



PISA FOR DEVELOPMENT  
CAPACITY NEEDS ANALYSIS:  
ECUADOR



PISA  
FOR DEVELOPMENT



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REPORT: ECUADOR**

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## ACKNOWLEDGEMENT

This report has been produced with the support of the World Bank, through its READ Trust Fund programme, as part of its contribution to the PISA for Development project

This report has been prepared by Leonor Cariola Huerta on behalf of the OECD and the Ministry of Education of Ecuador as part of the PISA for Development project. PISA for Development is an initiative of the OECD and development partners that aims to identify how PISA can best support evidence-based policy making in emerging and developing economies – and contribute to the UN-led definition of global learning goals for the post-2015 agenda. In addition the project will help to build country capacity in assessment, analysis and use of results for monitoring and improvement among participating countries.



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## PISA FOR DEVELOPMENT

### CAPACITY NEEDS ANALYSIS: ECUADOR

#### 1. Introduction and background

PISA for Development is an initiative of the OECD and development partners that aims to identify how PISA can best support evidence-based policy making in emerging and developing economies – and contribute to the UN-led definition of global learning goals for the post-2015 agenda. The analytical outputs of the project will reflect international comparisons with main PISA results as well as country specific policy priorities that are identified in consultation with each participating country. In addition the project will help to build country capacity in assessment, analysis and use of results for monitoring, and improvement among participating countries.

The initial phase of the project in each participating country is the completion of a Capacity Needs Analysis (CNA). The benchmark for the CNA is the necessary capacity required in the context of the PISA for Development project, which is defined as:

- The ability of the individuals and institutions responsible for the project in each country to perform the necessary functions (as set out in the roles and responsibilities for NC and NPM), solve the likely problems that will arise during implementation, and set and achieve project objectives in a sustainable manner.

Countries may desire future capacities for student assessment that go beyond this minimum requirement. Identification of additional needs should reflect the participating countries' aspiration, while respecting the feasibility of realising the additional needs within the context of PISA for Development's three year implementation cycle and required activities.

This document describes the Capacity Needs Analysis (CNA) framework for PISA for Development as well as the use of this framework in the Ecuadorian context. The framework itself is derived from project requirements of the main OECD PISA implementation, which are outlined in the PISA National Project Manager (NPM) Manual (OECD, 2012a) and the NPM Roles and Responsibilities (OECD, 2012b), and the stated programme outputs of PISA for Development (OECD, 2013). The framework is structured according to three dimensions: 1) Enabling context, 2) Organisation, and 3) Individual. The framework is designed to assess the capacity of participating countries to achieve the five programme outputs of PISA for Development, which are:

- enhanced contextual questionnaires and data-collection instruments;
- enhanced descriptive power of cognitive assessments in reading, mathematics and science, at appropriate skill levels within the PISA cognitive framework;
- an approach, including a methodology and analytical framework, for including out-of-school 15-year-olds in the assessments;
- increased country capacity in assessment, analysis and use of results for monitoring and improvement; and



- engagement with OECD, development partners and, prospectively, with other developing countries in order to identify peer-to-peer learning opportunities regarding participation in PISA and its potential contribution to the UN-led discussions on the post-2015 framework.

The CNA is designed to generate an understanding of capacity assets and needs, which, in turn, will lead to the formulation of a Capacity Building Plan (CBP). The framework utilises elements of the SABER-Student Assessment questionnaires developed by the World Bank (Clarke, 2012) as well as the PISA technical standards as the benchmarks for assessing Ecuador's assessment system and capacity for managing national and international large-scale assessments. The standardised data obtained from applying the framework is incorporated into this CNA and will also be used to assist in identifying indicators, baselines, and targets for improvement in the context of the CBP. The tool used to enter data into the framework is available online at: [www.polymetrika.org/PISAD/Home/DataEntry](http://www.polymetrika.org/PISAD/Home/DataEntry).

The needs analysis was completed in Ecuador during two fact-finding missions conducted in 2014 between 3 and 7 February, and 22 and 28 June and through consultations led by the *Instituto Nacional de Evaluación Educativa* (INEVAL) which is also the National Centre (NC) responsible for implementing PISA for Development in Ecuador. The process involved a variety of stakeholders, primarily drawn from the K-12 sector in Education.

In general, the capacity needs analysis reveals that Ecuador has a foundational capacity to begin preparation for implementation of PISA for Development. The country already has participated in international assessments (UNESCO-led TERCE) and has fundamental assessment facility and programme capability. The PISA project staffs in INEVAL have experience with both high-stakes individual examinations as well as survey-based assessments conducted at different grade levels. While there is a substantial amount of work required yet to develop local skills and expertise with methodology specific to PISA, difficulties in these areas are likely to be similar to those of many countries who already participate in PISA. In addition to these elements, the challenging areas for development relate to the expanded scope of programme outputs of PISA for Development, specifically sampling out of school 15-year-olds and knowledge mobilisation of survey data.

The structure of this report is as follows: it begins with a description of the needs analysis methodology, Section 2, together with a presentation of the needs analysis framework. Section 3 summarises the needs analysis of Ecuador with respect to the five PISA for Development programme outputs, the PISA technical standards, and the SABER benchmarks. Section 4 describes the capacity building priorities that arise from analysis of the main assessment dimensions. The detailed capacity needs analysis is presented at Annex A, and the Terms of Reference for the capacity needs analysis are included at Annex B.

## 2. Methodology

The development and application of the CNA framework to Ecuador followed three distinct phases. The first phase involved the analysis of primary documents in order to develop an initial set of assessment criteria and preliminary data for the assessment framework together with a map of key stakeholders for interviews. The second phase involved the piloting of the initial assessment framework in the Ecuadorian context and the collection of data for the assessment, mainly through interviews and documentary analysis. The final phase consisted of refinement and extension of the analysis framework and drafting of the report (in Spanish) with a view to facilitating the development of capacity building plans. At each stage the findings of the analysis were shared with the key stakeholders (in Spanish) to ensure a shared understanding of the approach and the results of the needs analysis. Findings were adjusted in the light of feedback and actions taken by the National Centre in response to the initial analysis. The final draft of the

report was translated into English. The following sub-sections discuss each of these phases in greater detail.

### ***2.1. Structure of the Capacity Needs Analysis framework***

The structure of the CNA framework is presented in this sub-section. The framework consists (in the current working version) of 112 capacity elements that are required for successful implementation and stakeholder use of the PISA for Development products. Each element is defined by an overall description and descriptions of up to four levels of development (as applicable to each element) corresponding to the normative definitions described in sub-section 2.2 below.

The organising structure of the framework is hierarchical, with each PISA for Development capacity element nested within the three main dimensions:

- the enabling environment, encompassing the legislative context and culture that facilitates the implementation, and the stakeholders who make use of the results;
- , encompassing the National Centre and any sub-national institutions that are directly involved in the implementation of the project; and
- individual, encompassing the staff of the National Centre and related organisations, in particular the National Project Manager and his team.

Within each dimension, the elements are further organised according to the PISA for Development project requirement for which INEVAL are first needed. The PISA for Development requirements are an extension of the main PISA project milestones; INEVAL roughly follow a sequence beginning with establishing the National Centre and ending with dissemination of results to stakeholders to support decision making:

- designation of NPM and establishment of National Centre
- compiling and confirming information on schools and students for the definition of the assessment population, stipulation distribution of languages in which assessment materials will need to be available, and definition of criteria for stratification of school and student samples
- establishing security protocols for the National Centre and for national sub-contractors
- coordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with international contractors, including the development of a national component
- deciding on the scale of national adaptations and number of assessment languages and co-ordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with local translators, subject experts, and international contractors
- organisation of plans for local printing of assessment materials and verification of print and paper quality in all languages that will be covered while maintaining security
- communication and co-ordination with schools that will participate in the assessment

- communication and co-ordination with international contractors for the selection of the student samples in each school
- recruitment and training of test administrators who do not have any direct relationship to the students who will be assessed and are experienced and competent enough to carry out the testing sessions following the scripts, guidelines, and procedures established
- planning of the quality assurance process so that Quality Monitors visit a sample of schools during testing sessions to observe and document quality of sessions
- planning of staffing and resources (technical and material) needed for coding of test booklets and contextual questionnaires and data management
- establishing a training plan with key staff of the NC to attend training sessions
- preparing and distributing testing materials to schools in a secure fashion, ensuring materials arrive safely and without suffering damage or alterations
- monitoring of school and student response rates in co-ordination with international and national contractors, as appropriate
- a sample of the student testing booklets that were coded will be submitted to the international contractor for an International Coder Review (ICR)
- review of the country's data base and the draft analysis plans for the national report by the NPM, in consultation with educational authorities, the international contractors, the OECD Secretariat, and relevant development partners
- the NPM providing input and guidance with regards to the policy priorities that should help determine the content and analysis presented in the country report
- development by the NPM of a national dissemination plan of their country's participation in PISA for Development and the relevant results from the pilot
- production of reporting documents and media
- dissemination of results to general audiences
- dissemination of results to key stakeholders.

This structure facilitates the prioritisation of different capacity elements throughout the programme implementation. Each capacity element is also indexed by the PISA for Development programme output for which it is most required.

In case further information is required, each element also refers to one or more primary documents (listed in paragraph 4 above) to justify its inclusion in the framework.

## ***2.2. Using the framework***

The intended use of the CNA framework is to facilitate the development of in-country capacity for implementation of PISA for Development. The framework provides a step-by-step approach to

1) evaluating of the current capacity for implementing PISA for Development, 2) setting development goals related to PISA for Development activities, and 3) planning for development activities. However, the framework should not be treated as static; rather, it can be extended and refined based on information that emerges during the data collection process.

The rubric was reviewed with stakeholders in Ecuador to identify the current status of each element. The information was collected using any appropriate needs analysis methodology such as questionnaire or interview. The completed rubric also included a plain-language justification for each assigned rating. Once completed, the ratings and justifications, along with a narrative summary, were reviewed by key stakeholders. During the data collection or review process, if there were any new requirements identified, INEVAL were added to the framework. If a new element was added, it was indexed by the structure defined in section 3.1, and the textual descriptions of the levels followed the normative descriptions in section 2.2.

Preliminary target capacity levels were identified for each element, and basic information for planning capacity building (defined in section 3.4) was completed along with the target ratings. The responsibility for developing specific capacity elements were assigned to different resources, along with allocation of person-time, money and expected start/end dates. This information will be used to develop the capacity building plan and prioritise the different capacity building goals.

### 2.3. Primary document analysis

The development and implementation of the CNA framework built on four primary documents:

- PISA Technical Standards. This document details the quality standards required for successful participation in PISA. For the purposes of the CNA framework, these quality standards are also assumed to apply to the PISA for Development context.
- PISA for Development document. This document outlines the broad goals of PISA for development, as described in Section 1.
- PISA National Project Manager (NPM) Manual. This document outlines the sequence of activities, as well as describes the recommended resources required for PISA implementation.
- SABER – Student Assessment (SABER-SA). The SABER framework describes the broader context of student assessment in a country. In particular, the CNA framework development focused on large scale assessments, particularly national and international assessments. These documents augmented the PISA-based documents by expanding on the requirements for participation to examine the broader enabling context. This dimension includes issues such as programme sustainability and the social, cultural, and economic climates that will be necessary for meaningful use of the PISA results. The SABER framework uses evaluation rubrics that classify different elements of a county’s assessment system as either *Latent*, *Emerging*, *Established* or *Advanced*. The different levels characterise the degree to which each element can support an effective assessment system, with “Established” representing the minimum level required to sustain an assessment system.

The first stage of analysis examined each of these documents from the dimensions of the enabling context, organisation and individual to identify the requisite elements of each dimension that are necessary to produce the PISA for Development programme outputs. Each element in the framework describes a salient characteristic in the country’s capacity that may be addressed with a targeted capacity building response; although the development of a single element sometimes required several capacity building

activities, the activities are similar enough that INEVAL draw from similar human or physical resources and affect the same group of country-level stakeholders.

For each of these preliminary programme elements, development levels were defined by following the rubric approach established by the SABER instruments. Using a priori assumptions about the key features likely to be found at the four SABER levels, plain language descriptions were defined for each level (as applicable) for each programme element. Completing the rubric involves interviewing stakeholders to collect information about each rubric element, then, for each element, identifying the appropriate development level and providing a justification for the rating.

#### 2.4. Normative definitions

To facilitate the creation of textual descriptions for the different levels of each element of the framework, normative definitions were developed for the three dimensions. As new elements were identified and included in the framework, these normative descriptions guided the textual definitions for each level of the new element. For some elements, one or more of these levels did not apply; in these cases, the level remained undefined, as in the original SABER rubrics.

**Table 1. Enabling Environment Ratings: Normative definitions used for each element**

Latent	There is no environmental support or there are environmental obstacles that deter programme implementation
Emerging	There are political, economic, or social structures in place that may be adapted to facilitate implementation
Established	Political, social, or economic structures exist that can support implementation
Advanced	Political, social, or economic structures are currently providing support to similar activities

**Table 2. Organisational Ratings: Normative definitions used for each element**

Latent	There is no capacity to assume this role
Emerging	Some capacity exists but it is not institutionalised in a coherent administrative structure
Established	Some capacity exists within a coherent administrative structure, but may lack availability or technical skills to assume responsibilities
Advanced	Capacity is institutionalised and has sufficient resources to assume the responsibilities without developing additional capacity

**Table 3. Individual Ratings: Normative definitions used for each element**

Latent	Individuals do not have the skills and/or are resistant to developing requisite skills
Emerging	Individuals have foundational knowledge or personal attributes that will enable them to acquire requisite skills or attributes
Established	Individuals have sufficient knowledge, interest and aptitude to allow development of requisite skills or attributes with brief workplace training and/or independent training and practice
Advanced	Individuals already have the required skills or attributes

## **2.5. Pilot analysis**

The preliminary CNA framework was employed in the country context through in-depth interviews with a variety of stakeholders related to the education system in Ecuador and the broader education sector. Particular attention was paid to actors related to the production, use, and interpretation of educational assessments. Interview subjects were selected using a snowball methodology, where a small sample of known interviewees participates in the recruitment of additional participants from among their acquaintances. This methodology was required to respect local protocols for arranging and conducting meetings and reach experts within the education community. The entry point to the process was the PISA National Project Manager (and implementing agency lead staff) at INEVAL as the point of entry. The scope then expanded to include educators, other assessment specialists, other government departments (i.e., higher education, statistics, trade/vocational), development partners, and leading voices in the national education discourse. Each participant was selected based on his or her knowledge or expertise in one or more of the three dimensions of the analysis. Many interviewees had extensive experience throughout the education sector in Ecuador and were able to provide information relevant to elements of the CNA framework outside of their current professional roles.

