

2017 International Symposium on Cocoa Research (ISCR), Lima, Peru, 13-17 November 2017

**The Cocoa of Excellence Programme:
Celebrating high quality cocoa production and diversity of flavours around the
world – key lessons learnt from 6 Editions since its creation in 2009**

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Abstract

The Cocoa of Excellence (CoEx) Programme is the entry point for cocoa-producers to participate in the International Cocoa Awards (ICA), a global competition recognizing the work of cocoa farmers and celebrating quality and diversity of cocoa flavours. Launched in 2009 the CoEx Programme aims to recognize, value and preserve cocoa by providing global recognition of high quality cocoa. Its objectives are to (1) increase awareness and promote education along the cocoa supply chain on the opportunity to produce high quality cocoa and preserve flavours resulting from genetic diversity, “terroir” and know-how of the farmers who prepare cocoa, (2) facilitate communication and linkages between cocoa farmers/producers and operators in the supply chains, and (3) stimulate and increase capacity of producing countries to recognize, seek out and preserve quality and diversity in cocoa.

Cocoa producing countries identify high quality cocoa samples with flavours representing the diversity of cocoa in their country. These samples are processed into liquor and untempered chocolate and blindly evaluated by the CoEx Technical Committee members. The best 50 samples are then processed into tempered chocolate moulded and assessed by a broader panel of professional chocolate makers, sensory and quality evaluation experts. The 3-5 best samples from each of the 4 cocoa-producing regions are selected and receive an International Cocoa Award celebrated at the Salon du Chocolat in Paris at the end of October. Contact information and flavour profiles of the best 50 samples is made available to bean buyers and chocolate makers through the CoEx Website. A detailed feedback report is produced for each cocoa bean sample received and sent confidentially to the producers.

The CoEx Programme and the ICA are organized every 2 years. The 2017 Edition is the sixth edition and since its creation in 2009, the CoEx Programme has received about 850 bean samples representing more than 50 countries and celebrated 114 International Cocoa Awards. The CoEx Programme carried out an in-depth evaluation to assess its impact at the cocoa-producers’ level particularly with regards to the improvement of quality and raising awareness of the genetic and flavour diversity around the world. This paper presents the preliminary results of the evaluation, how the role of the CoEx Programme is perceived by the stakeholders), what is working well and the key lessons learnt for improving the Programme.

A – Background of the Cocoa of Excellence Programme

A1 - Introduction

The Cocoa of Excellence (CoEx) Programme is the entry point for cocoa-producers to participate in the International Cocoa Awards (ICA), a global competition recognizing the work of cocoa farmers and celebrating the diversity of cocoa flavours.

The CoEx Programme was created initially as a project titled: “Cocoa of Excellence: Unravelling and celebrating diverse flavour qualities of cocoas to promote market differentiation” from Oct. 2009 to Sept. 2011, funded by the Common Fund for Commodities (CFC) and supervised by the International Cocoa Organization (ICCO). The partners during the phase of the CFC-ICCO project were Bioversity International (Project Executing Agency), CIRAD, Event International, ICCO, the Alliance of Cocoa Producing Countries (COPAL), the World Cocoa Foundation (WCF), Mars Inc., Barry Callebaut, Belcolade with contributions in kind from the Cocoa Research Centre of the University of the West Indies (CRC/UWI) and ICAM. Since 2011, the project is supported by its organisers and contributions from partners and sponsors for each edition. A long-term sustainability plan is developed and the aim is for the funding of the Programme to be secured through private sector contributions.

Currently, the CoEx Programme is coordinated by Bioversity International, jointly organized with Event International in partnership with Guittard Chocolate, Seguine Cacao, Cocoa and Chocolate, Barry Callebaut, CRC/UWI, Puratos and with sponsorship from the CAOBISCO/European Cocoa Association (ECA)/Federation of Cocoa Commerce (FCC) joint Working Group on Cocoa Quality and Productivity, Nestlé, ICCO, the Lutheran World Relief (LWR), Mars UK, Valrhona and CocoaTown.

