean jute or nylon bags is recommended
18. Storage should be in an insect-free cool room
19. Shipment is to be done as soon as samples are available

Control of quality

1. Humidity control (7-8% maximum)
2. Evaluation with the cut test (100 beans). Samples should have less than 3% slaty beans, 3% mouldy beans (with white mould inside beans), and 3% beans with other defects (broken, insect damaged, germinated, rotten or empty beans).
3. Uniformity of bean size

ANNEX 4: Shipment instructions for samples of the “Cocoa of Excellence” (CoE) celebration in 2010

1. Please remember that the samples (2.5 kg each) for the CoE should be sent as soon as available, preferably before the end of January 2010 and with final date of 31 March 2010.
2. The address where the samples should be sent to is:
Sophie ASSEMAT
Expert Qualité Cacao
CIRAD UMR95
TA B95/16
73 Avenue Jean-François Breton
34398 Montpellier
France
E-mail: sophie.assemat@cirad.fr
Tel : + 33 4 67 61 58 40
Fax : +33 4 67 61 59 55
3. Please do not send samples with apparent quality defects (less than 3% slaty, mouldy or broken beans).
4. Please verify also the health status (possible presence of insects and of diseases). Do not send any insect infested or diseased beans.
5. It would be good to have a phytosanitary certificate from the authorities of the country of origin. But if this is difficult to obtain, then we could still receive the samples.
6. Please make sure that the bags are strong and well sealed, to avoid any breakage and loss of beans during transport.
7. Please note that for courier shipment (e.g. DHL) it is important to indicate that this is a sample of **fermented and dried cocoa beans without commercial value. Please put a symbolic value only of 5 USD as the value of the package.** This is important, otherwise the customs will retain the package and charge import taxes.
8. Please inform CIRAD (Sophie Assemat: sophie.assemat@cirad.fr) of **when shipment is done and the code number of shipment**, with copy to Janis Thiriet (j.thiriet@cgiar.org) so that we can trace the parcel in case of need.
9. It is important also that we receive the samples with the **information sheet** filled out for each sample, with all information available on the origin and mode of preparation of each sample.

ANNEX 5: Sample providers' questionnaire

Information to be provided on cocoa bean samples prepared for the “Cocoa of Excellence“ (CoE) Celebration 2010 and 2011

All bean samples have to be accompanied by a completed form. The availability of the full information set will help to interpret findings of the quality analysis – this is strongly encouraged. The very minimum data necessary though is highlighted in bold.

Samples considered for submission to CoE should:

- have been prepared using mature and undamaged pods,
- be well fermented, and
- well dried.

Quality control points include:

- a. Humidity control (7-8% maximum)
- b. Evaluation with the cut test (100 beans). Samples should have less than 3% slaty beans, 3% mouldy beans (with white mould inside beans), and 3% beans with other defects (broken, insect damaged, germinated, rotten or empty beans).
- c. Uniformity of bean size

A. Type of sample

1. Sample code (country name and number): _____
2. Type of sample: Commercial Experimental
3. For commercial samples: quantity of beans (____tonnes/yr) of the same origin that can be reproduced with similar quality in following years
4. Type of experimental sample: New variety Accession in gene bank
 Local native variety New processing method Other _____

B. Information on the origin of the sample

Information on the farmer and the plantation

1. Name of the provider of the sample, if Farmer: _____,
if Cooperative or Farmers association _____, if
Other _____
2. If individual farmer, is he affiliated to a cooperative?
 No Yes , name of cooperative: _____
3. Location of the farm or plantation (address, town, district, region, country)

4. Size of the plantation(s) from which the sample was obtained (ha): _____
5. Productivity of the plantation where the sample came from
(if known): _____kg/ha
6. Average age of the trees from which the sample was obtained: _____years

Yes No, main difference is: _____

2. Fermentation was done in: Wooden boxes Heaps In bags
 Other: _____
3. Pre-drying of wet beans before fermentation: Yes No
4. Estimated size of fermentation mass in heap, boxes or bags: _____ kg
5. Duration of fermentation (days): _____
6. Number of turns during fermentation: _____
7. When beans were turned (days after start of fermentation): _____
8. Micro-fermentation (only for experimental samples) was done with _____ kg wet beans in netted bags placed in a fermentation mass of _____ kg

