

PISA Capacity Needs Assessment Kenya

Programme for International Student Assessment



PISA CAPACITY NEEDS ASSESSMENT: KENYA

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Acknowledgements

This report has been produced with the support of the Government of the Federal Republic of Germany, through its Programme for International Student Assessment (PISA) – Building data competences and increasing the usefulness of data for decision-making in education (2021-2022) arrangement with the Organisation for Economic Co-operation and Development (OECD).

The OECD has contracted the Australian Council for Educational Research (ACER) to undertake the Capacity Building and Implementation Support (CBIS) option for new countries participating in PISA. The Capacity Needs Assessment (CNA) presented in this report is an important element of the support. The CNA report for Kenya has been produced by ACER researcher, Mr. Neelam Kumar Yadav (Senior Research Fellow and CBIS Liaison Officer for Kenya), with valuable input from Dr. Michael Ward, Senior Policy Analyst, and Ms. Sophie Vayssettes, Analyst, Directorate for Education and Skills at the OECD. The publication was prepared by the OECD Secretariat, principally by Isis González Pérez, Noelle Geller and Kelly Makowiecki.

The OECD and ACER would like to thank the following stakeholders who contributed substantially to the establishment of a collaborative relationship between Kenya and ACER and to the undertaking of the CNA for Kenya. From the Ministry of Education of Kenya: Mr. Elijah Mungai (Director, Project Coordination and Delivery), Mrs. Martha Ekirapa (National Coordinator, Project Coordination Unit); from the Kenya National Examinations Council (NAC): Dr. David Njengere (Chief Executive Officer), Dr. Ibrahim Otieno (Director, ICT Department), Ms. Imelda Barasa (Director, Examinations Administration Department), Mr. Andrew Otieno (Deputy Director, Research & Quality Assurance Department), Ms. Ephel Epha Owano Ngota (NAC co-ordinator, Principal Subjects Officer and the National Project Manager for PISA 2025 – Kenya), Mr. Kenneth Ombati (Principal ICT Officer); from the World Bank: Ms. Ruth Karimi Charo.

A complete list of people who were consulted as part of the CNA is included in Annex C.

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List of acronyms

A&R	Analysis and Reporting
ACER	Australian Council for Educational Research
ANLAS	Analysis of National Learning Assessment System
ATC	Assessment and Testing Centre
CBA	Computer-based assessment
CBIS	Capacity Building and Implementation Support
CBP	Capacity Building Plan
CNA	Capacity Needs Assessment
EMIS	Education Management and Information System
KNEC	Kenya National Examinations Council
MLA	Monitoring Learner Achievement
NAC	National Assessment Centre
NASMLA	National Assessment System for Monitoring Learner Achievement
NC	National Centre
NEMIS	National Education Management Information System
NESSP	National Education Sector Strategic Plan
NPM	National Project Manager
MILO	Monitoring Impacts on Learning Outcomes
MOE	Ministry of Education
OECD	Organisation for Economic Co-operation and Development
PBA	Paper-based assessment
PIP	Project Implementation Plan
PISA	Programme for International Student Assessment
PISA-D	PISA for Development
SACMEQ/SEACME	Southern and Eastern Africa Consortium for Monitoring Education Quality
TIMSS	Trends in International Mathematics and Science Study
TSC	Teachers Service Commission

Executive summary

The Organisation for Economic Co-operation and Development (OECD)'s Programme for International Student Assessment (PISA) measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges.

Based on the experiences of the support programmes provided in PISA previously, PISA 2025 offers new participants the Capacity Building and Implementation Support (CBIS) option. CBIS aims to provide new participants with specific and targeted support for their successful implementation of PISA 2025.

At the outset of CBIS, a Capacity Needs Assessment (CNA) is carried out to assess CBIS participants' capacity to implement PISA. The assessment focuses on the CBIS National Project Managers (NPM) and key National Centre (NC) roles to gain information about their capacity assets and needs in relation to what is required to implement PISA successfully.

The capacity assets and needs to successfully implement PISA 2025 are structured into three dimensions:

1. The enabling environment
2. The organisation level
3. The individual level.

For each dimension, a number of capacity indicators are defined and rated according to the extent of capacity assets and needs a participant has. The ratings are as follows:

- Latent: There is little or no capacity [in this indicator area] – significant capacity building required.
- Emerging: There is some capacity [in this indicator area] – capacity building required.
- Established: There is sufficient capacity [in this indicator area] – capacity building optional.