Every two years, this unique Programme aims to (1) increase awareness and promote education along the cocoa supply chain on the opportunity to produce high quality cocoa and preserve flavours resulting from genetic diversity, “terroir” and know-how of the farmers who prepare cocoa, (2) facilitate communication and linkages between cocoa farmers/producers and operators in the supply chains, and (3) stimulate and increase capacity of producing countries to recognize, seek out and preserve quality and diversity in cocoa. Cacao diversity is also vital for production, as it provides not only different flavours, but also resistance to pests and disease outbreaks, and resilience in changing climatic conditions. Providing opportunities and incentives for safeguarding cocoa diversity to farmers and national organizations, ensures a portfolio of options remain available for future needs.

All cocoa-producing countries are invited to participate and a National Organisation Committee (NOC) is identified to oversee the participation of cocoa producers from their country. NOCs are invited to send well-prepared fermented and dried cocoa bean samples representing the genetic and geographic origins of their regions based on a quota of samples per country. Providers of cocoa bean samples can be individual farmers, groups of farmers, cooperatives, estates, or national research centres.

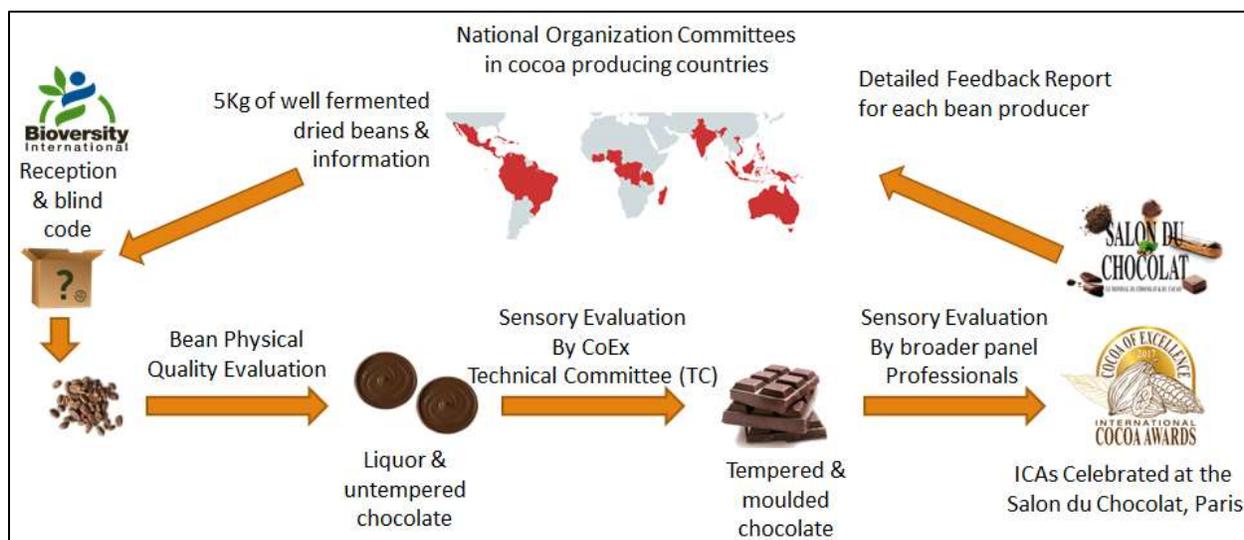
All samples are received at Bioversity with a completed data form providing detailed information about the producer, the genetic origin of the samples, the general agricultural and post-harvest practices, the production capacity, and information on any certification. At reception, all samples are assigned a code and are treated blindly from that point until the end of the Edition.

At reception, a detailed physical quality evaluation is carried out including bean measurements, moisture content, aroma and appearance and a cut test performed recording the bean description and fissuring. All accepted samples are then processed into liquor and untempered chocolate for sensory evaluation by the members of the CoEx Technical Committee (TC). The calibrated CoEx TC members carry out a detailed quantifiable sensory evaluation based on 54 attributes and off flavours over a period of 4 months. At every tasting session, the panel members use reference samples agreed and scored for some of the more

difficult traits for panel agreement. The best 50 samples are then selected based on the statistical data analysis of the sensory evaluation. These samples are then processed into tempered chocolate and moulded for sensory evaluation by a broader panel of professional chocolate makers and sensory evaluation experts. From the analysis of the datasets from the broader panel, the ICAs are selected for each of the 4 cocoa-producing regions (Africa & the Indian Ocean, Asia, Pacific & Australia, Central America & Caribbean and South America). The best 50 samples and the ICAs are celebrated publically at the Salon du Chocolat in Paris, partners in the CoEx Programme, every 2 years in October. The CoEx Programme just celebrated the 2017 ICA on 30th October in Paris.