Solar drying

1. As commonly applied in the region:
 Yes No, main difference is: _____

2. Duration of total drying process (days): _____
3. Composition of the drying floor: _____
4. Thickness of bean layer on the drying floor (cm): _____
5. Use of mixed drying practice (solar and artificial): Yes No

Artificial drying

1. Type of drier used:
 Tray and fire Samoa type Others: _____
2. Source of heat: _____
 Wood Waste Gas Fuel
 Others: _____
3. Thickness of the bean layer (cm): _____
4. Duration of artificial drying (days): _____

Name of the person that filled out the form:

Place : _____

Date : _____

ANNEX 6: Report of the sensorial technical committee meeting March 2010

March 22, 2010

Dr. Stephan Weise
Program Director ‘Commodities for Livelihoods’
Bioversity International
34397 Parc Scientifique Agropolis II
34397 Montpellier – Cedex 5
France

RE: Report of the Sensorial Technical Committee on Regional Assignments for Cocoa of Excellence, Salon du Chocolat Paris 2010, liquor flavour screening, and schedule of activities

Dear Dr. Weise,

The Sensorial Technical Committee for the Cocoa of Excellence program respectfully submits the following proposal for: (1) the assignment of regions and definition of regional flavour for the chocolate selection in the Cocoa of Excellence 2010 and (2) sample representation and categorization of flavour for recognition at the Cocoa of Excellence 2010 for ratification by the Implementing Committee.

Regions Defined

The recommendation for assignment of regions is based on the following three criteria:

1. The biological diversity and the range of the diversity of the *Theobroma cacao* species.
2. The historical movement, both ancient and modern, of the species to non-native growing environments.
3. The historical inter-breeding, both planned and adventitious, that has occurred within regions.

Applying these criteria to the growing regions of the world today, we propose the following assignment of regions and countries to regions (note that the countries listed are indicative only, not all inclusive). We have also added to these regions our expert assessment of the overall defining flavour characteristics of excellent quality cocoa from these regions.

- I. **West Africa**
Côte d’Ivoire, Cameroon, Congo, Ghana, Liberia, Nigeria, São Tome, Sierra Leone, Togo, Uganda
- II. **Southeast Asia**
Indonesia, Malaysia, New Guinea, Vietnam, and India
- III. **South America**
Brazil, Bolivia, Colombia, Ecuador, French Guyana, Guyana, Peru, Suriname, Venezuela
- IV. **Central America and Caribbean**
Belize, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Jamaica, Mexico, Nicaragua, Panama, St. Lucia, Trinidad and Tobago

V. **Oceania (note by report author: this region was merged with South East Asia, and Madagascar and Tanzania with Africa in 2010 and 2012)**

Fiji, Samoa, Solomon Islands, Vanuatu plus India, Madagascar and Tanzania*

*Inclusion in Group V is based on the historical movement of germplasm over the centuries which puts parentage as well as expected flavour profiles of Madagascar and Tanzania in East Africa / East African islands within this grouping.

Categorisation of Flavour for Selections for Recognition

During the technical committee meeting, following list of flavour descriptors were defined for use by the Sensorial Technical Committee for the liquor pre-selection exercise to generate the 50 samples that will be converted into chocolate for jury review.

- Acidity
- Bitterness
- Astringency
- Cocoa/Chocolate
- Sweet
- Floral
- Fresh fruit
- Browned fruit (raisin, dates, prunes)
- Nutty (walnut, hazelnut, almond)
- Woody
- Sweet (caramel, honey)
- Spicy
- Global Quality
- Other comments

Sample Representation

The Cocoa of Excellence program involves submission of samples by Producing Countries to CIRAD for preparation of liquors and initial blind screening by the Sensorial Technical Committee. The objective of this screening is to select the 50 samples best representing the diversity and complexity of flavour within *T. cacao* as it exists today in the countries and regions of the world. These 50 samples will be further processed into chocolate for further evaluation and categorization by the panel of Expert Jurors approximately one month prior to the Salon.

Within regions, we recognize that individual countries and areas within countries are associated with specific flavour attributes in addition to the general characteristics of the broader Regions. We are also mindful that the Cocoa of Excellence has invited Producing Countries to submit samples with the majority being representative of what is or can be currently commercially available and to submit “experimental” samples representing active crosses and accessions in the country likely having unique flavour profiles. The number of samples which are experimental (at maximum 30% of total number of samples provided) was defined by Cocoa of Excellence invitation letter to be much smaller in number than the commercially available samples.