Each interview subject was asked detailed questions regarding each of the elements in the preliminary CNA framework. The format for the interviews generally followed a basic structure:

- Subjects were provided details about PISA for Development and the purpose of the capacity needs analysis and the role of the interview in the development of the capacity needs analysis framework.
- For each element in the preliminary framework that was relevant to their interests and experience, subjects were asked to describe the current status of the element as well as any features or dependencies related to the element, such as who are the main actors responsible for each element and historical challenges accomplishing similar activities (during this segment, subjects were given the opportunity to review and comment on summaries of previously collected information).
- Subjects were asked to volunteer any additional information related to any of the three CNA dimensions.
- Subjects were asked to identify and, if necessary, introduce the interviewer to additional subjects with information or experience relevant to the topics raised in the interview.

## **2.6. Stakeholder consultations**

Completion of the CNA was facilitated by PISA for Development National Project Manager Mr. Harvey Sánchez, National Assessment Institute (INEVAL). The INEVAL is the PISA for Development National Centre (NC), and Dr. Harvey Sánchez is the National Project Manager (NPM). He scheduled meetings with key stakeholders and participants involved with international and student assessment areas related to the implementation of the PISA for Development project. Meetings were held separately during the first mission (February, 2014) and the second mission (late June, 2014). During the four months between missions, several remote exchanges took place between the National Centre and the consultant. The consultation in both missions included interviews with (and the information previously provided by) the following stakeholders:

**Table 4. INEVAL Staff Interviewed**

<b>Name of Individual</b>	<b>Job title</b>
Harvey Sánchez	Executive Director
Tathiana Gutierrez	Planning director/
Daniel Espinosa	Director of Assessment Models and Structures Responsible for the elaboration and safekeeping of items
Adriana López	Assessment Technical Coordinator responsible for (INES) and performs psychometric analyses and supervises instrumentation
Carla Durán	Substitute Director responsible for test elaboration and safekeeping (receiving models, reviewing structures and elaborating items)
Edward Ortega	External Consultant for Qualitative Analysis of Structures and Items
Omar Revelo	Psychometric Director responsible for test-related technology and process automation
Ivonne Ríos	Director of Instrumentation Supervision responsible for the item bank and its security. Also in charge of instruments assembly
Arturo Caballero	Educational Research Technical Coordination
Fernando Conrado	Geo-statistics (Graphic designer. Responsible for programming and design)
Juan Carlos López	Educational Research Statistician
Patricio Galvez	Educational Research Mathematician
Nivian Luzuriaga	Educational Research Director
Marco Amaya	Geo-statistics database. Responsible for reviewing TERCE. Designs databases.
Daniela Mariño	Geo-statistician. Engineer and Geographer
Pavel García	Educational Research Statistician
Belén Carmona	Assessment Technical Coordinator
Tania Salgado	Validation Analyst. Revision with teachers followed by style analysis.
M. José Garcés	Item Validation Analyst (supervised text coders. Elaboration, validation)
Diego Cazar	Qualitative Item Analyst.
Marco Pérez	Director responsible for structure and assessments models
Marco Amayo	Database Analyst
Luis Giacometti	Application Technologist. b (2)
Santiago Córdor	Quantitative Psychometric Analyst
Henry Coral	Director of Psychometric Analysis
Armando Echeverría	Director of Statistical Analysis
Fernando Conrado	Report Analyst
Oscar Matute	Assistant to Daniel Espinosa

Notes:

1. Belén Carmona was the regular appointee.
2. Expected to become the next Analysis and Coverage Director

**Table 5. Stakeholders Interviews (external to INEVAL)**

<b>Name of Individual</b>	<b>Institution</b>	<b>Directorate</b>	<b>Job title</b>
Anita Herrera	Representative of EPN Escuela Politécnica Nacional (Ed Sup)	Unidad y Registro	Head
Claudia Tobar	Universidad San Francisco de Quito (USFQ)	Instituto de enseñanza y aprendizaje (I D E A)	Director of I D E A
Isabel Ramos	Ministry of Education. Sub secretariat. Fundamentos Educativos: Investigación, Estándares y Curriculum	Curricular affairs	Head
Edgar Herrera	Universidad Central	Faculty of Philosophy and Education	Dean

Jeremy Puente Nu	Colegio Numa Pampillo	Fiscal Institution: 1200 students, Grade 3 Baccalaureate	Student
Brian Cedeño	Colegio Menor de la U Central 3° 16. Baccalaureate		Student
Nicole Yopez	Cardenal Spellman. Private – part-1° Baccalaureate		Student
Stephany Mandilla	Condamine Private- French-speaking Grade 1 Baccalaureate		Student
Karla Calle	Ecuatoriano Suizo Private Grade 1 Baccalaureate		Student
Nathaly Bolaños	Colegio Quitumbe Municipal Grade 1 Baccalaureate		Student
Martín Utreros	Almirante Nelson Private Grade 1 Baccalaureate		Student
Daniel Torres	Unidad Educativa Particular Dos Hemisferios Private 1° Unificado		Student
Daniela Chango	Unidad Educativa Manuel Canizares 1° Grade 1 Baccalaureate 15 years Fiscal		Student
Paola Quintero	Unidad Educativa Municipal Eugenio Espejo 1° Baccalaureate 15 years.		Student
Silvia Paredes	Numa Pompilio Llona Fiscal (Greek poet) Large size school is launched.		Math teacher Grades 8-10
José Jalil	Academia Almirante Nelson (Anan) Private Subsidized.		Academic Coordinator and English teacher.
José Sanchez	Manuela Cañisalez Fiscal		Math teacher Grades 10 and Baccalaureate 3.

Information from these stakeholders was also supplemented by analysis of various documents and material related to assessment and examinations in Ecuador.

## 2.7. Refinement and extension

During the third phase of the CNA framework development and implementation the data collected during the second phase was analysed in order to identify elements that had been missing from the preliminary framework and to refine definitions within the rubrics. By necessity, there was some overlap between the second and third phases as interview subjects were revisited for additional clarifications. If the review identified clearly distinct prerequisites for existing elements, additional elements were added to the framework.

With the additional details provided by the interview subjects for each element, the CNA framework was extended to accommodate data collection specifically related to the development of a capacity building plan. The extended information includes the following data fields for each element:

- the target level that Ecuador wishes to build its current capacity to meet
- explanation about why the target level is advantageous within the Ecuadorian system's broader goals
- the programme resource or actor primarily responsible for fostering the capacity building of the element



- the individual persons responsible for championing the capacity building (with contact information)
- any prerequisites for the commencement of the specific capacity building activities with respect to the element
- the estimated budget for the capacity building activities
- the estimated person-days required for the capacity building activities
- the expected start date for the capacity building activities
- the expected end date for the capacity building activities

### 3. Summary of the Capacity Needs Analysis

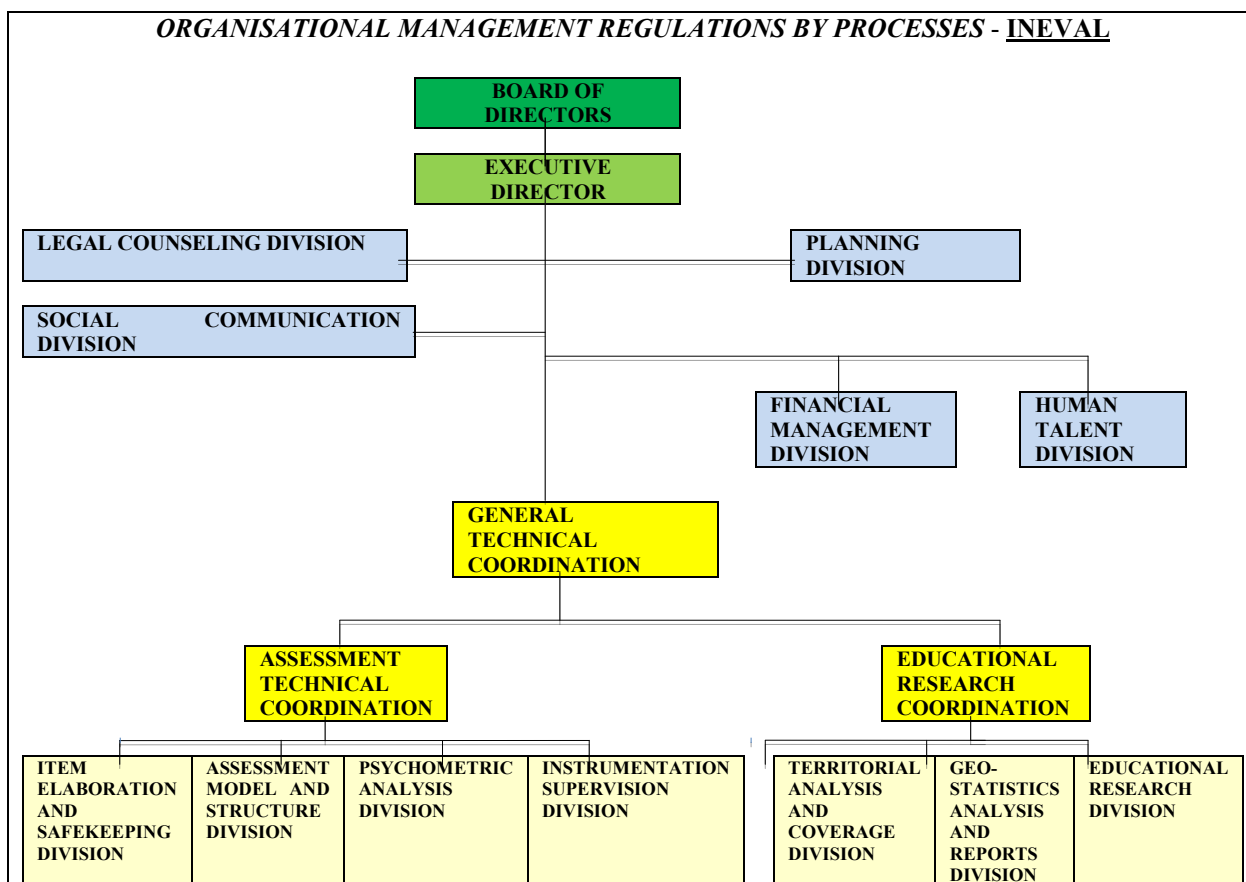
This section summarises the current status of general capacity to implement PISA for Development in accordance with project requirements and to realise all of the five PISA for Development outputs, as benchmarked against the PISA standards and the SABER rubrics. The completed needs analysis rubric for Ecuador, which also illustrates the structure of the CNA framework, is included in Annex A. The tool for exploring and modifying the framework, and modifying the framework, and facilitating the data entry and summarisation process, can be found at [www.polymetrika.org/PISAD/Home/DataEntry](http://www.polymetrika.org/PISAD/Home/DataEntry). The material in Annex A is a direct export from this tool.

Ecuador and INEVAL, in particular, have the required capacity to implement the PISA for Development project. The role of student assessment is governed by laws that ensure its sustainability while INEVAL is characterised by its institutional solidity backed by substantial funding, as well as governmental and constitutional support. Consequently, Ecuador foresees no scenarios that would prevent it from successfully implementing the PISA for Development project.

Interviews with people external to INEVAL revealed that, while some weak areas of capacity exist, a latent assessment culture could be identified. The tests developed by INEVAL for Higher Education and the school system are well known by education professionals in the country and their results are generally accepted as facts.

From an institutional perspective, INEVAL can be said to be quite stable. Its executive board is chaired by a delegate to the President of the Republic. Members include a delegate from the Secretariat of Higher Education, Innovation and Science, and a delegate from the National Planning and Development Secretariat. This confirms that the Institute operates independently from the Ministry of Education. The Institute consists of approximately 90 employees distributed as shown in the following organisation chart.<sup>1</sup>

Figure 1. INEVAL Organisation Chart



Source: [www.ineval.gob.ec/images/lotaip-ineval/1.administrativa/enero2014/a.2organigramainstitucional.pdf](http://www.ineval.gob.ec/images/lotaip-ineval/1.administrativa/enero2014/a.2organigramainstitucional.pdf).

INEVAL's position is strong in the Ecuadorian context and it has a sufficient number of trained personnel and ample facilities, although it is still required to adapt these resources for international large-scale assessment. In addition to this, the National Project Manager for PISA for Development, Harvey Sanchez, adds to his vast competencies, considerable experience in the area of assessment and a wide network of professional contacts inside and outside INEVAL which are conducive to a successful launching and implementation of PISA for Development.

Table 6 below, shows that in the three domains associated with the Capacity Needs Analysis Framework (Enabling Context, Organisation and Individual), most of the standards are classified as Established or Advanced. Organisation is the domain with a proportionally smaller number of standards classified as Latent or Emerging.

**Table 6. Distribution of standards according to classification and domain categories**

Domain	Latent	Emerging	Established	Advanced	Not applicable	Total
Enabling Context	3	4	20	15	6	48
Organisation	1	6	14	15	0	36
Individual	2	5	8	12	1	28
<b>Total</b>	<b>6</b>	<b>15</b>	<b>42</b>	<b>42</b>	<b>7</b>	<b>112</b>

Closer examination reveals that under the “Enabling Context” domain, the need to collect and confirm data associated with education institutions and the populations of students that will be the subject of evaluation are among the major project requirements that must be met. Within this domain, one of the project outcomes that will require most intense training and support is the monitoring, analysis, and use of the results.

In connection with the Organisation domain, the requirement to create security protocols for both the National Centre and national subcontractors represent the greatest challenge. Again, and similarly to the Enabling Context, the monitoring, analysis and use of the results yielded, appear as the major areas for capacity strengthening of this domain.

Under the Individual domain, training should primarily focus on how to create open-ended items for large-scale assessment and how to improve the quality of the items at the lowest performance level corresponding to the likely scenario where the majority of students are scoring below the basic level. This is probably the country’s most challenging goal.