This report presents detailed findings of the CNA for Kenya. Table 1 summarises the CNA ratings for Kenya in each of the dimensions and indicators.

Table 1: Rating of the Capacity Needs Assessment for Kenya

Indicator area	Rating		
	Established	Emerging	Latent
Enabling Environment dimension			
E1 Assessment system structure	✓		
E2 Legislation or policy	✓		
E3 Leadership	✓		
E4 Institutional arrangements	✓		
E5a Funding		✓	
E5b Funding from donors		✓	
E6 Use of assessment data		✓	
E7 Educational Management Information System		✓	
Organisational Level dimension			
O1 Assessment team		✓	
O2 Mobilisation of funding		✓	
O3 Temporary staff	✓		
O4 Physical infrastructure	✓		
O5 IT infrastructure and support	✓ (PBA)		✓ (CBA)
O6 Security policies and procedures	✓		
O7 Instrument development		✓	
O8 Translation and linguistic quality control		✓	
O9 Target population and sampling		✓	
O10 Survey operations and logistics	✓ (PBA)		✓ (CBA)
O11 Data management		✓	
O12 Data analysis and reporting			✓
O13 Dissemination and communication		✓	
Individual Level dimension			
I1 National Project Manager	✓		
I2 Assessment instruments co-ordinator		✓	
I3 Sampling manager		✓	
I4 Survey operations and logistics manager	✓ (PBA)		✓ (CBA)
I5 Data manager		✓	
I6 Data analyst*			✓
I7 Information Technology co-ordinator*	✓ (PBA)		✓ (CBA)
I8 Communication in English	✓		

Note: PBA = paper-based assessment; CBA = computer-based assessment. NC roles with * indicate that the role is undertaken by consultants.

The CNA for Kenya indicates that capacity to implement PISA 2025 has been established for the most part at the enabling environment.

While Kenya has long-term experience in implementing regional and national large-scale assessments, some areas at the organisational and individual levels may present challenges as PISA's methods and procedures are different and more complex comparing with Kenya's prior experience. If Kenya chooses the computer-based assessment (CBA) option, there will be further challenges with the survey operations, logistics of assessment delivery, and IT infrastructure. In terms of capacity in the national team to organise a CBA, Kenya would need to focus on two key areas: student delivery systems for the delivery of PISA and systems used to code open responses. The computer-based platform requires equipment in schools with defined minimum requirements of hardware for the computer-based platform to operate smoothly. The CBA option also needs test administrators' and students'

familiarity with using computers in general, and computer-delivered tests. In particular, it is advantageous if students are familiar with various functions provided by the platform like drag and drop and typing text inputs. Test administrators need to be comfortable with supporting student logins, troubleshooting, and running system diagnostics and software before and during the assessment sessions. Coders need to be familiar with online coding of student responses and organising training sessions to train coders on using the platform.

At the individual level, the assessment co-ordinator, sampling expert, data manager and data analyst are the roles that would benefit most from the capacity development opportunities available within PISA 2025.

Overall, it is strongly recommended that the Kenyan PISA NC makes the best use of the capacity building opportunities in the challenging areas that are offered during PISA 2025. These opportunities will be laid out in the Capacity Building Plan (CBP) for Kenya as a next step.

1. Introduction and background

The Organisation for Economic Co-operation and Development (OECD)'s Programme for International Student Assessment (PISA) is the world's largest international learning assessment. PISA measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges. PISA provides an international benchmark of learning outcomes that inform evidence-based decision-making in education policy over time.

PISA 2025 is the 9th cycle of PISA, which has been conducted every three years since 2000.¹ The focus of PISA 2025 is science, and the assessment also includes the innovative domain of Learning in the Digital World. The innovative domain aims to measure students' ability to engage in self-regulated learning while using digital tools.² The overall management of contractors, the implementation of PISA 2025, as well as the instrument development for the innovative domain, is carried out by the Australian Council for Educational Research (ACER). Other contractors include Oxford University Press for the science framework development and Westat for sampling.

1.1. PISA 2025 Capacity Building and Implementation Support

Implementing a large-scale assessment that delivers high-quality data and using the data for evidence-based decision making are demanding tasks for any education system. While participating in PISA offers a range of capacity-building opportunities to participants, it can be particularly challenging for new participants. Therefore, capacity development has been an integral part of every PISA cycle.