Assignment of specific number of samples to each Region will be based on displaying the regional diversity and distinguishing diversity of flavour between and within countries within Regions. This will be adjusted based on overall numbers of samples submitted under the guidelines and the number of commercial versus experimental samples submitted across all Regions. While the approximate number of samples selected for inclusion in the 50 is about

10 per Region, this number is not a hard and fast assignment as some regions will have a few more and some a few less samples in order to exemplify the diversity noted above.

Processing of Cocoa Beans into Liquor

The Sensorial Technical Committee notes that this global selection and demonstration of the incredible flavour diversity offered to mankind by this “Food of the Gods” requires some customization in the processing, particularly the roasting preparation of the liquors. Given the extensive experience of CIRAD, CRU (Cocoa Research Unit), and Mars (Ed Seguire) in global evaluation of cocoa beans over the years, CIRAD will apply the following fundamental three roasting regime adjustments to samples of beans based on their expectation of flavour profile:

Full Roast	Chocolate / cocoa defining beans
Gentle Roast	Fruit, and floral defining beans
Low Roast	Caramel / nut defining beans

Organization and Time Line of Activities

1 - Protocol for the manufacturing of chocolates

The protocol used last year was provided to Ed Seguire, Mars. He will get in touch with Aurélie Hristov from Barry Callebaut (BC), to discuss the chocolate manufacturing protocol.

2 - Distribution of selected liquor samples between Mars and BC, to process the 50 nominated samples into chocolate.

BC has requested they receive a sample set other than the South and Central America set which they received last year. Ed Seguire indicates that Mars is agreeable to this request.

3 - Moulding and packaging of chocolates

So that all the samples presented to the final jury have the same aspect and so that the processing company cannot be identified, Mars suggests that moulding and packaging are made by BC.

4 – Time Line of Activities

April-May	Shipment of full sample set of liquors prepared by CIRAD to Darin Sukha (CRU) and Ed Seguire (Mars) for sensory evaluation of liquors. Sensory evaluation by Sophie Assemat, Dr. Darin Sukha and Ed Seguire
June 1-4	All results of full set evaluations to Sophie Assemat, CIRAD for compilation and initial evaluation. Sensorial Technical Committee meets by email for re-tasting of liquors as needed and final selection of 50 nominated samples.
June 25	Distribution of samples in the categories First shipment of liquors to BC and Mars
July 15	Second shipment of liquors to BC and Mars
August 25	Sending of chocolate samples from Mars to BC for moulding and packaging
September 10	Sending of individual, blinded chocolate samples to the members of the final jury
October 3	Deadline for the reception of the results from the final jury Beginning of results analysis by CIRAD with review by entire Sensorial Technical Committee
October 28	Salon du Chocolat: tasting of chocolates and proclamation of the results with the presence of the members of final jury, representatives of the participating companies, and representatives of the producing countries and supplying farmers at the

SdC, Paris 2010

Submission to the Implementing Committee

This report and recommendation is based on the deliberations of the Sensorial Technical Committee Meeting 15-16 March, 2010, at CIRAD, Montpellier. We ask that you please convey our recommendations for ratification to the Implementing Committee of the 2010 Cocoa of Excellence Program.

Respectfully,

Sophie Assemat
Expertise et Analyse Sensorielle Cacao
CIRAD, France

Edward S. Seguire
Chocolate Research Fellow
Mars Chocolate North America, USA

Dr. Darin A. Sukha
Research Fellow/Food Technologist
Cocoa Research Unit
Univ. of the West Indies
Trinidad and Tobago

Additional Contributors/
E. Cros and M. Barel
Senior cocoa quality scientists
CIRAD , France

ANNEX 7: Method for manufacturing/processing of the CoE/ICA chocolates

According to the CIRAD/Barry Callebaut 2009 protocol, applied by Barry Callebaut in 2009, in 2010 and in 2011 and by Mars Inc. in 2010 and 2011

Protocol for chocolate production

One single recipe only will be used for the 50 samples of cocoa mass. This recipe is as follows:

- Cocoa mass: 61%
- Sugar (beet) 33.5%
- Deodorised cocoa butter 5%
- Emulsifier: lecithin of soya 0.5%