### ***3.1. Enhanced contextual questionnaires and data-collection instruments***

INEVAL has a relatively short but solid experience of developing and using contextual questionnaires in its assessments. Generally speaking, the questionnaires included in Ecuador’s national assessments can be said to be quite well developed; nevertheless, their systematic evaluation is recommended. Additionally, there is scope for a more detailed review of international assessment instruments and to introduce topics relevant to Ecuador’s own testing initiatives and develop questionnaires in order to establish a long term programme for longitudinal studies.

Ecuador has not yet developed a reference framework for its questionnaires that provides guidelines and detailed explanations of the variables these instruments are designed to measure. Without this framework, the reason behind many of the questions in the instrument is unclear. An explanation of the rationale behind the questions and the objectives being pursued would be helpful. While some of the questions contained in Ecuador’s questionnaires do show structural problems, most training needs for PISA for Development should focus on the relationship between variables with performance and the type of analysis that should be run. Another problem is that contextual questionnaires have a low return rate and this will need to be addressed in PISA-D.

### ***3.2. Enhanced cognitive assessments***

INEVAL has a relatively short but solid experience of developing and using student tests in its assessments. The tests developed by INEVAL have been based on quality standards established by the Ministry of Education in 2012, which define the knowledge students must acquire at each level. Based on these standards, the Institute develops the assessment framework, which is subsequently disaggregated into a matrix containing the number of items by area. This procedure is the responsibility of the model and structure team at INEVAL. During the interviews for the CNA, members of this team mentioned having had some difficulties when assessing skills given that standards were *content dependent*. These standards were implemented more than a year before the test, so teachers may have encountered them in past assessments.

In the elaboration of test items, specialist subject teachers work with grade teachers drafted from both public and private schools. Since the hiring of public sector specialists and teachers is prohibited because it violates the dual-employment ban, the Institute created an alternative incentive in the form of an attendance certificate.

The item development process at INEVAL includes four steps: 1) creation of items by specialist subject teachers selected for each test on the basis of a specific profile, and trained by INEVAL's technical staff; 2) technical review of each knowledge area (education, mathematics, language, social studies and natural sciences) undertaken by INEVAL's technical staff; 3) double validation by specialists overseen by a technical worker of the Institute; and, 4) proofreading by a member of the Institute's technical staff. A percentage of the items of each test are reviewed during a final step. These processes involve the participation of specialist and are conducted in a face-to-face environment (elaboration and validation steps) and in a blended environment (elaboration only).<sup>2</sup>

An analysis of the tests confirms that most items are extremely simple and exhibit construction errors. The level of simplicity of these items is not merely apparent, as the statistical data yielded by the results corroborate this finding. Furthermore, most of these items tend to evaluate acquired knowledge rather than reasoning abilities, which clearly shows that more emphasis is given to content than to skills. In this connection, efforts must be made to ensure that PISA items located in the lower portion of the competencies curve include items designed to assess higher order skills.

There is no question that INEVAL's technical staff requires further knowledge and practice when it comes to item elaboration. In the absence of more specialised knowledge, improving on or adapting PISA items would be highly unlikely. Under PISA for Development Ecuador would develop instruments that have already been translated and adapted by the various participating countries in PISA. It will be important that item elaboration is learned and practised starting from the information contained in the PISA reference framework. Item elaboration is not the only weak area, as **test construction, psychometric analysis, and Item Response Theory** should also be included in the training.

Item assembly in Ecuador is based on the assessment model, anchor and item parameters. A first step involves creating a technical map (matrix) which specifies the characteristics of each test. Within this matrix 40% of the items are anchored to the SER 2008 tests. No experimental tests are conducted since piloting – according to INEVAL—is operational, that is, pilot items are included (embedded) in each of the tests. The assembly process itself, much like the item elaboration process, does not merit further comments, other than the number of items used is extremely small, particularly when considering that 40% are anchor items and the remaining 60% should be saved for the following year. The table below shows the number of items used in 2013.

**Table 7. Number of items included in the SER-ESTUDIANTE 2013 tests, by grades and subjects**

Assessment Area	Grades			
	4°	7°	10°	3° Baccalaureate
Mathematics	18	20	24	31
Language and Literature	19	21	22	28
Natural Sciences	19	22	23	29
Social Studies	19	22	24	31

This proves the need to provide training to the INEVAL team in the areas of requirements, potential and restrictions of the tests, according to their characteristics. This training is not considered absolutely necessary for PISA for Development, since it is very likely that much will be learned by merely participating in this project. Nevertheless, it will become indispensable if national assessments of student learning are to be improved and if accurate analysis and communication of results are to be ensured.

The SER ESTUDIANTE's tests are administered to grades 4, 7 and 10 of General Basic Education students under the sample testing modality. This is not the case for grade 3 Baccalaureate students where census testing is necessary since, starting in 2014, a percentage of it will count towards the final Baccalaureate degree.

The population considered in the sample framework for the SER 2014 test is made up of public, public/community, municipal, religious private and non-religious private schools. These are schools operating in coastal and sierra locations, urban and rural zones, and under Hispanic and bilingual jurisdictions as foreseen in Table AMIE 2011-2012. Special education institutions were not included.<sup>3</sup> A random selection is made among schools with more than five students attending the courses targeted for testing. Within each school, 25 students will be randomly chosen to become part of the sample. In the event the school may not be able to produce 25 students, all of the eligible students will be included in the sample.<sup>4</sup>

The SER ESTUDIANTES tests were administered to a sample of 41,702 students, broken down as follows: 11,360 fourth graders; 12,457 seventh graders; 10,609 tenth graders; and 7,276 third graders (Baccalaureate). The sample was stratified on the basis of the type of financial support received by each school. Quotas were assigned considering geographic location (urban-rural areas) and the sex of participating students. This was done proportionally in the country's provinces.

As previously mentioned, INEVAL has been involved in assessments only since 2012, and during this short period of time has developed different types of tests, and carried out multiple activities in this field. As regards *test administration*, the Institute has created distribution, application and resource collection protocols, designed application registration forms<sup>5</sup>, and adopted a supervision system. However, their application has met with some difficulties and monitoring of these processes is required. For example, supervision does not involve observation of a test session but is limited to ensuring the timely arrival, and overall attitude of the test administrator. This is done from a point external to the site of the test. PISA quality control requirements are much more stringent so, here too, the team will need to be trained in standardised PISA procedures.

INEVAL, through the administration of several national assessments and its participation in TERCE, has accumulated vast experience in the *data entry* process. However, its participation in PISA will *require becoming familiar with the various types of software* used in this survey.

INEVAL has little experience when it comes to *scoring open-ended questions*. National tests do not include this type of questions, and the team's only exposure to them occurred during TERCE. A specialist for each area (3 in total) was trained directly by the organisation responsible for administering this international assessment. This is insufficient to cover the scoring required by PISA since both the questions and the scoring rubrics are different. This being the case, training will be needed to work with PISA rubrics, but it would also be highly desirable –as expressed by the team- to receive training in the elaboration of open-ended questions and their corresponding scoring rubrics.

*Analysis and use of results.* This is probably the most critical and determining factor to strengthen Ecuador's participation in the PISA assessment. It could be said that the institutional capacity for delivering, disseminating and benefitting from test results is still unknown, since up until the last mission regarding the capacity needs analysis no results had been released, and discussion of the report drafts was an ongoing process. Nevertheless, there was awareness of this situation in INEVAL and some decisions had been made. For example, results would be made available at the school and district levels, but no individual results would be released. Additionally, there would be no attempt to rank schools. Results would be disaggregated by grade and subject at the following levels: National, District and by educational institution. Likewise, efforts are being made to sway public opinion through the mass media.<sup>6</sup>

On 8 July 2014 INEVAL released the results of the SER-ESTUDIANTES tests administered in 2013 and, 20 days later, the results of the first group of students graduating from Baccalaureate (Bachillerato General Unificado).<sup>7</sup> In connection with SER-Estudiantes, the Executive Director taped a video which was subsequently presented by the Director himself in the INEVAL website.<sup>8</sup> It was called "Quality of Public

versus Private Schools”<sup>9</sup> and both the document and the presentation show significant progress. In fact, most of the aforementioned issues have been solved by the end of 2014. However, training of the statistical/psychometric type, and in the field of educational policy is still needed. While this report was being prepared, preliminary results for TERCE were released by INEVAL. These results are restricted to comparisons for each country with its previous results in 2006 because of technical reasons. During 2015, the whole data-set will be launched again. Taking this into account, INEVAL has done an adequate dissemination through the press and through the internet highlighting Ecuador’s improvements.

The scoring used by INEVAL covers a range between 400 to 1000 points. This corresponds to the number of questions distributed along the scale, while scores are assigned according to the number of correct responses. It may be surmised –and was clearly requested by the team– that training in IRT would be required not only at a basic level to make participation in PISA feasible, but also at a more advanced level so that national assessments may be comparable in time, items are evaluated more accurately and reporting is done according to the IRT scale. In this connection, the need to learn scoring techniques and become familiar with techniques and scoring software was also mentioned.

As regards the type of analysis applied, the INEVAL team placed emphasis on the need to study multivariate and multilevel analysis and receive instruction on the use of HLM.<sup>10</sup> The objectives targeted by the reports deserve a second look. While INEVAL is in no position to express an opinion in this regard, the information provided by the Institute should be easier for the audience to interpret. To this end, it would seem advisable to strengthen the knowledge of the analysis and communications team in matters concerning educational policy, associated factors and comparative education.

### ***3.3. Including out-of-school 15-year-olds***

INEVAL is facing a serious problem in terms of developing a sample framework since in their view neither the census nor the projected figures yield reliable information regarding distribution by localities and disaggregated by age. Household surveys do not provide age-disaggregated data either. INEVAL would have to obtain the necessary authorisation to access the databases of these surveys. On the other hand, the team is not experienced in personal interviews as their work consists mainly of administering tests in schools or other places where respondents are invited to meet.

This being the case, the staff responsible for this part of the project will require training on specific areas, such as: sampling the 15-year-old out-of-school population; interviewing techniques; methodology for recruiting potential interviewees; instructing respondents on how to complete the test, etc.

### ***3.4. Identify peer-to-peer learning opportunities***

The PISA team within INEVAL is eager to participate in any opportunities to learn and share with other countries and development partners. These activities receive enough support from the Government, and, in fact, the ILSA team in Ecuador has sufficient experience to host a meeting in Quito. The Director of INEVAL and the institute’s research personnel have expressed the desire for INEVAL to represent a centre of excellence in the field of assessment in the region. Developing this expertise will allow INEVAL to facilitate collaboration on best practices with other national assessment activities in other countries and coordinate international assessments.

## **4. Capacity development priorities**

The following is a summary of the priorities associated with each dimension. It is important to note that these priorities have been agreed with the National Center, INEVAL, and therefore reflect both the needs of PISA-D and also the institute’s requirements in respect of Ecuador’s national assessments.

#### ***4.1. Enabling context***

Training aimed at delivering the results yielded by PISA and national assessments for the purpose of promoting progress in student learning. This point includes the following elements:

- awareness of the stakeholders' capacity to use assessment data either correctly or incorrectly
- narrow relationship with and willingness to listen to the various stakeholders
- clear identification of the audiences slated to receive reports
- training on PISA reference frameworks and on the construction of items derived thereof.

In order for teachers to have the desired impact on the teaching-learning processes, and to promote their acceptance of PISA, INEVAL must be able to clearly explain the survey's approach and how to properly utilise, in the classroom, the results and the items produced.

The social support given to the assessment will depend on the technical and conceptual solidness of the tests. To the extent tests meet these requirements, the information INEVAL generates will be more useful and more highly valued by the various stakeholders. If, on the other hand, the tests are weak, the risk of having the questions and methodology publicly exposed and criticised by the media is very real.

Among the PISA-related priorities, one concerns incorporating out-of-school 15-year-olds into the Study, and the need to adopt a sampling technique that ensures that every stratum is duly represented. Contact with schools is another aspect that needs improvement.

#### ***4.2. Organisation***

Within INEVAL, the individuals who have accumulated the greatest amount of experience can be found among the managerial/supervisory personnel and, consequently, these are the ones who will benefit the most from the training being provided. Nonetheless, having only one trained person per team is insufficient. Considering that Ecuador has little experience in the area of assessments, any opportunity to form professionals in this field becomes extremely important. This being the case, it is felt that everything possible must be done to maximise training opportunities, particularly in the following areas.

##### *Towards efficient data collection*

- Evidence shows the need to discuss and review with INEVAL all protocols associated with the distribution, administration, collection and storage of material.
- All support material, such as Administration, Supervision and Quality Control Manuals, should be reviewed for the purpose of identifying any differences with the requirements set by PISA standards.
- Training of scorers.
- Storing assessment materials in an orderly manner and adopting all required security measures following test administration.

*Coding open-ended questions*

- requires a clear understanding of assessment guidelines and the objective of the questions asked
- requires receiving training in the handling of the test material
- requires being familiar with double coding
- requires the ability to teach people not working for INEVAL the use of guidelines when assigning scores to the questions
- requires recording data yielded during the process according to the PISA protocol.

**4.3. Individual**

*Quality of test administrators' training:* At INEVAL, the persons responsible for this task are currently unable to provide direct training to all the scorers in their different locations. It would be helpful to discuss this protocol, fully understand the elements underlying high quality training, and attempt to make its requirements compatible with the realities of our context.

INEVAL team members have great experience when it comes to working with databases. However, there is a pressing need for more sophisticated software that will allow them to expand the range of tasks currently carried out with databases.

The requirements mentioned above are essential for the country's participation in PISA for Development. The requirements that follow are both convenient and desirable for PISA for Development, but absolutely indispensable if a national consolidated evaluation system is to be attained.

Most members of the various teams need to have a general understanding of IRT so results, parameters and assumptions are readily understood. Likewise, the Educational Research teams need not only to understand its basic principles, but also, to learn how analyses and scoring should be done according to this theory.

As pointed out earlier in reference to context, this need is closely related to the potential of the tests that will ensure an effective assessment. The project will need to help INEVAL to:

- improve item construction
- increase item relevancy
- nourish tests more efficiently
- learn to assemble using rotated blocks.

In closing, and by way of synthesis, emphasis should be placed in the fact that INEVAL has accomplished much recently, and has developed enough capacity for participating in PISA for Development. Nevertheless, there still is room, and particularly interest, to maximise every opportunity to reinforce the collective knowledge of the organisation and the skills of the individuals working there.