Following the completion of the selection process, a detailed feedback report is sent to each participant including a quality and flavour analysis and recommendations for improved practices if needed. The Programme publishes the contact details of all 50 samples including the ICA and encourages market opportunities through the distribution of the chocolate samples at a number of trade fairs involving producers and industry representatives. Fig. 1 summarises the process. All information on the protocols and evaluation methods are available on the CoEx website: www.cocoaofexcellence.org.

Fig 1. The Cocoa of Excellence Programme: step by step process)



A2 - Results from all Editions

Since its creation in 2009, the CoEx Programme carried out 6 Editions that resulted in the following:

- 50 cocoa-producing countries participated
- 851 bean samples received
- 832 bean samples processed into liquor for quality and flavour assessment by the international experts of the CoEx Technical Committee
- 290 samples selected as the best 50 for each Editions and processed into chocolate, for evaluation by a broader panel of professionals (sensory evaluation experts, chocolate makers, etc).
- 114 ICAs selected and celebrated at the Salon du Chocolat in Paris
- Chocolate samples from the best 50 are largely distributed and promoted to the bean buyer/trade and chocolate industry
- 851 individual detailed feedback reports produced since 2009 and sent to bean producers.

Table 1. below summarises the main results of each Edition. It is important to note that the first Edition in 2009 was the pilot and atypical of the following editions where significant adjustments were made for the subsequent Editions, hence the variation in the number of samples processed into chocolate and the number of selected ICAs.

Table 1. Summary of the results since the first Edition in 2009 in terms of number of samples

Numbers / years	2009	2010	2011	2013	2015	2017	Total
Samples Received	152	147	119	121	146	166	851
Countries	20	19	22	24	35	40	50
Samples Processed in Liquor	152	147	119	114	138	162	832
Samples Processed in Chocolate	40	50	50	50	50	50	290
Number of ICAs	40	12	12	15	17	18	114

A3 - 2017 Participation

The number of producing countries participating to the CoEx Programme has doubled since its first Edition in 2009 and the number of samples received has been continuously increasing since 2011. The Programme aims at mobilizing all cocoa producing countries in order to participate in this competition and new ones are expected to join the coming Editions. For the 2017 Edition, 9 new countries joined the competition for the first time, 5 of these were selected as part of the best 50 and 4 won an ICA. Despite this there are still improvements to be done such as encouraging new countries to participate and understand the reason why some countries participated in the past but not in the 2017 Edition.

B - Evaluation of the CoEx Programme

The CoEx Programme carried out an evaluation to assess progress and get feedback from the participants on the relevance and impact of the Programme vis a vis its vision, purpose and objectives. The evaluation provided valuable feedback on what is working well but also key lessons to guide future improvements.

The target group for the initial evaluation was the members of the National Organisation Committees (NOCs) in the 50 participating countries so far. The NOCs oversee the implementation of the Programme at national level, ensuring that rules are applied, confidentiality is respected and anonymity ensured. They publicize the Programme and announce the upcoming Edition, distributing its guidelines nationally and encourage cocoa farmers from different regions to participate. They receive the samples from cocoa producers. They evaluate and select the best samples that represent the country and comply with the CoEx quality standards. They manage the participation by ensuring that there is no more than one sample per producer and no more samples than the quota per country. They ensure that all bean samples are accompanied by a completed Data Form with all information available on the producer, origin and mode of preparation of each sample. They also ensure that all appropriate phytosanitary certificates are obtained. And finally they are responsible for shipping 5 Kg of the fermented and dried beans for each samples to the CoEx Programme respecting the deadline. The producers will be different at each edition but it is expected that the NOC would be the same and their capacity would be built through their participation and feedback from the Programme. The rationale for focusing initially on the NOCs is that they are the critical point of success in each of the participating countries.