Smoothness: 16-20 microns

NB: It is important to note that no aroma will be added in this recipe

Protocol for manufacturing on a set pilot line

- Weighing the ingredients
- Mixing the ingredients which will be crushed in a kneader in a Z way
- Cacao mass: 34%
- Sugar: 33.5%
- Crushing in a 3 cylinder crushing machine
- Dry conching at 60-65°C for 2 hours in a kneader in a Z way
- Refining with the guedou: 30 minutes after the addition of:
 - Fine cocoa mass: 27%
 - Cocoa butter: 5%
 - Lecithin: 0.5%

The chocolate obtained will be moulded in mini-tablets of approximately 5g. Forty packages of 4 mini-tablets will be made (that is to say 1 package of 20g/jury), clearly labelled (codification given by CIRAD). The remaining quantity of chocolate will be moulded in mini-tablets (in order to constitute a reserve) and sent in bulk.

ANNEX 8: Evaluation of chocolate flavour traits and prizes attributed

As agreed by the project implementation committee in 2009, 2010 and 2011

2009

Flavours evaluated

Cocoa, Acidity, Bitterness, Astringency, Fruitiness (fresh and brown fruit), Nutty, Floral, Sweetness (honey, caramel), Spicy and Woody

For the Cocoa of Excellence celebration at the SdC in October 2009, the 40 chocolate samples were divided into groups of ten top accessions according to the mean scores obtained for the seven positive flavour traits, excluding the 3 basic flavour traits (acidity, bitterness and astringency).

2010

Flavours evaluated

Cocoa (Chocolate), Acidity, Bitterness, Astringency, Sweet, Floral, Fresh fruit, Brown fruit (raisin, dates, prunes), Nutty (walnut, hazelnut, almond), Sweet (caramel, honey), Spicy, Woody, Spicy, Global quality, Other comments

Three prizes were attributed for each of the four cocoa producing regions by a jury of 5-7 chocolate manufacturers, journalists and chocolate amateurs during the SdC, based on ranking of the samples for the means of all positive flavour traits (excluding the three basic flavour traits: acidity, bitterness, astringency). The samples which had the highest mean scores for one of the three most expressed flavour traits for each region received a prize.

2011

Traits evaluated:

As in 2010 (see above).

Three prizes for each of the four cocoa producing regions were attributed a few weeks before the SdC by a 25-member jury composed of cocoa sensory specialists (mainly chocolate manufacturers and a few cocoa scientists), based on ranking of the samples for global quality appreciation. The three samples with the highest global quality scores for each of the four cocoa producing regions received a prize, and the most expressed flavour trait for each of the three samples was identified for each prize winning sample.

One additional prize for each of the four regions was attributed during the SdC in October 2011 based on the sensory evaluation by a jury of 5-7 cocoa sensory quality specialists (chocolate manufacturers), “gourmet” journalists and chocolate amateurs. The main trait considered by the jury was global quality appreciation.

ANNEX 9: Salon du Chocolat, Event banner contents

(English and French versions prepared)



Banner ICA 2010

International Cocoa Awards

In alliance with private and public partners dedicated to greater diversification of cocoa and cocoa markets, SdC has established the International Cocoa Awards, which aim to:

1. Celebrate the diversity of cocoa flavours and excellence in growing and processing cocoa;
2. Provide international recognition for origins of extraordinary cocoa;
3. Draw attention to the opportunities of high-value cocoa differentiation;
4. Stimulate industry linkages to the providers of special cocoa origins.

For this year's Edition of the International Cocoa Awards, 50 of the most remarkable samples, out of 147 we received, have been processed into chocolate and will be assessed in public by a panel of experts. The panel's findings on the range of qualitative flavour characteristics will be announced on the 29th of October.

Come and join us!

Cocoa diversity

Cocoa pods and beans come in many sizes, shapes and colours. Much industry emphasis has traditionally been placed on the size of cocoa beans, their fat content and degree of fermentation. However, chocolate makers are increasingly also seeking particular flavours in cocoa. African forastero offers unparalleled intensities of chocolate flavour. The rare Criollo beans from Latin America provide subtle notes of dried fruit, nuts and caramel, while Trinitario cacao, a cross between forastero and criollo, display intriguingly complex aromas, described as fruity or floral.