## **5. Next steps**

On the basis of this report, a capacity building plan for Ecuador covering the three years of project implementation will be developed. This capacity building plan will be clearly grounded in the implementation of PISA for Development, taking care to ensure that training and capacity building opportunities are costed and scheduled in a timely and effective way. This programme will be designed to equip the National Centre, the National Project Manager, and other related actors with the capacity INEVAL requires to implement the PISA for Development project successfully and, in addition, respond to the particular priorities for student assessment that Ecuador has identified beyond those necessary for project implementation, such as assessment methods, item development, analysis and use of data to support policy development, and student assessment for curriculum reform.

## NOTES

<sup>1</sup> In early 2015, INEVAL employed around 130 employees.

<sup>2</sup> [www.ineval.gob.ec/images/biblioteca/Manual%20Elaboracin%20de%20tems%20protegido.pdf](http://www.ineval.gob.ec/images/biblioteca/Manual%20Elaboracin%20de%20tems%20protegido.pdf)

<sup>3</sup> Instituto Nacional de Evaluación Educativa, Dirección, Coordinación de Investigaciones Educativas, “Diseño muestral”, June, 2014.

<sup>4</sup> Instituto Nacional de Evaluación Educativa, Dirección, Coordinación de Investigaciones Educativa, “Diseño muestral”, June, 2014

<sup>5</sup> See the following documents produced by the Instituto Nacional de Evaluación Educativa: “Ser estudiante: Información Consolidado por Aula”, “Ser estudiante: Informe Consolidado por Institución”, “Evaluación de Desempeño de los Aplicadores: Ser estudiante”, and “Perfil de los Supervisores”.

<sup>6</sup> [www.ineval.gob.ec/index.php/comunicamos](http://www.ineval.gob.ec/index.php/comunicamos)

<sup>7</sup> [www.ineval.gob.ec/index.php/las-noticias/145-ineval-entrega-los-resultados-de-ser-bachiller-a-rectores-de-colegios](http://www.ineval.gob.ec/index.php/las-noticias/145-ineval-entrega-los-resultados-de-ser-bachiller-a-rectores-de-colegios)

<sup>8</sup> [www.ineval.gob.ec/](http://www.ineval.gob.ec/)

<sup>9</sup> [www.ineval.gob.ec/index.php/las-noticias/137-pruebas-ser-estudiante-2013](http://www.ineval.gob.ec/index.php/las-noticias/137-pruebas-ser-estudiante-2013)

<sup>10</sup> While the INEVAL team placed emphasis on the need to study multivariate and multilevel analysis and receive instruction on the use of HLM, it should be noted that the quantitative team recently improved its skills in this subject, so further training in this area may not be necessary.

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- OECD (2013), *PISA for Development Project Document (with Logical Framework)*, OECD, Paris.
- OECD (2012a), *NPM Manual PISA*, OECD, Paris.
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## ANNEX A: SUMMARY OF RATINGS FOR CNA DIMENSIONS

The following Annex is a direct export of data from the PISA for Development CNA application. The structure of the information is hierarchical, nesting each PISA for Development needs analysis element within: 1) the three CNA dimensions (enabling environment, organisation, individual), 2) PISA for Development project requirements (the sequential operational requirements for implementation of PISA), and 3) the five PISA for Development programme outputs (enhanced questionnaires, enhanced assessments, out of school 15-year-olds, assessment capacity, and peer-to-peer learning). The original references for each CNA element are listed below the element description. The references describe the original source document and the numerical designation of the defining element. In documents where the elements are not enumerated, such as the NPM manual, the reference describes the relevant section heading. The rating for each element on the rubric is justified with reference to specific contextual details in Ecuador.

### *CNA Dimension 1. Enabling Environment*

#### *Project Requirement 1. Designation of NPM and establishment of National Centre*

##### 1. Stability of NLSA programme

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC1

Latent	Emerging	Established	Advanced
No NLSA exercise has taken place.	The NLSA has been operating on an irregular basis.	<b>The NLSA is a stable programme that has been operating regularly.</b>	

Justification: National tests for several grades were administered in 2013 and 2014.

##### 2. Having regular funding for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC3

Latent	Emerging	Established	Advanced
There is no funding allocated to the NLSA.	There is irregular funding allocated to the NLSA	<b>There is regular funding allocated to the NLSA</b>	

Justification: Ecuador has paid all the OECD fees in advance for PISA-D. Its general budget comes directly from the President's Secretariat and INEVAL is quite autonomous. INEVAL seems not to require funding from any other agency and are not depending on that to go ahead with PISA.

## 3. Adequacy of NLSA funding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC3

Latent	Emerging	Established	Advanced
	Funding covers some core NLSA activities: design, administration, analysis or reporting.	<b>Funding covers all core NLSA activities: design, administration, analysis and reporting.</b>	

Justification: INEVAL's budget covers everything that is required for the project and is assigned by law through the National budget.

## 4. Relevance of NC expertise

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: NLSA

Latent	Emerging	Established	Advanced
There is no staff allocated for running a NLSA.	The NLSA office is inadequately staffed to effectively carry out the assessment.	<b>The NLSA office is adequately staffed to carry out the NLSA effectively, with minimal issues.</b>	The NLSA office is adequately staffed to carry out the NLSA effectively, with no issues.

Justification: INEVAL has adequate staff for every project process, but for some of them INEVAL require training and more experience. INEVAL has been contracting people with the potential for learning but that are not quite ready now.

## 5. Experience in planning, organising and conducting large-scale surveys

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: NLSA

Latent	Emerging	Established	Advanced
The country/system does not offer opportunities that prepare individuals for work on NLSA.		The country/system offers some opportunities to prepare individuals for work on the NLSA.	<b>The country/system offers a wide range of opportunities to prepare individuals for work on the NLSA.</b>

Justification: INEVAL has hired teachers temporarily for item construction and its personnel have given talks about LSA to the following: a) Internal staff members, b) Universities who wanted to learn about assessing their programmes and asked for some explanations; c) trainees (graduates from teacher education or students in their last years that worked at INEVAL) d) training teachers in models and structures of the test, item construction, and performance level; e) people in charge of assessment in different institutions (SENESCYT, Shuar a Shuar).

## 6. Experience in planning, organising, and conducting international assessments

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: ILSA

Latent	Emerging	Established	Advanced
The country/system has not participated in an ILSA in the last 10 years.		<b>The country/system has participated in at least one ILSA in the last 10 years.</b>	The country/system has participated in two or more ILSA in the last 10 years.

Justification: Ecuador participated only in TERCE.

## 7. Having regular funding for ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: ILSA

Latent	Emerging	Established	Advanced
There is no funding for participation in ILSA.	There is funding from loans or external donors.	There is regular funding allocated at discretion.	<b>There is regular funding approved by law, decree or norm.</b>

Justification: The budget for INEVAL is assigned from the national general budget. Government is obliged to do so by law.

## 8. Adequacy of ILSA funding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC2

Latent	Emerging	Established	Advanced
	Funding covers some core activities of the ILSA.	<b>Funding covers all core activities of the ILSA.</b>	

Justification: INEVAL do not need to request funds from any external agency. INEVAL are able to pay the quotas for PISA for Development and the in-country costs at once and in advance.

## 9. Bureaucratic efficiency

Programme Output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 19.1, PISA Technical Standards: Standard 1.1, PISA Technical Standards: Standard 7.1, PISA Technical Standards: Standard 14.1, PISA Technical Standards: Standard 14.2, PISA Technical Standards: Standard 15.1, PISA Technical Standards: Standard 15.2, PISA Technical Standards: Standard 15.3, PISA Technical Standards: Standard 15.4

30 – ANNEX A: SUMMARY OF RATINGS FOR CNA DIMENSIONS

Latent	Emerging	Established	Advanced
Stakeholders and the NC have no direct communication		Channels for communication involve unnecessary third parties	<b>Communication channels allow direct institutional access between NC and stakeholders</b>

Justification: INEVAL only need to inform to the Board of Directors of its activities and show that have reach the results of its own annual programme; INEVAL does not need authorisation from any other agency to undertake its activities.

10. Efficiency of communication protocols

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.1, PISA Technical Standards: Standard 14.1, PISA Technical Standards: Standard 14.2, PISA Technical Standards: Standard 15.1, PISA Technical Standards: Standard 15.2, PISA Technical Standards: Standard 15.3, PISA Technical Standards: Standard 15.4, NPM Manual: Communication (NPM/NC responsibilities)

Latent	Emerging	Established	Advanced
The NPM is not able to engage directly or indirectly with key stakeholders	The NPM can engage stakeholders but only indirectly through higher management levels	The NPM can engage directly stakeholders but in a formal or subordinate role (i.e., with restricted exchange of communication)	<b>The NPM can engage most stakeholders as a peer</b>

Justification: The NPM is the Director of the NC and is very well positioned in the Ministry, since he worked in it previously for Higher Education.

11. Communication with stakeholders

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 19.1, PISA Technical Standards: Standard 1.1, PISA Technical Standards: Standard 7.1, PISA Technical Standards: Standard 14.1, PISA Technical Standards: Standard 14.2, PISA Technical Standards: Standard 15.1, PISA Technical Standards: Standard 15.2, PISA Technical Standards: Standard 15.3, PISA Technical Standards: Standard 15.4, NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
There is no regular communication between NC and stakeholders	<b>The NC interacts with a network of contacts representing each stakeholder organisation</b>	The NC provides regular updates or bulletins to stakeholders	The NC has regular meetings or accessible forums with stakeholders for two-way discussions

Justification: The NC has called for stakeholder meetings at every opportunity. Teacher Union and Higher Education Teachers and Teachers training have been key focuses of INEVAL outreach efforts. But there is no fixed schedule for the interactions as yet, and this needs to be developed and systematised.

## 12. NLSA research and development funding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC3

Latent	Emerging	Established	Advanced
	Funding does not cover research and development activities	<b>Funding covers some professional development activities</b>	Funding covers research and development activities

Justification: INEVAL is a new institution with enough funding to do some research in regard to the student learning achievement. Training is more needed than money.

## 13. Having strong organisational structures for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC4

Latent	Emerging	Established	Advanced
There is no NLSA office, ad hoc unit or team	The NLSA office is a temporary agency or group of people	The NLSA office is a permanent agency, institution, or unit	<b>The NLSA office is an independently-funded and operating agency, institution, or unit</b>

Justification: INEVAL is an autonomous agency created by law and is fully funded.

## 14. Autonomy of NLSA structures

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC4

Latent	Emerging	Established	Advanced
	Political considerations regularly hamper technical considerations	Political considerations sometimes hamper technical considerations	<b>Political considerations never hamper technical considerations</b>

Justification: INEVAL are institutionally independent and this is stated by law. Up to now, INEVAL have not been challenged politically or technically.

## 15. Accountability of LSA structures

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA: NLSA



Latent	Emerging	Established	Advanced
	The NLSA office is not accountable to a clearly recognised body	<b>The NLSA office is accountable to a clearly recognised body</b>	

Justification: INEVAL is accountable to the Board of Directors called “Junta Directiva”. This “Junta Directiva” is formed by a President delegate, the Planning Secretary and the Secretariat of Higher Education, Innovation and Science. It meets on a monthly basis.

#### 16. ILSA research and development funding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC2

Latent	Emerging	Established	Advanced
Funding does not cover research and development activities.		Funding covers some professional development activities.	<b>Funding covers research and development activities.</b>

Justification: INEVAL have sufficient financial resources but are lacking human capacity in key areas of research. This is also true for other related institutions, such as universities.

*Project Requirement 2. Compiling and confirming information on schools and students for the definition of the assessment population*

#### 17. Geography and climate obstacles

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Large segments of the population are inaccessible to data collectors	Quality of transportation networks deny access of data collectors to certain regions	<b>Quality of transportation networks limits the ability to reach certain regions under certain weather conditions</b>	All regions are accessible

Justification: There is an Amazon Region in Ecuador where the State is not able to implement any policy because there is an agreement to respect the autonomy of the indigenous populations. These regions are called “Pueblos no contactados”. There are other places without access by roads and to reach them INEVAL personnel have to do it by walking long distances. INEVAL will outsource some of its activities to a Unit from the armed forces and will monitor this by phone. The Ecuadorian people have very friendly feeling towards the army to do operational issues and there seems not to be any problem with military personnel working inside schools.

#### 18. Security issues with data collection

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Lack of security prevents data collection for large segments of the population	<b>Civil unrest makes certain regions inaccessible to data collectors</b>	Civil unrest requires additional security to ensure the safety of personnel and integrity of data in certain regions	All regions are accessible

Justification: People in the region called “pueblos no contactados” are against outside people getting in or interfering in their decisions and organisation. These populations are not included in any data base, nor in the school system and there is no contact with them.

#### 19. Effect of political climate on implementation

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Political conflict prevents project from proceeding	Political tensions introduce bureaucratic difficulties which reduce the ability of the NPM to reach consensus with stakeholders or meet timelines	Political climate does not adversely affect the project	<b>All relevant political bodies (government and opposition) actively support the project</b>

Justification: There is no group in opposition to assessments and there is general support for Ecuador’s participation in PISA. Teachers have participated in test development and are in favour of assessment. The Teacher’s Union is not formally organised because they have not yet completed administrative requirements. The Union leaders seem to have an effective informal relationship with the Executive Director of INEVAL.

#### 20. Reliability of student attendance

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.10

Latent	Emerging	Established	Advanced
Student attendance is unreliable and/or not monitored	Student attendance may be monitored but is vulnerable to out-of-school factors (e.g., work, weather)	<b>Student attendance is reliable but is not formally monitored with attendance records</b>	Student attendance is reliable, monitored, and enforced with attendance policies

Justification: Attendance is not compulsory and there is no special policy to follow up non-attendance. However, there are registers in the schools of students who attend and do not attend.

## 21. Quality of school sample frame

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.6, PISA Technical Standards: Standard 9.3, PISA Technical Standards: Standard 16.1

Latent	Emerging	Established	Advanced
There is no EMIS or equivalent infrastructure to provide a school sampling frame	An EMIS is present but is not used or is not accessible for confidentiality or bureaucratic reasons	<b>An EMIS exists and is accessible but is not updated regularly or the frame is inaccurate (missing schools or have schools that don't exist)</b>	An EMIS is updated annually with an accurate frame

Justification: INEVAL has administered tests to samples of students from three grades (4<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>), to secondary and teacher graduates, and to university candidates. INEVAL have a database called AMIE: Schooling institutions, infrastructure, government administration location, labs, teaching and administrative staffs, number of students by grades, Types of programmes (artistic, handcraft, literacy), gender, educational level. AGE IS NOT INCLUDED. The Ministry has online data for students enrolled in March and this is not updated during the year. The Ministry has student data with the ID number of every student and their school history.