B1 - Evaluation Methodology

A survey to collect detailed feedback was carried out in September 2017 to 398 contacts that were part of or associated to the coordination at the national level in all of the 50 participating countries since 2009. The objective of the survey was to get open and honest feedback to evaluate the Programme implementation at the national level and evaluate if the Programme reached its objectives in terms of raising awareness about the importance of cocoa genetic diversity, improving cocoa quality and recognising unique flavours and the international recognition of high-quality cocoa bean producers. The next steps will be deeper analysis of the impact of the Programme on producers and of the value brought to chain actors such as bean buyers, traders and chocolate manufacturers.

The survey, sent out in 3 languages (English, Spanish and French) was organized in the following 4 parts

1. Respondent profile and constitution of the NOC: ensuring anonymity of the respondent, this part aimed at understanding how NOCs are organized, their experience in cocoa and with the CoEx Programme.
2. CoEx Programme implementation for the 2017 Edition: feedback on how NOCs organize the national selection of beans, the availability of expertise regarding quality and flavour sensory analysis and the difficulties they face in their participation in the CoEx Programme.
3. CoEx Programme outcomes: assess the impact of the CoEx Programme regarding the capacity of previous participants to improve cocoa quality and raising of awareness for cocoa diversity and its preservation.
4. General feedback: open questions to collect feedback on any recommendations for improvement.

B2 - Respondent profile and constitution of the NOC

The recipients of the survey were all of the participants in the National Organisation Committees for all the participating countries since the first Edition in 2009, a list of 398 contacts. The survey gathered feedback from 22 cocoa-producing countries representing the 4 cocoa-producing regions listed in **Table 2**.

Table 2. Number of countries and regions represented by the survey respondents

Regions	No of countries
Africa & the Indian Ocean	9
Asia, Pacific & Australia	5
Central America & Caribbean	5
South America	3

The majority of respondents were from for Governmental institutions (74%). When respondents selected “Others” (13%), they often referred to a “National Cocoa Board” type of organisation. In some cases (53%) respondents were from institutions representing more than one category such as a Governmental and Research institution or Governmental institution and a Producers Association/Cooperative. **Table 3** summarises the affiliation of the respondents.

Table 3. Institutions/Organisations represented by the respondents

Category	%
Governmental institution	74%

Research institution	21%
Producers Association/Cooperative	21%
Private company	18%
Other	13%
NGO	8%
International development organization	3%
Independent/Individual	3%

The majority of the NOC are constituted of 2-5 people (43%) and 6-10 people (35%). Generally, when NOCs are composed by only one person they are just setting their first Edition. When countries participate in more than one edition, NOCs seem to increase in size and representation: more people are involved and more categories of institutions are represented in the NOC.

Table 4. Number of people participating in the NOC

Number of people in the NOC	% of respondents
Only me	8%
2 to 5	43%
6 to 10	35%
More than 10	14%

Tables 5 details the number of respondents that participated in the current and previous CoEx Editions as well as in more than one edition. There is a good representation of all cases of Edition participation, from first participation (37%) to some that participated in all 6 Editions since 2009 (13%). As contacts change, some of the respondents may no longer be part of the NOCs currently coordinating the participation.

Table 5. Percentage (%) of respondents that participated in the CoEx Editions

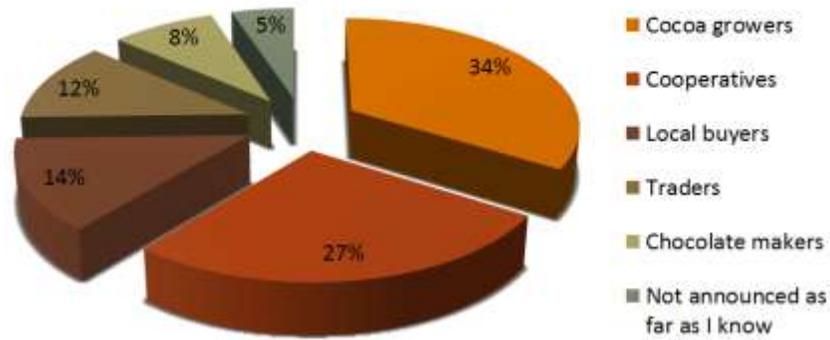
CoEx Editions Years	% of respondents that participated	Number of Editions	% of respondents that participated
2009	26%	1	37%
2010	26%	2	16%
2011	45%	3	13%
2013	42%	4	13%
2015	68%	5	8%
2017	71%	6	13%