Cocoa producers

In remote tropical places where few crops give profitable returns, poor small-scale farmers like to grow cocoa. The dried beans are almost as good as money. Cocoa is not perishable and is sold easily to local buyers. However, cocoa is difficult to grow because of pests, diseases and low productivity. Harvesting and processing cocoa is very labour-intensive. This limits the capacity of a family to manage cocoa to an area of typically 1-3 ha. Increasing farmer income from cocoa, by enhancing cocoa quality and yields through improved

practices, is of the utmost importance if farmers are to lead better lives and make their plantations environmentally sustainable.

Marketing cocoa flavours

Cocoa is genetically highly diverse and it comes from a range of different environments in terms of varying soils, rainfall patterns and temperatures. There is no reason why cocoa provenances should not be as varied as the grapes that give rise to highly differentiated varietal wines. The diversity of cocoa flavours from all growing regions provides opportunities for an ever increasing differentiation of cocoa into higher-valued and diverse qualities and flavours.

Cocoa diversity under threat

Cocoa diversity is greatest in Latin America, where the crop originated. Yet, that diversity of cocoa has come under threat from under-use and abandonment of traditional varieties that are being replaced by better-yielding varieties, which have not been selected for flavour quality. More research and collaboration between the public and private sector is needed to preserve cocoa diversity, and to better understand the interplay of cocoa genetics, environment and quality management to produce cocoa “terroirs”. Farmers need to participate in the generation of such knowledge, so that they can build appreciation for the genetic resources in their hands and for improved quality management.

ANNEX 10: Sample Quotas per country and year

As proposed and adjusted for 31 countries and number of samples received by country for the CoE/ICA activities in 2009, 2010 and 2011

Regions/Countries	2009 Quota *	2009 Samples received	2010 Adjusted quota	2010 Samples received	2011 Adjusted Quota	2011 Samples Received
Cameroon		20	10	4	10	5
Cote d'Ivoire			10	15	10	12
Gabon		3	5	3	5	5
Ghana			5	5	5	6
Madagascar			5	5		
Nigeria			5			
Sao Tome			5	1	5	1
Togo			5		5	2
Africa	55	23	50	33	40	31
Fiji		3	4			
India			4			
Indonesia		11	5			
Malaysia		11	10	13	10	7
Papua New guinea		7	10	11	10	10
Solomon Islands		5	4		4	4
Vanuatu		2	4			
Vietnam		5	4			
Asia and Pacific	35	44	45	24	24	21
Bolivia		8	5	4	5	4
Brazil		10	20	22	20	20
Colombia		13	10	10	10	5
Ecuador		12	20	13	20	6
Guyana			5			
Peru		5	10	10	10	4
Venezuela		14	20		20	4
South America	65	62	90	59	85	43
Costa Rica		2	5	7	5	4
Cuba			5		5	1
Dominican Republic		3	10	10	10	5
Honduras		1	5	1	5	1
Jamaica			5	2	5	5
Mexico		6	5	1	5	2
Nicaragua			5			
Trinidad and Tobago		11	10	10	10	6
Central America and Caribbean	45	23	50	31	45	24
Grand Total	200	152	235	147	194	119

* A total of 40 countries were contacted in 2008. Each country was asked to present between 5 and 10 samples of genetically and geographically diverse high-quality cocoa in the 2009 pilot edition of CoE/ICA

ANNEX 11: Quoting an award-winning farmer

Colombian cacao ‘Mezcla’ awarded at the Salon du Chocolat



“My family and I are very satisfied and proud of this award” said Luis Uribe Melo, one of the three Latin American winners, when it got the good news. “It reflects the dedication we give to crop management. I hope this will be a strong point to position the Colombian cacao in the World market, attracting companies and industry which appreciated the cocoa taste and aroma of our particular farm ‘El Recuerdo’ and those of Auraca department.”

This recognition shows the benefits of making an adequate process. From planting to harvest, Luis pays particular attention to the process, selects carefully the ripe pods, performs special care during the fermentation process, then manages drying process in wooden beds, all those processes meeting the strictest international standards recommended by the *Federación Nacional de Cacaoteros de Colombia* ([Fedecacao](#)) which sent the cocoa samples through the CI Cacaos de Colombia. Its manager Juan Carlos Agudelo Holguin was representing Colombia in Paris and the recognition of the Colombia cacao gave him more opportunities to meet chocolate makers from various countries - including UK, France, Japan - who appreciated the original Auracan cacao fresh fruit notes.