## 22. Level of detail in administrative student data

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.6, PISA Technical Standards: Standard 9.3, PISA Technical Standards: Standard 16.1

Latent	Emerging	Established	Advanced
No student data (e.g., grade, age) is available for individual schools	<b>Student data (e.g., grade, age) is recorded in aggregate at the school level</b>	Students data are recorded in central records that link student name and school name	Students have profiles and personal identification numbers that persist across grades and schools

Justification: INEVAL had problems with its National Assessment because school lists were not updated, largely owing to errors in the ministry databases. This database is new and INEVAL are not sure of the kind and type of information that is held at the student level.<sup>1</sup>

## 23. Scheduling conflicts due to local political activities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Regional resources are not available due to conflicting or uncertain availability	Uncertainty over the timing of magnitude of political or civic events results in inability of individuals, institutions, or regions to commit to participating in PISA	Use of common resources (schools, teachers/ head teachers) causes scheduling conflicts with implementation of PISA in schools	<b>Scheduled political or civic activities do not adversely affect the project</b>

Justification: In Ecuador the government is quite stable and school activities have not been disturbed because of political issues.

#### 24. 15-year-old census

Programme output: Including out-of-school 15-year-olds

References: PISA for Development Document

Latent	Emerging	Established	Advanced
<b>No information is available about out-of-school 15-year-olds</b>	Information about out-of-school 15-year-olds is available from data sources updated with >5 year frequency	Information about out-of-school 15-year-olds is available from data sources updated with 2-5 year frequency	Information about out-of-school 15-year-olds is available from data sources updated annually

Justification: The only information would be in the Census that was administered in 2010.

#### 25. Location of 15-year-olds

Programme output: Including out-of-school 15-year-olds

References: PISA for Development Document

Latent	Emerging	Established	Advanced
<b>No information is available about geographic location of 15-year-olds</b>	Information about location of 15-year-olds is at regional levels (e.g., number of 15-year-olds in each province)	Information about location is at community or district levels (e.g., number of 15-year-olds in each community)	Information about location includes household addresses of 15-year-olds

Justification: INEVAL are waiting for the results of “SER Bachiller” to estimate how many graduates from Secondary Education INEVAL have.

#### *Project Requirement 3. Stipulation of languages in which assessment materials will need to be available*

#### 26. Information on student language of instruction

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 2.1

Latent	Emerging	Established	Advanced
No student records are available	Student records are available but do not store dominant language of instruction	Student information records the dominant language of instruction	<b>Student information records the language of instruction for each subject</b>

Justification: Education standards are in place for everybody and there are no standards for native language, so national assessment is taken in Spanish. The assumption is that everybody must learn Spanish, even if they are in multicultural schools.

#### 27. Information on school language of instruction

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 2.1

Latent	Emerging	Established	Advanced
There is no EMIS or equivalent system	School information is centrally stored but without language of instruction	<b>School information contains predominant language of instruction</b>	

Justification: Education standards are in place for everybody and there are no standards for native language, so national assessment is taken in Spanish. The assumption is that everybody must learn Spanish, even if they are in multicultural schools.

#### *Project Requirement 4. Definition of criteria for stratification of school and student samples*

#### 28. Clear statement of purpose for participation in NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC1

Latent	Emerging	Established	Advanced
There is no policy document pertaining to NLSA.	There is an informal or draft policy document that authorises the NLSA.	<b>There is a formal policy document that authorises the NLSA.</b>	

Justification: The authorisation for the NLSA was established by law “Ley Orgánica de Educación Intercultural” article 67 on March 2011.

#### 29. Transparent policy for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC1

Latent	Emerging	Established	Advanced
	The policy document is not available to the public.	<b>The policy document is available to the public.</b>	

Justification: As with every law in Ecuador, it is a public document.

### 30. Clear statement of purpose for participation in ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC1

Latent	Emerging	Established	Advanced
There is no policy document that addresses participation in ILSA.	There is an informal or draft policy document that addresses participation in ILSA.	<b>There is a formal policy document that addresses participation in ILSA.</b>	

Justification: Ecuador signed its participation agreement with OECD for PISA-D in May 2014.

### 31. Use of ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

Latent	Emerging	Established	Advanced
If any, country/system-specific results and information from the ILSA are not used to inform decision making in the country/system.	Results from the ILSA are used in a limited way to inform decision making in the country/system.	Results from the ILSA are used in some ways to inform decision making in the country/system.	Results from the ILSA are used in a variety of ways to inform decision making in the country/system.

Justification: Unable to confirm status at this stage: TERCE results have not yet been released. However, there have been some public events informing people about participation in both PISA and TERCE.<sup>2</sup>

### 32. Stakeholder use of LSA data

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 19.1

Latent	Emerging	Established	Advanced
No stakeholders use of LSA	Stakeholders reference reported average scores and 'passing' percentages from published LSA information	Stakeholders commission specialised reports or reference correlations and other specific information from LSA	Stakeholders actively analyse data for specific information

Justification: Do not know because TERCE results have not been released yet (see footnote 9).

*Project Requirement 9. Communication and coordination with schools that will participate in the assessment*

33. Engagement of data collection agency or network with collection sites (e.g., schools)

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.6

Latent	Emerging	Established	Advanced
	The NC has contact information for individuals with access to school sites	<b>The NC has intermittent administrative contact with schools or contact through previous LSA</b>	The NC has regular contact with schools through professional development and/or previous LSA activities

Justification: Up to now school contact has been restricted to test administration.

34. Perceptions of external survey-based large-scale assessment (LSA) of lower-level stakeholders

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.10

Latent	Emerging	Established	Advanced
Stakeholders have no knowledge of external LSA or assume that LSA is used to evaluate specific school performance	<b>Stakeholders understand LSA is not antagonistic but see it as an unnecessary disruption</b>	Stakeholders recognise a clear washback effect from the results of LSA and the policies and practices affecting learning	Stakeholders recognise external uses of LSA information and make internal use of LSA results to inform policy and practice

Justification: Among the interviewed stakeholders there are a variety of opinions in regard to what INEVAL does and the uses of SER ESTUDIANTE. Some of them said that there was scarce information in regard to the assessment objectives and that all of this depended on test quality..

*Project Requirement 14. Establishing a training plan with key staff of the NC to attend training sessions*

35. Funding for NPM/NC for international training and meetings

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: International participation

Latent	Emerging	Established	Advanced
No budget or time exists for international training	Ad hoc funds are allocated, when available, to support participation in international training and meetings	Institutional participation is formally committed, with funding from a variety of sources	<b>Dedicated funds are available for participation in international training and meetings</b>

Justification: INEVAL participated in every TERCE meetings and sometimes with more than one representative. INEVAL personnel are eager to learn and this is one of the main reasons given to participate in PISA for Development. In addition, INEVAL have budget assigned for 2014 and are planning to do the same for 2015.<sup>3</sup>

### 36. Availability of NPM/NC for international training and meetings

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: International participation

Latent	Emerging	Established	Advanced
Staff are prevented from participating in international activities due to restrictions on personal or professional travel	No time is allocated for international activities, and INEVAL are completely external to staff's institutional responsibilities	<b>Participation in international activities is within the scope of institutional responsibilities, but in addition to regular responsibilities</b>	Time is specifically allocated to participation in and preparation for international activities

Justification: INEVAL are planning to combine their management of all national assessments with participation in PISA and will maximise the benefits of all the training that is available.

### 37. Participation in previous international ILSA training

Programme output: Identify peer-to-peer learning opportunities regarding PISA participation with other countries and development partners

References: SABER-SA-ILSA: SA1

Latent	Emerging	Established	Advanced
The ILSA team has not attended international workshops or meetings.	The ILSA team attended some international workshops or meetings.	The ILSA team attended all international workshops or meetings.	

Justification: Ecuador is often represented by more than one person at the international meetings. INEVAL hosted a meeting in Quito.

*Project Requirement 25. NPM develops a national dissemination plan of their country's participation in PISA for Development and the relevant results from the pilot*

### 38. Expectations for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC1

Latent	Emerging	Established	Advanced
There is no plan for NLSA activity.		There is a general understanding that the NLSA will take place.	<b>There is a written NLSA plan for the coming years.</b>



Justification: There is a plan and there is also a commitment stated by law.

## 39. Having strong public engagement for NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: EC2

Latent	Emerging	Established	Advanced
All stakeholder groups strongly oppose the NLSA.	Some stakeholder groups oppose the NLSA.	Most stakeholders groups support the NLSA.	<b>All stakeholder groups support the NLSA.</b>

Justification: There is no opposition because INEVAL have diffused information in regard to the scope of assessments. Only certain isolated people have personal (ideological) opinions against PISA. Strong support for the project demonstrated at that launch events in Guayaquil and Quito in February 2014.

7.1.8 *Project Requirement 27. The NPM provides input and guidance with regards to the policy priorities that should help determine the content and analysis presented in the country report*

## 40. Setting clear policies for ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC1

Latent	Emerging	Established	Advanced
	The policy document is not available to the public.	<b>The policy document is available to the public.</b>	

Justification: It is available from INEVAL's web-page

## 41. Contributions to ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ1

Latent	Emerging	Established	Advanced
The country/system has not contributed new knowledge on ILSA.			<b>The country/system has contributed new knowledge on ILSA.</b>

Justification: Even the press have learnt from TERCE, though results have not been released yet.<sup>4</sup>

## 42. Dissemination of ILSA results

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

Latent	Emerging	Established	Advanced
If any, country/system-specific results and information are not disseminated in the country/system.	Country/system-specific results and information are disseminated irregularly in the country/system.	Country/system-specific results and information are regularly disseminated in the country/system.	Country/system-specific results and information are regularly and widely disseminated in the country/system.

Justification: There are no results yet.

#### 43. Feedback from ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

Latent	Emerging	Established	Advanced
Products to provide feedback to schools and educators about the ILSA results are not made available.		Products to provide feedback to schools and educators about the ILSA results are sometimes made available.	Products to provide feedback to schools and educators about ILSA results are systematically made available.

Justification: Results have not been released yet, so there has been no possible feedback.

#### 44. Breadth of stakeholder engagement

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 19.1

Latent	Emerging	Established	Advanced
Only the K-12 sector is engaged in LSA	K-12, TEVET and University sectors are engaged in LSA	Multiple stakeholders representing public interests including education and non-education sectors are engaged	<b>Multiple stakeholders are engaged including non-government or indirect educational stakeholders</b>

Justification: In the Ministry of Education people are definitely engaged in assessment. There are school teachers and University researchers and teachers who also know about LSA, however INEVAL are not yet formally engaged with these stakeholders.<sup>5</sup>

#### 45. Media coverage of ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

42 – ANNEX A: SUMMARY OF RATINGS FOR CNA DIMENSIONS

Latent	Emerging	Established	Advanced
There is no media coverage of the ILSA results.	There is media coverage of the national averages and percentages from ILSA results.	There is national media coverage of the ILSA results beyond national averages/percentages that includes correlations and demographic comparisons.	There is national and local media coverage of detailed ILSA results.

Justification: No results yet. The government is completely committed to participation in PISA at the highest (presidential) level. INEVAL will soon celebrate an agreement with Escuela Politécnica Nacional (EPN) and is working to strengthen ties with universities. From the private sector there is an organisation “Enseña Ecuador” that are willing to cooperate with INEVAL and also want to benefit from the assessments.

46. Positive washback of ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: AQ2

Latent	Emerging	Established	Advanced
It is not clear that decisions based on ILSA results have had a positive impact on students’ achievement levels.		ILSA results have influenced decision-making intended to improve students’ achievement levels.	Decisions based on the ILSA results have had a positive impact on students’ achievement levels.

Justification: No results yet.

47. Learning needs for non-academic outcomes

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA for Development Document

Latent	Emerging	Established	Advanced
<b>No attention is given in the education sector to non-academic skills</b>		The trade/vocational training sector defines foundational skills for occupational training	A framework extends the K-12 curricula to adult competencies relevant to local contexts (including economy, citizenship, etc.)

Justification: Standards are mainly based on curriculum contents.

*Project Requirement 32. Planning of the quality assurance process so that Quality Monitors visit a sample of schools during testing sessions to observe and document quality of sessions*

48. Monitoring of collection procedures

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 9.3

Latent	Emerging	Established	Advanced
	Institutions or individual stakeholders may nominate or exclude specific sites from monitoring	<b>Monitored sites are selected randomly with ad hoc exclusions</b>	Monitored sites are randomly sampled and the rationale for any exclusions from site monitoring is agreed upon prior to sampling

Justification: Monitoring is done by Supervisors especially hired by INEVAL. This monitoring includes looking for the reception of material, the starting time, and some general facts included in the form. But monitoring does not include observing complete test sessions.

### ***CNA Dimension 2. Organisation***

#### *Project Requirement 1. Designation of NPM and establishment of National Centre*

##### 49. National coordinator for ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC3

Latent	Emerging	Established	Advanced
There is no team or national/system coordinator to carry out the ILSA activities.	There is a team or national/system coordinator to carry out the ILSA activities.	<b>There is a team and national/system coordinator to carry out the ILSA activities.</b>	

Justification: The Executive Director of INEVAL is the official NPM, seconded by the Planning Director. But INEVAL will have individual people responsible for each process.

##### 50. Effectiveness of human resources for ILSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC3

Latent	Emerging	Established	Advanced
	The ILSA office is inadequately staffed or trained to carry out the assessment effectively.	<b>The ILSA office is adequately staffed or trained to carry out the ILSA effectively, with minimal issues.</b>	The ILSA office is adequately staffed and trained to carry out the ILSA effectively, with no issues.

Justification: INEVAL has managed its national and regional assessments effectively. INEVAL is committed to the training planned under PISA-D.