B3 - CoEx Programme implementation – Focus on the 2017 Edition

To initiate activities, National Organization Committees announce the new CoEx Edition at the national level. For 2017, most of respondents announced the new Edition directly to cocoa growers and cooperatives (71%), some included local buyers (14%), traders (12%) and chocolate makers (8%). In some cases (5%), the new Edition was not announced and may be the case for a first participation. The more the NOCs participate in Editions the more they widen the spectre of their communication.

Fig 2. Below illustrates the proportion of local actors informed by NOCs of the new Edition.

Fig 2. Local actors informed of new Edition

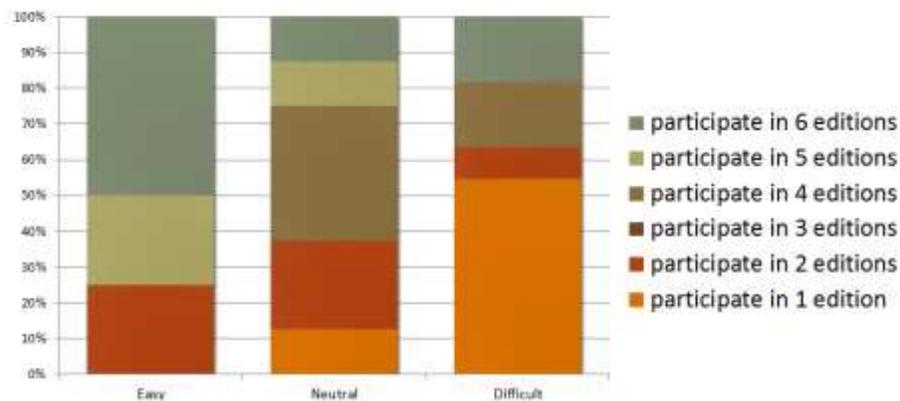


Respondents were asked about their responsibilities in the NOC and provided with the 15 activities listed in the Programme’s guidelines to choose from. More than 70% of the respondent are involved in the coordination, dissemination of information on the CoEx Programme and contacting bean producers. All the other responsibilities are well represented, but the most challenging one seems to be the evaluation of quality of the samples processed into liquor carried out by only 24 % of the respondents.

As it would be assumed and illustrated in Fig. 3, the longer respondent participate in the Programme, the easiest the tasks get. Some of the tasks are more challenging (e.g. sensory evaluation of the liquors for selecting the samples) and the CoEx Programme will work on providing more support and guidelines for these in future editions.

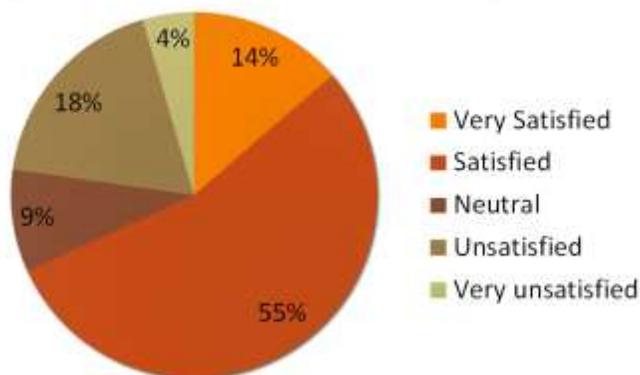
Fig 3. Illustrate the level of difficulties of tasks and participation to Editions.

Fig 3. Level of difficulty of tasks undertaken by NOCs



The evaluation enquired about the level of satisfaction about the number of bean producers reached for the 2017 Edition and 69% of respondents are satisfied (Fig 4.). In most of these cases (62.5%), these NOCs sent the maximum number of samples as per their country quota for the 2017 Edition. Of these, 14 % were new participating countries.