Based on the experiences of the support programme provided in PISA for Development (PISA-D)³ and PISA 2022 through the Country Preparation and Implementation Support partnership option, PISA 2025 offers new participants the Capacity Building and Implementation Support (CBIS) option. CBIS aims to provide new participants with specific and targeted support for their successful implementation of PISA 2025. The CBIS option is implemented by ACER.

CBIS consists of the following five components of activities:

- Planning and preparation support
- Support through a CBIS Liaison Officer
- In-country visit
- Peer learning
- Implementation support.

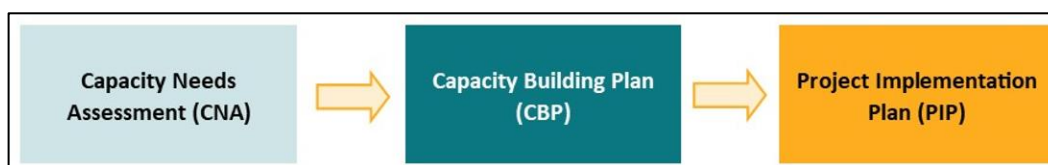
The planning and preparation support includes resources, tools and activities that are designed to assist participants with their planning and preparation for PISA 2025. The main features of the component are a Capacity Needs Assessment, Capacity Building Plan and Project Implementation Plan (see Figure 1).

¹ With the exception of PISA 2022, which was implemented four years after PISA 2018 due to the COVID-19 pandemic.

² www.oecd.org/pisa/innovation/learning-digital-world/

³ www.oecd.org/pisa/pisa-for-development/

Figure 1: CBIS planning and preparation support for participants starting in 2022



1.1.1. Capacity Needs Assessment (CNA)

At the start of CBIS, a CNA is carried out to assess CBIS participants' capacity to implement PISA. The assessment focuses on the CBIS National Project Managers (NPMs) and key National Centre (NC) roles, to gain information about their capacity assets and needs in relation to what is required to implement PISA successfully. Findings from the CNA are summarised in a report to highlight areas for capacity strengthening, which in turn will help the NC to allocate resources appropriately and focus on building capacity where needed.

1.1.2. Capacity Building Plan (CBP)

A CBP is prepared for CBIS participants to assist with planning for strengthening their capacity to implement PISA. The CBP lists all the capacity building opportunities offered to PISA participants throughout the PISA 2025 project as well as those catered specifically for CBIS participants according to the needs identified in the CNA. The CBP includes details of the PISA meetings and trainings and CBIS-specific activities.

1.1.3. Project Implementation Plan (PIP)

The PIP is a set of resources and tools designed to assist CBIS participants with the preparation for and implementation of PISA 2025. The PIP Schedule – the main feature of the PIP – is a tool that lists all the PISA tasks that PISA NCs are required to complete according to agreed timeline. CBIS participants will be supported to adapt the PIP Schedule to suit their national requirements and context. The PIP Schedule is updated continuously throughout the PISA 2025 implementation period and used as a comprehensive planning and monitoring tool.

This report presents the CNA for Kenya. The report describes the framework, methodology and findings of the CNA.

2. Framework

The PISA 2025 CNA aims to identify capacity assets and needs of CBIS participants to implement PISA 2025 successfully. The framework for the PISA 2025 CBIS CNA was developed based on the PISA-D Capacity Needs Analysis⁴ and the PISA 2022 Core E Capacity Needs Analysis Framework (unpublished). In addition, specific PISA materials were consulted to identify capacity required for the successful implementation of PISA 2025. These include drafts of the PISA 2025 Technical Standards, PISA 2025 NPM Manual, and the PISA 2025 NPM and NC Roles and Responsibilities document.⁵

Focusing on the preparation and implementation of PISA 2025, capacity is defined as:

the ability of the individuals and institutions responsible for the project in each country to carry out the different tasks associated with the multiple steps of the PISA implementation and the options selected by the country (e.g. computer-based or paper-based assessment), to solve problems that may arise during implementation, adhere to project timelines, set and achieve project objectives in a sustainable manner and conduct national analysis and reporting.

This definition is operationalised in the three framework dimensions and their capacity indicators.