##### 51. Scheduling priority given to ILSA activities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NC staff are typically assigned higher priority requests related to other projects	NC staff are typically required to immediately attend or do not reschedule meeting requests from managers or colleagues (i.e., meeting requests take priority over pending work)	NC staff manage their own schedules and may reschedule ad hoc meeting requests	<b>Administrative support for NC intercepts and schedules or coordinates ad hoc meeting requests on behalf of NC staff</b>

Justification: INEVAL administered both NA and IALS at the same time and there were no conflicts of priorities. After test administration there was a special team allocated for processing TERCE and another one for the national assessments. INEVAL staff are organised by project goals and in accordance with the requirements of the National Secretariat of Public Organisation.

## 52. Availability of NPM

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NPM time is committed as required, in addition to regular responsibilities	Part time commitments from one or more people do not adequately cover the minimum PISA commitment (2 full-time equivalents). PISA responsibilities are managed through paid or unpaid overtime	<b>Sufficient time commitments are made by NC staff to meet PISA demands, but no individuals are assigned full-time to PISA responsibilities</b>	Sufficient person-time is allocated to PISA with at least one full-time (non-clerical) NC staff member.

Justification: The Executive Director of INEVAL is the official NPM, seconded by the Planning Director. But INEVAL will have specific people responsible of each process.

## 53. Engagement of clerical/administrative support

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities, PISA Technical Standards: Standard 17.3, PISA Technical Standards: Standard 17.4

Latent	Emerging	Established	Advanced
Clerical support is not involved in correspondence (NPM manages all correspondence directly)		Clerical support distributes outgoing correspondence from NC	<b>Clerical support is the initial point of contact and/or has access to all incoming and outgoing correspondence</b>

Justification: INEVAL's workforce is very much engaged with the activities and aims of the institution and there is a good working climate. INEVAL has a system for responding to questions about the Institution. General responses are made through its Citizen Web Site and are answered by INEVAL's Director of Communication. Official answers or communication from INEVAL go out

through the Executive Director. Also, each Director also receives questions and queries directly from members of the public or other agencies and they have responsibility for responding to these.

#### 54. National Centre coordination

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NC staff have no set schedule of appointments or meetings		Staff meetings are scheduled and attended regularly	<b>NC staff use shared agendas to enable regular and ad hoc scheduling of meetings</b>

Justification: INEVAL use Zimbra, which is the institutional electronic mail and scheduling platform.

#### 55. Access to a reliable, high bandwidth Internet connection and e-mail facilities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
NC has no internet access	NC has low bandwidth or unreliable internet	Reliable, high bandwidth internet is available onsite at selected terminals within the NC	<b>NC has a fully networked environment with universal access to high bandwidth internet and email</b>

Justification: INEVAL are proud of their IT facilities and the institution certainly meets the criteria for advanced rating of this element.

#### 56. Computing environment

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
Not all staff have full-time computer access or do not have access to document and spreadsheet applications	NC relies on personal computers of staff running Windows XP or later with Microsoft Office professional (2007 or later); all computers include Excel and Word applications but do not connect to a workplace network	NC staff all have personal or dedicated computers with standard software; access to the workplace network may be limited	<b>NC has dedicated workplace computers for all staff with standard software and network access</b>

Justification: Computers are on every desk in INEVAL and access to IT facilities was confirmed by all the staff of INEVAL.

## 57. Data quality of ILSA

Programme output: Identify peer-to-peer learning opportunities regarding PISA participation with other countries and development partners

References: SABER-SA-ILSA: AQ1

Latent	Emerging	Established	Advanced
Data from the ILSA have not been published.	The country/system met sufficient standards to have its data presented beneath the main display of the international report or in an annex.	<b>The country/system met all technical standards required to have its data presented in the main displays of the international report.</b>	

Justification: Results have not yet been released, but the data base was approved.

## 58. Local capacity building for ILSA

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: SABER-SA-ILSA: SA1

Latent	Emerging	Established	Advanced
The country/system offers no opportunities to learn about ILSA.		<b>The country/system offers some opportunities to learn about ILSA.</b>	The country/system offers a wide range of opportunities to learn about ILSA.

Justification: There has not been many opportunities to learn about TERCE, since the results has not been released yet. But INEVAL has informed through the press in regard to test administration. (see endnote 9)

*Project Requirement 5. Establishing security protocols for the National Centre and for national sub-contractors*

## 59. Integrity of coding

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 11.4

Latent	Emerging	Established	Advanced
	Coders are selected from bureaucratic appointments or personal networks	<b>Coders are selected from nominated applicants using transparent criteria</b>	

Justification: INEVAL staff have little experience in coding. There were no open ended questions in the National Assessments and INEVAL has only one experience was coding TERCE. To select coders INEVAL made a public bid for subject teachers with experience in the grade INEVAL were

codifying. INEVAL also selected people with this characteristic from the organisation's staff. External coders that proved to be very efficient were contracted permanently by INEVAL and will be available for PISA.

#### 60. Computing security

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
Security software is limited to pre-installed software on personal or office computers	Staff are personally responsible for maintaining antivirus and software updates without supervision	Staff follow institutional policies regarding regular software and antivirus definition updates	<b>Dedicated IT staff or network policies ensure all software updates are installed at the institutional level</b>

Justification: INEVAL have staff and policies in place to ensure that all software updates are installed. INEVAL has ESSET control and the staff have limited access to external sources. Research and Statistics Divisions have more permissions for external sources but these are controlled by the anti-virus software and policies as well.

#### 61. Accountability for security

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 8.1, PISA Technical Standards: Standard 18.2

Latent	Emerging	Established	Advanced
There are no consequences for breaches in security	There are ad hoc or discretionary policies regarding how to respond to breaches in security	There are discipline policies for breaches in security with ad hoc or discretionary consequences and individuals with access to secure materials are aware of security protocols	<b>Where uncontrolled access is possible, legally binding confidentiality agreements enforce the data access restrictions and apply to all staff</b>

Justification: All INEVAL employees are required to sign a confidentiality agreement and the test material is not allowed to be taken out from the INEVAL building, where all items are written. This is the first time that results will be released, so security previous to reporting has not been challenged yet.

#### 62. Secure storage of completed materials following data collection

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 8.1, PISA Technical Standards: Standard 18.2



Latent	Emerging	Established	Advanced
No secure facilities are available to the NC		<b>Repurposed storage or private office space is used to secure materials within the NC</b>	NC facilities have a specific security infrastructure for storing data collection materials (i.e. it is not physically possible for individuals to access secure material without it being granted by NPM)

Justification: Testing data volume is becoming too big for the space available. INEVAL are looking for a different storage location.

### 63. Adherence to security protocols

Programme Output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 8.1, PISA Technical Standards: Standard 18.2

Latent	Emerging	Established	Advanced
NC staff and partners have no experience with or no culture of security	<b>There is a legal or administrative framework for accountability with respect to security</b>	Staff with access to secure materials receive training in security protocols	All staff receive training in security protocols

Justification: All INEVAL employees are required to sign a confidentiality agreement and the test material is not allowed to be taken out from the INEVAL building, where all items are written.

### 64. Security auditing

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 8.1, PISA Technical Standards: Standard 18.2

Latent	Emerging	Established	Advanced
<b>No tracking is made of access to secure materials</b>	A list of individuals with permission is used to grant access to secure materials	The NPM can invoke or revoke access for any individual on the permitted list at any time	Access to secure materials is verified and recorded every time the material is accessed

Justification: This has not been organised yet, but for national assessment material INEVAL have rules of confidentiality, but no tracking.

### 65. Secure space for conducting the coding operations

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
No facilities are available	Multi-purpose facilities outside the NC are available for coding	<b>Multi-purpose facilities within the NC may be secured for coding</b>	Dedicated secured facilities are available

Justification: The INEVAL building has several large rooms where INEVAL organises trainings and other processes such as item validation.

#### 66. Software resources

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: Resources of the National Centre

Latent	Emerging	Established	Advanced
There is no mechanism for acquiring specialised software that is not already installed with computer at time of purchase	Individuals may download or purchase software for their own use without technical support or oversight	Individuals may download or purchase software for their own use but have access to institutional copies of required software	<b>The NC administration maintains software licences and manages acquisition and installation of necessary software</b>

Justification: It is a State requirement and INEVAL has the legal-administrative and budget responsibility for maintaining this.

*Project Requirement 9. Communication and coordination with schools that will participate in the assessment*

#### 67. Sufficiency of data collection staff

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.7, PISA Technical Standards: Standard 1.8, PISA Technical Standards: Standard 3.1

Latent	Emerging	Established	Advanced
There are no available data collections staff	Available data collection staff are inexperienced, poorly trained, or do not have appropriate linguistic skills	There are few trained data collectors who must travel to many sites or many inexperienced or linguistically challenged data collectors	<b>There is a sufficient number of qualified data collectors for all sites</b>

Justification: INEVAL is able to call upon on the services of an adequate number of experienced people for conducting national assessments for several grades. But note that these personnel are not permanently hired by INEVAL.

*Project Requirement 14. Establishing a training plan with key staff of the NC to attend training sessions*

## 68. Availability of ILSA training

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: SA1

Latent	Emerging	Established	Advanced
		<b>Opportunities to learn about ILSA are available to the country's/system's ILSA team members only.</b>	Opportunities to learn about ILSA are available to a wide audience, in addition to the country's/system's ILSA team members.

Justification: INEVAL have not released results yet, so the institution has had little opportunity to train people that are not directly involved.

*Project Requirement 24. Recruitment and training of test administrators that do not have any direct relationship to the students that will be assessed and that are experienced and competent enough to carry out the testing sessions following the scripts, guidelines and procedures established*

## 69. Commitment of data collection staff

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.7, PISA Technical Standards: Standard 3.1, PISA Technical Standards: Standard 1.3

Latent	Emerging	Established	Advanced
Insufficient data collection staff	Data collection staff are part-time, shared with other institutions	Data collection staff are part-time, shared with other projects in the same institution	<b>Data collection staff are specifically hired or reassigned for this role/project</b>

Justification: INEVAL are able to hire experienced data collectors for each testing cycle; these are not permanent employees of INEVAL.

## 70. Availability of training facilities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.2, PISA Technical Standards: Standard 11.2

Latent	Emerging	Established	Advanced
No facilities available (self-study or one-one-one)		<b>Existing facilities may be repurposed to accommodate training</b>	A dedicated training environment is available

Justification: INEVAL has a large building with several rooms that can be and are used for different purposes, such as training.

#### 71. Avoidance of conflicting interests

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.3

Latent	Emerging	Established	Advanced
Hiring for data collection is treated as casual employment	The NC maintains employment records of data collectors	<b>Employment records include subjects taught by data collectors and schools worked at</b>	Employment framework require data collectors to disclose any potential conflict of interest

Justification: Data collectors are drawn from the schools that are assessed. INEVAL asks for teacher's record and chooses test administrators who are not of the same subject tested and are not responsible for teaching the students being tested.

#### 72. Commitment of data collectors to training

Programme Output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.2

Latent	Emerging	Established	Advanced
There is no provision or time for training	<b>Data collectors must volunteer time or training time conflicts with regular responsibilities</b>	Data collector time is compensated but regular responsibilities may conflict with the training schedule	Training time is compensated and is integrated with regular duties (or staff are hired exclusively for data collection)

Justification: Some few test administrators are from INEVAL. Most of them are from the same schools who teach different subjects and in different grades than those tested. For the latter training is rather scarce and many times it is held during volunteer hours.

#### 73. Household survey collection

Programme output: Including out-of-school 15-year-olds

References: PISA for Development Document

Latent	Emerging	Established	Advanced
The no in-country capacity to conduct national surveys	Public or private data collection agencies are available but do not have capacity for national surveys	<b>The NC has access to service providers with national survey capacity</b>	National centre staff already has staff or existing relationship with resources for national survey collection

Justification: There are some household surveys that are run by other Ministers, but until now there is no official contact so as to have access to raw data. Therefore, there is no way to know the age or location of out-of-school 15-year-olds.

#### 74. Correct sequencing of administration of national options

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 7.2

Latent	Emerging	Established	Advanced
Data collection staff have been/will be given instructions on the protocols	Data collection staff have been/will be trained after PISA design has been finalised	<b>Data collection staff have been/will be trained using the final instruments</b>	Final administration protocols are/will be sequentially scripted and bound and provided with the international testing materials

Justification: Plans and budgets are in place for INEVAL to facilitate the necessary training.

*Project Requirement 25. NPM develops a national dissemination plan of their country's participation in PISA for Development and the relevant results from the pilot*

#### 75. Providing teachers with opportunities to learn about the NLSA

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-NLSA: SA2

Latent	Emerging	Established	Advanced
There are no courses or workshops on the NLSA.	<b>There are occasional courses or workshops on the NLSA.</b>	There are some courses or workshops on the NLSA offered on a regular basis.	There are widely available high quality courses or workshops on the NLSA offered on a regular basis.

Justification: Courses have been organised by INEVAL when item developers require to be trained or because of special requests.

*Project Requirement 26. Preparing and distributing testing materials to schools in a secure fashion, ensuring materials arrive safely and without suffering damage or alterations*

#### 76. Booklet distribution infrastructure

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA for Development Document

Latent	Emerging	Established	Advanced
Only ad hoc or site-specific printing resources are available		Service provider(s) or internal staff may be contracted or re-tasked to print and distribute booklets but must be trained with proper protocols	<b>Existing infrastructure can be used to transport testing materials using pre-existing security protocols</b>

Justification: INEVAL has demonstrated the effectiveness of existing infrastructure in the previous National Assessment. Although the National Assessment has been done only once, INEVAL are preparing for the next with confidence on the basis of their initial experience. INEVAL have an agreement with the Armed Forces to transport and protect all the testing material.

#### 77. Adequacy of transportation for data collectors

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.7, PISA Technical Standards: Standard 3.1, PISA Technical Standards: Standard 1.3

Latent	Emerging	Established	Advanced
	<b>Data collectors use public or shared transportation or use personal transportation without reimbursement</b>	Data collectors use personal vehicles with reimbursement	Data collectors use dedicated institutional vehicles

Justification: INEVAL have an agreement with the logistic command of the Armed Forces of Ecuador for transporting, keeping safe and distributing all the testing material, so data collectors do not carry confidential materials themselves. Data collectors (test administrators and provincial supervisors) are based in the areas where testing takes place and move by their own means. Zone and National Coordinators from INEVAL's staff use public transportation.