Fig 4. Satisfaction related to sample selection



More than 60% of respondents stated that their samples represented well the best farmers’ practices and the genetic diversity of their country. Less (50%) stated that the samples represented the best quality their country can produce, and the most unique flavours (35%). This means that there is a need to increase capacity to assess physical quality and flavour potential in some of the producing countries.

However to evaluate the best beans samples, the majority carry out physical bean evaluation (83%) and cut test (79%) but less carry out flavour assessment of the beans (50%) and liquor (37%) as illustrated in **Table 6**.

Table 6. Methods used at national level for quality analysis for 2017 Edition

Methods	%
Physical analysis	83%
Cut test	79%
Sensory flavour assessment - beans	50%
Sensory flavour assessment - liquor	37%

Support is clearly needed for sensory flavour assessment. However there is a positive correlation between number of years of participation in the CoEx Programme and the number of different evaluations carried out at national level to select the best samples to send to the CoEx Programme.

B4 - CoEx Programme outcomes

An important product of the CoEx Programme is the feedback to each of the bean producers on the quality and flavour assessment of the sample, including recommendations for improvements if not selected as part of the best 50. The majority (83%) of respondents shared the feedbacks with producers, but only 40% with all of them. Since the feedback reports all need to be share with all producers, this is a point to improve and measures have already been taken for this 2017 Edition. Despite that, 75% of respondents noted an improvement of general quality of beans selected and believe the feedback reports contributed to this improvement. Participating in the CoEx Programme seems to have a positive impact on the skills of the NOCs to select the best bean samples. When asked about training events since their participation, 45% of respondents think that training in cocoa sensory evaluation has increased. Many participants (74%) believe that cocoa quality has improved since their participation in the CoEx Programme (see **Table 7** below).

Table 7. Evolution of Cocoa Quality

Since participating in the CoEx Programme	% of respondents
Quality has improved a lot	44%
Quality has improved	30%
Quality is the same	9%
I don't know	17%

When asked about the impact of participation vis a vis its objectives in the CoEx Programme and 60% of respondents stated a high impact on the recognition of the importance of Terroirs, 85% on the Importance of good fermentation and drying practices, 65% on the Importance of cocoa quality and flavour sensory evaluation and 58% on the rare unique flavours - see details in **Table 8** below.

Table 8. Impact of the Participation in the CoEx Programme

Factors of impact	High	Medium	Low	No impact	I don't know
Recognition of the importance of Terroirs	60%	20%	5%	15%	0%
Importance of good fermentation and drying	85%	0%	0%	15%	0%
Cocoa quality and flavour sensory evaluation	65%	5%	10%	15%	5%
Rare unique flavours	58%	16%	5%	16%	5%

Countries who participated to more than one Edition show an interest in organizing and celebrating national cocoa quality competitions that contribute to raising awareness of the importance of quality, flavour and genetic diversity in producing countries.

One of the most important and direct impact that CoEx is aiming to achieve it ensuring that producers of excellence and quality have greater access to market opportunities and earn an increased price. **Table 9** shows the results where 57% of respondents think that the CoEx Programme facilitated bean producers to sell at a premium price and 40% that the CoEx Programme contributed to the development of "long lasting" market opportunities for bean producers that were part of the best 50 and/or an ICA winner. Most of the producers part of the best 50 or ICA winners (80%) were also celebrated at the national level after their participation for all editions.

Table 9. Impacts at level of bean producers

Impact	Yes	No	I don't know
Facilitation to sell cocoa at premium prices	55%	15%	30%
Development of "long lasting" market opportunities	40%	30%	30%
National level celebration	80%	10%	10%

B5 - General feedback

General feedback on the CoEx Programme was collected through a series of open-ended questions allowing respondents to express their opinions regarding their motivation and expectations for participating, the aspects of the Programme that are most relevant and interesting and those that may have been disappointing. The key points are summarized below:

Main motivations to participate:

- International visibility of niche products and market positioning
- Promote cocoa quality in producing countries and raise awareness
- Provides a comparison to other excellent cocoas
- Recommendations for improving quality processes
- Programme provides a lot of information to facilitate participation
- Best platform to share experiences and information to improve competition

Main constraints of the Programme:

- Limiting number of samples in the country quota
- The market is not ready for high cocoa quality
- Time for bean selection is too short
- Some feedback reports were not received
- Time taken by the Programme for evaluating the samples is too long
- Insufficient connection between ICA winners and specialty markets
- 2 years between each edition is too long

Improvement areas:

- Facilitate trainings for sensory evaluation and quality analysis in producing countries
- Technical help for improving cocoa post-harvest process
- Provide information about fine cocoa market
- More promotion of awarded chocolates
- Helping National Organisation Committees to be better organized
- Financial help for the bean producers in order to attend the ceremony in Paris

Reasons of some NOCs not to continue participating

- Cost for participating is too high
- Lack of interest from participants in producing countries
- Problem of communication or follow up

B6 - Key Lessons learnt for improving the programme

The survey obtained feedback on the Programme's objectives:

1. Increase awareness and promote education along the cocoa supply chain on the opportunity to produce high quality cocoa and preserve flavours resulting from genetic diversity, "terroir" and know-how of the farmers who prepare cocoa.
2. Facilitate communication and linkages between cocoa farmers and producers and operators in the supply chains.
3. Stimulate and increase capacity of producing countries to recognize, seek out and preserve quality and diversity in cocoa.

Respondents provided the following main benefits of participating:

- An opportunity to be recognized as a producer of cocoa with exceptional and diverse quality internationally and to promote the diversity, quality and industry at the national level.
- Strengthened capacity to evaluate, identify and recognize excellent and diverse cocoa at the national level.
- A starting point for the development of conservation programmes of unique and valuable diversity.

In addition one of the main values of the CoEx Programme is the feedback on the bean physical and sensory quality and recommendations for improvements. This increases the capacity of farmers to better understand the value proposition of their beans and how to improve quality, especially at the fermentation and drying stages. For each edition, a detailed feedback report is produced for each bean sample received. So far more than 800 reports have been produced and sent to the producers. This is a critical part of the Programme, providing an opportunity to understand and improve quality at cocoa producer's and National Organization Committee's levels.

Over the years, many participating countries are carrying out National Cocoa Quality Competitions guided by the CoEx, which provide additional opportunities for farmers to expose high quality cocoa beans to more value chain operators.

There is a general agreement that the overall quality of cocoa beans submitted has improved over the years, highlighting the role of the CoEx Programme in increasing capacity to seek quality and diversity in cocoa.

Future Editions should strengthen the connections between bean producers, buyers and chocolate makers and provide tools to increase farmers' ability to assess their bean quality in the form of liquor.

Edition after Edition, the number of countries and farmers participating worldwide increased as well as the number of participants travelling to and attending the Ceremony of the ICAs, at the Salon du Chocolat in Paris every 2 years.

To the last question of the survey inquiring about the interest to participate in the next Edition, 92% of respondents answered yes. This shows a motivation and commitment from the NOCs to the Programme and to continue participation and making improvements.

C - Conclusion

The next steps of the evaluation are:

- Follow-up interviews with respondents to obtain more in-depth feedback
- Impact assessment at the producers' level
- Interviews with the private sector to assess the relevance of the CoEx Programme for the industry.

The CoEx Programme is also developing a continuous evaluation process following every step of the Programme (ex: after the National Selections, the ICA announcement, reception of the individual Feedback Reports by bean producers etc.). This way the Programme can be more regularly aware of the differences made in the producing countries and of the challenges they face, and to monitor problems and progress regarding bean quality, flavour assessment, market opportunities and genetic diversity conservation.

The CoEx Programme needs to continue its efforts to facilitate bean producers to sell their cocoa at a premium price. This will be through increasing connections between producers of high quality cocoa with buyers and chocolate makers, as one of the main cornerstones of the CoEx Programme. The CoEx Programme will work on improving visibility of the private sector partners and increasing the promotion of the 50 best samples processed into chocolate and the ICAs for each Edition.

As the CoEx Programme continues to evolve, more countries will participate, benefiting from increased communication and linkages between cocoa producers and operators in the supply chains.

The CoEx is coordinating an international working group on the development of international standards for cocoa quality and flavour assessment given the urgent need to establish accepted, credible and verifiable protocols for assessing and communicating about cocoa quality attributes worldwide. A report of 2 consultations in Managua and Paris in September and October 2017 is available from the CoEx website.