*Project Requirement 28. Coordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with international contractors*

#### 78. Effectiveness of training for data collection

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.1

Latent	Emerging	Established	Advanced
	Training for data collection consists of review of protocols or may not be standardised	Training for data collection is conducted individually	<b>Training for data collection is conducted in group settings with feedback between trainees</b>

Justification: Training for test administrators is done through the cascade model. There are “National Coordinators” from INEVAL, who train Province Supervisors. These Province Supervisors train test

administrators. In each school INEVAL has an additional test administrator for replacing an assigned one in case this is necessary.

#### 79. Availability of document formatting and print specifications

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 10.2, PISA Technical Standards: Standard 10.3, PISA Technical Standards: Standard 10.4, NPM Manual: NC responsibilities

Latent	Emerging	Established	Advanced
Authors choose formats for their own documents	Document and print specifications are not standardised or easily accessible	<b>All document print and specifications are maintained in manuals accessible to all NC staff</b>	

Justification: The Communication Directorate is guided by a Style Manual and a Dictionary for item layouts. However, this is not known by all the staff of the Directorate.

*Project Requirement 29. Monitoring of school and student response rates, in coordination with international and national contractors, as appropriate*

#### 80. Responsiveness of sample design to data collection activities

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.6

Latent	Emerging	Established	Advanced
There no updates on sampling or non-response provided during data collection period		The data collection to is periodically updated to respond to sample non-response and assign replacements	<b>Daily or real-time updates on data collection or sample design are available from centralised data processing</b>

Justification: There is a monitoring team (4) and other INEVAL personnel (4-5) who are responsible to the Coordinators, who in their turn manage supervisors and these, in turn, manage the test administrators. This line-management chain ensures that updates are available at the beginning and at the end of each session.

*Project Requirement 30. Organisation of plans for local printing of assessment materials and verification of print and paper quality in all languages that will be covered, while maintaining security*

#### 81. Quality of document proofing

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 10.2, PISA Technical Standards: Standard 10.3, PISA Technical Standards: Standard 10.4, Publishing (NC responsibilities)

Latent	Emerging	Established	Advanced
Authors are responsible for proofing their own documents		Document production relies on informal experience using individual expertise or idiosyncratic methods	<b>Clear protocols exist for the identification of potential typographic errors and/or the NC has an official dictionary and manual of style</b>

Justification: The Directorate of Statistical Analysis and Report send the final draft to the Communication Direction and to the Executive Director who comment and make suggestions. The Communication Directorate is guided by a Style Manual and a Dictionary for item layouts.

## 82. Availability and quality of publishing resources

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: NPM Manual: NC responsibilities, PISA Technical Standards: Standard 10.1

Latent	Emerging	Established	Advanced
NC has no existing relationship with publishers or publishing resources		NC has access to publishers with appropriate print quality and binding options but may require several firms to accommodate volume	<b>A dedicated outsourced publisher can accommodate the print volume in the desired time span prior to data collection or NC has in-house resources to handle publishing</b>

Justification: INEVAL find providers of these services through a public procurement process. INEVAL are trying to arrive at an agreement with a newspaper that would permit the institution to meet every printing requirement with this single provider.

*Project Requirement 31. Planning of staffing and resources (technical and material) needed for coding of test booklets and contextual questionnaires and data management*

## 83. Fidelity of response coding

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 11.3

Latent	Emerging	Established	Advanced
Response coders and managers have not received or are not acquainted with operations manual from the NPM	<b>Coders and managers have access to the operations manual</b>	The operations manual is used directly in training for and management of coding activities	

Justification: Two persons from INEVAL received training from TERCE and INEVAL trained other coders with the manuals for the assessment.



*Project Requirement 32. Planning of the quality assurance process so that Quality Monitors visit a sample of schools during testing sessions to observe and document quality of sessions*

#### 84. Data collection monitoring

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 9.1

Latent	Emerging	Established	Advanced
There is an insufficient quantity of external monitors	<b>Monitors do not receive the same training or same quality of training in data collection as data collectors (see PISA Technical Standards: Standard 6);</b>	Selected monitors are also trained as data collectors	All monitors are trained as data collectors

Justification: The cascade modality implemented by INEVAL introduced some diversity in training for the National Assessment. Not all supervisors are equally trained and INEVAL training is not sufficient to cover the whole country. Supervisors monitor in general terms and keep records of general facts, but do not register a complete test administration session.

### ***CNA Dimension 3. Individual***

*Project Requirement 1. Designation of NPM and establishment of National Centre*

#### 85. Adherence to protocol

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 18.2, PISA Technical Standards: Standard 17.5, PISA Technical Standards: Standard 1.2, PISA Technical Standards: Standard 9.2

Latent	Emerging	Established	Advanced
Data processing staff have no experience with large scale data processing protocols		<b>Data processing staff have experience carrying out specific instructions in specific contexts</b>	Data processing staff have experience operating with a variety of protocols in different contexts

Justification: Dealing with so many tests in only one year caused INEVAL to look for efficiency and effective organisation to ensure the assessments went as planned. While the data processing staff have been trained, INEVAL would like these personnel to receive further training under the PISA-D project.

#### 86. NPM experience with dissemination of results from large scale assessment

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
LSA reports statistical results only	LSA reports include statistical tables and descriptions of statistical comparisons and notes where differences are substantive or significant	<b>LSA reporting uses narratives to relate results from separate statistical results or data sets</b>	LSA reporting uses multiple narratives to multiple audiences, referencing relevant data where appropriate

Justification: INEVAL's report of the national assessment includes performance level and bivariate association. INEVAL has released the results of the assessment and there is a national report, a web page and a geographically referenced web-page.

#### 87. NPM regularity of communication

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NPM has no email or voicemail	NPM has limited access to email and/or voicemail	NPM can access and respond to email and voicemail at least once a day	<b>NPM can process all incoming email and voicemail each day</b>

Justification: The NPM is the Executive Director of INEVAL who is supported by the Planning Director. Both are very responsive, organised and committed, though INEVAL have lots of other work to do as well as PISA-D.

#### 88. NPM's skill in managing a team of project staff who carry out multiple tasks often needing simultaneous attention

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities, PISA Technical Standards: Standard 19.2

Latent	Emerging	Established	Advanced
NPM has no previous management experience	NPM has experience managing a few people sharing common skills and responsibilities	NPM has experience managing a large team or a team composed of individuals with diverse responsibilities and skill sets	<b>NPM has experience in a matrix management structure where project team members belong to different administrative hierarchies</b>

Justification: Being the Executive Director of a big institution with more than 90 people proves the NPM's management capacity.<sup>6</sup>

#### 89. Relevance of NPM expertise

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NPM's expertise is related to a technical or specialised field, such as data management, analysis, or classroom instruction	NPM's expertise includes specialised knowledge as well as management experience	<b>NPM's expertise includes specialised knowledge, management experience and knowledge of government policy issues and/or international issues</b>

Justification: The NPM has worked a lot in assessment and he has lots of management experience in INEVAL and other institutions in different countries. The NPM has close interrelationships with people in the government.

90. NPM's previous experience in planning, organising and conducting large-scale surveys

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NPM has experience with polling or non-intensive questionnaire-based surveys or experience implementing large-scale survey	NPM has experience with planning some aspects of large-scale assessment surveys (e.g., testing, sampling, data collection)	<b>NPM has experience in several aspects of large-scale surveys, including design and data collection</b>

Justification: The NPM has previous experience in several aspects of large-scale surveys prior to his appointment as Executive Director of INEVAL. As Executive Director of INEVAL the NPM has been responsible for several large-scale surveys in Ecuador.

91. NPM's knowledge and confidence to represent the country at international meetings where aspects of the project will be discussed

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NPM has sufficient seniority to represent the country's interests	NPM has experience working with different stakeholder groups within country and sufficient seniority to represent country's interests	NPM has sufficient seniority to represent country's interests and knowledge of the interests of different stakeholder groups	<b>NPM has sufficient seniority to represent the country's interests and experience interacting with different sub-national and international stakeholders</b>

Justification: The NPM operates at a senior technical and political level and he has already participated in several international meetings and proved to be an effective and productive participant in these.

92. NPM’s knowledge of, and the confidence to deal with government agencies, school principals, parents and teachers within their own countries

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NPM has sufficient seniority to speak with authority on behalf of Ministry or Department	<b>NPM has existing relationships with stakeholders within the education system</b>	

Justification: Previous to his current position as Executive Director INEVAL, the NPM worked in the Ministry of Education for several years and as a result he has strong existing relationships with senior officials in the education sector.

93. NPM knowledge of language of assessments

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: SABER-SA-ILSA: EC3

Latent	Emerging	Established	Advanced
	The national/system coordinator or other designated team member is not fluent in the official language(s) of the assessment	The national/system coordinator has immediate access designated team members that are fluent in the official language(s) of the assessment	<b>The national/system coordinator is fluent in the official language(s) of the assessment</b>

Justification: The official language of the assessment (Spanish) is the NPM’s mother tongue.

94. NPM’s level of oral and written communication skills in English for meetings and communications with the OECD Secretariat and with the International Contractors.

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	NPM is sufficiently fluent in English to understand general concepts and non-technical issues	NPM is sufficiently fluent in English to understand and take a position on issues presented by OECD Secretariat or International Contractor	<b>NPM is sufficiently fluent in English to argue a specific perspective or position and represent complex or novel issues</b>

Justification: The NPM has demonstrated his proficiency in English at several international meetings.

## 95. NPM's previous work experience in an education system and experience in educational assessment

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
		NPM is familiar with education system in a professional context	<b>NPM has previous experience working within the education sector</b>

Justification: The NPM has been working in the education field for several years in Ecuador as well as in Mexico.

## 96. NPM's General computing skills (e.g., Microsoft Office suite, WebEx and secure FTPs)

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
Use of computers is primarily for email and internet and basic document reading/reviewing functions	Uses computers for email and internet use as well as producing and editing basic documents and presentations in standard word processors and spreadsheets	<b>In addition to email, and internet, uses formatting conventions, edit/review functions and other shared authorship functions in office software</b>	Uses email, internet and file sharing applications with versioning and complex formatting (e.g., document merges, conversion of file types) and/or works in a secure networked file sharing environment

Justification: INEVAL uses and maintains high IT competencies and standards.

## 97. English proficiency of NPM

Programme output: Identify peer-to-peer learning opportunities regarding PISA participation with other countries and development partners

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
NPM has no English proficiency	NPM can limited English fluency (i.e., passive communication with basic productive communication)	<b>NPM has mastery of English as a second language but operates professionally primarily in another language</b>	NPM is fluent or operates professionally in English

Justification: The NPM works primarily in Spanish, but he can read, write and speak in English.

*Project Requirement 4. Definition of criteria for stratification of school and student samples*

## 98. Specialised skill for scientific probability sampling

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 9.3, PISA Technical Standards: Standard 16.1, PISA Technical Standards: Standard 17.3, PISA Technical Standards: Standard 1.3, PISA Technical Standards: Standard 1.4, PISA Technical Standards: Standard 1.5

Latent	Emerging	Established	Advanced
Survey design staff have experience with convenience sampling	<b>Survey design staff have experience drawing simple random samples</b>	Survey design staff have experience designing self-weighting or un-weighted complex samples (multi-stage clusters and stratification)	Survey design staff have experience designing complex samples with appropriate design weights and/or performed non-response adjustments to analysis weights

Justification: INEVAL have already administered tests to a national sample, including Galápagos Islands and staff are therefore experienced in drawing simple random samples. There is a region in Ecuador where nobody can go through. It is still governed by native people and education is in the charge of the population. INEVAL states that this population is much lower than 5% of the total. In fact it is less than 1%.

## 99. Quality of replacement sample

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 1.9

Latent	Emerging	Established	Advanced
There is no replacement sample in the survey design	The replacement sample only allows convenience sampling	The replacement sample is random	<b>The replacement sample provides random assignment of matched replacement(s) for each school</b>

Justification: Each sampled school in the National Assessment has a replacement, randomly selected in the same process of sampling.

*Project Requirement 10. Communication and coordination with international contractors for the selection of the student samples in each school*

## 100. Management of linked data files

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 12.1, PISA Technical Standards: Standard 12.5, PISA Technical Standards: Standard 16.2, PISA Technical Standards: Standard 17.3, PISA Technical Standards: Standard 17.5

## 62 – ANNEX A: SUMMARY OF RATINGS FOR CNA DIMENSIONS

Latent	Emerging	Established	Advanced
Data processing staff have been given instructions on data management protocols	<b>Data processing staff have experience sorting or extracting data from files with primary keys or unique identifiers</b>	Data processing staff have experience performing data merges using primary and foreign keys	

Justification: INEVAL worked without problems on the TERCE data and on the National Assessment Data. However INEVAL personnel do not have experience with KeyQuest and will need to be trained in this software.

## 101. Data manipulation skill: manipulating data structures

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 12.5, PISA Technical Standards: Standard 16.2, PISA Technical Standards: Standard 17.5, PISA Technical Standards: Standard 12.2, PISA Technical Standards: Standard 17.2

Latent	Emerging	Established	Advanced
	Staff have experience with single format data (e.g., Excel, SPSS) sorting records and adding/computing new variables	<b>Staff have experience with single format data (e.g., Excel, SPSS), experience importing and exporting between proprietary formats using built-in software functions</b>	Staff have experience constructing or parsing proprietary formatted data files and text-based data files with defined formats

Justification: INEVAL personnel have experience with single format data and use PostgreSQL and SQL Server. INEVAL have organised several data, for test administration, for associated factors.

## 102. Data manipulation skill: fluency with statistical software (e.g., SPSS, SAS)

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 12.5, PISA Technical Standards: Standard 16.2, PISA Technical Standards: Standard 17.3, PISA Technical Standards: Standard 17.5, PISA Technical Standards: Standard 17.2, PISA Technical Standards: Standard 12.3

Latent	Emerging	Established	Advanced
There is no data management activity	Data management consists of simple spreadsheets and data entry	Data management is performed mainly using point-and-click menus	<b>Data management is performed using syntax files</b>

Justification: INEVAL use Syntaxis but in SPSS. INEVAL personnel do not know how to work in SAS or Stata.

*Project Requirement 14. Establishing a training plan with key staff of the NC to attend training sessions*

## 103. NPM's and NC's Familiarity with PISA skill ontology / framework

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	<b>NC staff have experience instructing students with a wide range of skill profiles</b>	NC staff have experience developing programmes for salient groups of student skills	A common framework is used by NC staff for identifying skill determinants and dependencies for different learning objectives

Justification: Based on national standards, INEVAL have developed their own frameworks and models. But this does not imply that INEVAL personnel know the PISA Framework

## 104. NC's understanding of item response theory

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA for Development Document, NPM Manual: NPM/NC responsibilities

Latent	Emerging	Established	Advanced
	<b>NC staff have experience or familiarity with statistics and classical test theory</b>	NC staff have used item response theory in limited context (e.g., scaling dichotomous responses)	NC staff have experience with multiple item response models (e.g., polytomous, Rasch, 2PL, 3PL)

Justification: INEVAL staff have the necessary experience with statistics and classical test theory, but have no experience in selecting items.

## 105. NC's test development skills

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA Technical Standards: Standard 5.1, PISA Technical Standards: Standard 5.2, PISA Technical Standards: Standard 4.4

Latent	Emerging	Established	Advanced
NC staff have no experience developing tests or test items	NC staff have experience developing tests or test items using well-defined test specifications	<b>NC staff have used classical test theory to examine item and test difficulty and discrimination/reliability and select appropriate items</b>	NC staff use multivariate statistics to examine test dimensionality, item bias or differential item functioning, and test information and increase the accuracy and relevance of tests

Justification: INEVAL personnel have used classical test theory for the National Assessment. INEVAL do not assess reliability.



*Project Requirement 28. Coordination of appropriate enhancements/adaptations/translations of instruments, manuals and guides, and field trial and verification process with international contractors*

## 106. Fidelity of administration in local contexts

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 5.1, PISA Technical Standards: Standard 5.2, PISA Technical Standards: Standard 4.4

Latent	Emerging	Established	Advanced
Translators or staff responsible for adaptation have translated data collection protocols	Translators or staff responsible for adaptation have been trained in data collection procedures	Translators or staff responsible for adaptation have participated in data collection	Translators or staff responsible for adaptation have been trained in PISA data collection procedures

Justification: Does not apply because INEVAL will not use translators. INEVAL will make use of the Spanish versions of the instruments produced by the Spanish speaking countries participating in PISA and adapt these for Ecuador's purpose. In addition, test administration and tests will be only in Spanish.

## 107. Quality of training for data collection

Programme output: Country capacity in assessment, analysis and use of results for monitoring and improvement

References: PISA Technical Standards: Standard 6.1

Latent	Emerging	Established	Advanced
	<b>Data collection staff have been trained in data collection protocols</b>	Data collection staff have participated in data collection in previous survey or training but received no guidance or feedback regarding the effectiveness or appropriateness of method	Data collection staff have been monitored during previous or mock data collection and have received feedback on their adherence to protocols during previous data collection

Justification: INEVAL have training sessions for test administrators each time these are hired for specific administrations.

## 108. Adequacy of translator assessment background

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA Technical Standards: Standard 4.2

Latent	Emerging	Established	Advanced
<b>Translators or staff responsible for adaptation have no experience translating or adapting test items</b>	Translators or staff responsible for adaptation have background or experience with education or psychology	Translators or staff responsible for adaptation are experienced teachers	Translators or staff responsible for adaptation are also professional item writers

Justification: INEVAL will not use translators, only adaptors. There is scarce relevant experience for the regions of Sierra and Coast. In its PISA team INEVAL has a psychologist and educators, but INEVAL staff feel that they do not know how to adapt items.

109. Translator knowledge of PISA framework

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA Technical Standards: Standard 4.2

Latent	Emerging	Established	Advanced
<b>Translators or staff responsible for adaptation have no experience or knowledge of PISA framework</b>		Translators or staff responsible for adaptation are knowledgeable about the PISA assessment framework	Translators or staff responsible for adaptation can reliably predict the difficulty of PISA test items

Justification: INEVAL will use translations done by other countries and adapt them in-house.

110. Appropriateness of instrument translation and adaptation to local contexts

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 4.3, PISA Technical Standards: Standard 5.1

Latent	Emerging	Established	Advanced
	Translators have limited knowledge of common usage of testing languages	Translators have academic (i.e., foreign) knowledge of testing language usage in local contexts	<b>Translators or staff responsible for adaptation have functional knowledge of dialects or language in different contexts</b>

Justification: INEVAL will use translations done by other Spanish speaking countries.

111. Fidelity of instrument translation and adaptation to local contexts

Programme output: Enhanced contextual questionnaires and data-collection instruments

References: PISA Technical Standards: Standard 4.3, PISA Technical Standards: Standard 5.2

Latent	Emerging	Established	Advanced
Translators or staff responsible for adaptation have no experience with research		<b>Translators or staff responsible for instrument adaptation have experience with survey research or experience with questionnaire design</b>	Translators or staff responsible for instrument adaptation are knowledgeable about the constructs measured by PISA questionnaires (e.g., SES, school climate, engagement with learning, etc.)

Justification: INEVAL have worked out its National Assessment questionnaires that reflect international tests.

*Project Requirement 31. Planning of staffing and resources (technical and material) needed for coding of test booklets and contextual questionnaires and data management*

## 112. Response coding expertise

Programme output: Enhanced cognitive assessments for below-baseline proficiency levels in PISA

References: PISA Technical Standards: Standard 11.1

Latent	Emerging	Established	Advanced
Response coders have no experience with student work	Response coders have experience manually scoring student work	Response coders have experience manually coding student responses in large-scale assessments	<b>Response coders are recalibrated periodically based on results of reliability analysis (see Standard 11.3)</b>

Justification: INEVAL's coders had a manual and were trained, but only once for TERCE. Most of the coders are not currently hired by INEVAL but will be taken on for the next assessment.

## NOTES

<sup>1</sup> INEVAL has since resolved this problem.

<sup>2</sup> The results of TERCE were successfully presented in December 2014. See for example: [www.ineval.gob.ec/index.php/Terce](http://www.ineval.gob.ec/index.php/Terce)

<sup>3</sup> Ecuador leads technical sessions in the meetings. Also, the Director Executive has one of the two positions of the Commission for the High Level Technical Counsellor.

<sup>4</sup> Ecuador has already launched though results from national assessment and TERCE results.

<sup>5</sup> In recent months, INEVAL has subscribed agreements with the best universities of the country in order to improve national capabilities and research.

<sup>6</sup> INEVAL employed 130 people by early 2015.

## ANNEX B: TERMS OF REFERENCE

This annex includes the introduction and statement of work sections of the OECD Terms of Reference for CNA and CBP.

### *Introduction*

OECD is seeking to enhance its Programme for International Student Assessment (PISA) to make it more relevant for developing countries. Through its PISA for development project, adapted survey instruments will be developed to allow developing countries to assess 15-year-olds' competencies in the key subjects of reading, mathematics and science, while at the same time providing the countries with an opportunity to build their capacity to manage student assessment and apply the result for system improvement .

### *Statement of Work*

These terms of reference (ToR) cover the work to be carried out by three consultants (each hired with the same ToR) as part of the PISA for Development project. The purpose of the work is to ensure that for each of the 6 participating countries,<sup>1</sup> the following deliverables are completed in a timely and accurate manner in order to support the effective implementing of the project:

- A. Capacity Needs Analysis (CNA) report for each participating country focusing on the institutional and the student assessment areas related to the implementation of the PISA for Development project.
- B. Capacity Building Plan (CBP) prepared for each of the participating countries that are fully costed and directly address the needs identified in the CNA for each country.

In order to produce these two deliverables, the consultants will be required to complete the necessary tasks involved in coordination with the project team at the OECD and in-country with each of the participating countries. The tasks associated with each deliverable are described in the following three sub-sections.

#### *Deliverable A: Capacity Needs Analysis reports*

In the context of the project's objectives, the roles and responsibilities for National Centres (NC) and National Project Managers (NPM) and the capacity building priorities identified by the countries, the consultants will undertake a Capacity Needs Analysis (CNA) for each of the participating countries.

The benchmark for the CNA will be the necessary capacity required in the context of the PISA for Development project, which is defined as:

- The ability of the individuals and institutions responsible for the project in each country to perform the necessary functions (as set out in the roles and responsibilities for NC and NPM), solve the likely problems that will arise during implementation, and set and achieve project objectives in a sustainable manner.

Countries may desire future capacities for student assessment that go beyond this necessary ability and include competencies in, for example, item development, assessment methods and analysis of

assessment data to support policy. In these cases the consultants will reflect the countries' desire in a broader statement of capacity than the one indicated above, but will ensure that these aspirations are rooted in a realistic appraisal of what is possible to achieve in a three year timeframe and given the capacity assets that countries are starting with.

The CNA for each country should be based on existing recent and relevant assessments of capacity for student assessment that may have been undertaken and a clear analysis of desired future capacities (as summarised above) against current capacities. The assessment should also be couched in the broader context of the participating countries' education sector policies, strategies and priorities generally and their strategies for strengthening student assessment in particular. The assessment should generate an understanding of capacity assets and needs, which in turn should lead to the formulation of a Capacity Building Plan (CBP, Deliverable B).

The CNA is integral to the project planning and programming process, as the understanding of capacity assets and needs will serve as key inputs into the formulation of the capacity building plan. The consultants will identify the indicators to be used to measure capacity assets that will serve as a foundation for the subsequent monitoring and evaluation of capacity development. The consultants will develop an overall capacity assessment framework to facilitate the task and this will be composed of three dimensions:

- the enabling environment, particularly the Ministry of Education and other users of the results of the PISA for development project
- organisation, particularly the National Centre and any sub-national institutions that will be involved in the project
- individual, especially the staff of the National Centre and related organisations, in particular the National Project Manager and his/her team.

In undertaking this task the consultants should ensure that at the outset of the activity the capacity assessment objectives and expectations of the country are clarified in the context of the aims and objectives of the PISA for development project and the resources available and that the key stakeholders are identified and engaged throughout the process. In addition, the consultants should adapt the capacity assessment framework to local needs and priorities in each country, in particular the capacity asset indicators that are used. The assessment of existing capacity levels should be transparent and the summarising and interpretation of results should be clearly communicated to key stakeholders prior to the drafting of the capacity assessment report for each country.

In preparing the capacity assessment report for each country, it will be important for the consultants to include the process and methodology adopted the stakeholders (internal/external) that were consulted, their perspectives and insights on the organisation housing the National Centre, a review and analysis of quantitative and qualitative information, and the resulting capacity development priority needs. The results should be reviewed, validated and enhanced through consultation meetings with the main stakeholders in each country and the OECD, prior to finalisation.

#### *Deliverable B: Capacity Building Plans*

On the basis of the CNA reports, the consultants should complete and agree with each partner country and OECD a CBP covering the three years of project implementation, taking care to ensure that training and capacity building opportunities are costed and scheduled in a timely and effective way. Specifically, the consultants are tasked to design a programme that will equip the National Centre, the National Project Manager and other related actors with the capacity INEVAL require to implement the PISA for

Development project successfully and, in addition, respond to particular priorities for student assessment that the participating countries identify beyond those necessary for project implementation, such as assessment methods, item development, analysis and use of data to support policy development and student assessment for curriculum reform.

Technical capacity-building, institution building and knowledge-transfer opportunities have been clearly identified as part of the implementation of the project with each of the participating countries and development partners. These opportunities include, but are not restricted to, the following:

- procedures for and verification of translations and adaptations of assessment materials (different languages and/or different adaptations of same language versions)
- sample design and selection, including population coverage, exclusions and response rates
- field administration of the assessment and data collection
- quality assurance of the field administration and data collection
- marking and coding of open-ended and multiple-choice items (cognitive and questionnaire responses)
- data entry, cleaning and verification
- scaling of results using IRT models (cognitive and contextual)
- calculation of specific indices (e.g. ESCS gradients)
- calculation, analysis and calibration of item parameters (item difficulty, point-bi-serial indices and other psychometric coefficients for possible data entry errors, translation or other problems)
- compilation of data sets for analysis (student responses and scaled scores)
- exploitation of PISA data sets for analysis (country-specific and international data sets)
- PISA Assessment Frameworks in Mathematics, Reading and Science (basis of the content, competencies and skills assessment)
- item development process (based on PISA frameworks)
- design and drafting of analytical report following PISA country report models
- specific technical topics: plausible variables, IRT models, conditioning, scaling, DIF (Xgender, Xcountry and Xlanguage), student and school weights

In some cases, development partners may establish extended engagement with participating countries for technical assistance to support institutional capacity building and implementation that supports the PISA participation process and the consultants will need to take account of these contributions in the CBP.

The CBP for each country should respond to the needs identified and consist of initiatives and activities that build the foundation for capacity development as well as build momentum for the implementation of the project, the use of the results of student assessment, and the achievement of the

desired future capacities in a timely fashion. The CBP should also complement and, where possible, be integrated with the participating countries' broader strategies for student assessment at all levels of their education systems.

The CBP should include indicators to measure progress in the implementation of capacity development over the three years of the project. The programme should have a clear baseline and targets for each year of implementation should be established for each indicator. The process of monitoring progress should also allow the refinement of capacity development response strategies and potentially the design of new initiatives to address evolving needs. The CBP should be accurately costed in the context of the PISA for development international costs budget, the in-country project costs budget of each country, and the additional development partner support that may be available in each country, beyond the project funding.

## NOTES

<sup>1</sup> Participating countries as of February 2015 include: Ecuador, Guatemala, Senegal and Zambia. In addition to these, Cambodia and Paraguay are in the process of finalising participation agreements with the OECD.

## PISA FOR DEVELOPMENT

# Capacity Needs Analysis: Ecuador

PISA for Development is an initiative of the OECD and development partners that aims to identify how its Programme for International Student Assessment (PISA) can best support evidence-based policy making in emerging and developing economies – and contribute to the UN-led definition of global learning goals for the post-2015 agenda. In addition the project will help to build country capacity in assessment, analysis and use of results for monitoring and improvement among participating countries. Ecuador is one of six countries participating in the project, and the Ministry of Education, along with the National Institute for Educational Evaluation (INEVAL), is responsible for the project in the country. This report presents the results of an analysis of Ecuador in respect of its capacity for managing large scale student assessments, such as PISA.

The results of this report are being used to design a capacity building plan for Ecuador that will be implemented by the OECD, its contractors, the Ministry of Education, and the National Institute for Educational Evaluation (INEVAL), through the PISA for Development project.