2.1. Dimensions

The capacity assets and needs to successfully implement PISA 2025 are structured into three dimensions:

1. The enabling environment: Focuses on the context of large-scale assessments in the country at the system level. This dimension addresses more general aspects of the assessment system, such as policies and regulations, institutional arrangements and funding.
2. The organisational level: Focuses on capacity assets and needs to implement large-scale assessments at the national level. Organisational aspects of managing, designing, implementing and analysing data from large-scale assessments are covered, with a focus on the implementation of PISA.
3. The individual level: Focuses on the key roles and responsibilities and the knowledge, skills and experience required to successfully complete the diverse PISA tasks. Through these three dimensions, the CNA covers capacity assets and needs that are required to successfully implement PISA within the broader context of current and desired future capacities of a sustained assessment system.

2.2. Indicators

For each dimension, several capacity indicators are defined. The following areas are covered:

- **Enabling environment:** E1 Assessment system structure, E2 Legislation or policy, E3 Leadership, E4 Institutional arrangements, E5a Funding, E5b Funding from

⁴ PISA-D Capacity Needs Analysis reports were produced for the eight participating countries. For more information see: www.oecd.org/pisa/pisa-for-development/pisa-for-development-documentation.htm

⁵ All documents are forthcoming.

donors, E6 Use of assessment data, E7 Educational Management Information System.

- **Organisational level:** O1 Assessment team, O2 Mobilisation of funding, O3 Temporary staff, O4 Physical infrastructure, O5 IT infrastructure and support, O6 Security policies and procedures, O7 Instrument development, O8 Translation and linguistic quality control, O9 Target population and sampling, O10 Survey operations and logistics, O11 Data management, O12 Data Analysis and reporting, O13 Dissemination and communication.
- **Individual level:** I1 National Project Manager, I2 Assessment instruments co-ordinator, I3 Sampling manager, I4 Survey operations and logistics manager, I5 Data manager, I6 Data analyst, I7 Information Technology co-ordinator, I8 Communication in English.

A complete description of capacity indicators is included in Annex A.

2.3. Rating criteria

Rating criteria are defined for each indicator area to support the assessment and to identify capacity assets and needs. Three ratings are differentiated:

- **Latent:** There is little or no capacity [in this indicator area] -- significant capacity building required.
- **Emerging:** There is some capacity [in this indicator area] -- capacity building required.
- **Established:** There is sufficient capacity [in this indicator area] -- capacity building optional.

3. Methods

The CNA for CBIS participants is essentially qualitative in nature. Three major qualitative data collection methods are used to gain information on the capacity assets and needs:

- **Online questionnaires:** The capacity indicators for each dimension are operationalised into the CBIS CNA questionnaires, which include a questionnaire for officials and a questionnaire for individuals (Annex D). The former is designed to identify capacity assets and needs at the system and organisational levels while the latter does so at the individual level. Participants in the questionnaires are identified by the NPM, which, for Kenya, included senior government officials from relevant divisions of the Ministry of Education, senior representatives in education or assessment institutions, organisations, agencies, development partners and donors, the PISA National Centre (NC) head, the PISA NPM and key NC staff. A stakeholder mapping exercise is carried out to assist with the identification of key stakeholders.
- **Stakeholder consultations:** Stakeholder consultations are undertaken by a CBIS Liaison Officer during a one-week in-country visit to collect further information that could not be obtained through the online questionnaires. The NPM assists the consultations by co-ordinating and scheduling the consultations.
- **Document analysis:** Relevant documents that indicate capabilities in large-scale assessments are also analysed (e.g. policy documents, strategy documents). The NPM is asked to identify and source relevant documents based on a document mapping exercise.

To analyse capacity assets and needs in the CBIS participant, the data obtained from the CBIS CNA questionnaires, stakeholder consultations and documents are consolidated and assessed as they relate to each dimension and capacity indicator. Each capacity indicator is then given:

- A rating using the defined rating criteria.
- A justification for the rating.
- A description of the identified capacity assets and needs.

This report was prepared to present the findings of the assessment for Kenya. To ensure accuracy and completeness of the findings presented, and to gain broad stakeholder agreement and engagement, the NPM for Kenya was encouraged to invite key stakeholders to review the report.

4. Capacity Needs Assessment for Kenya

The CNA activities for Kenya and a summary of key findings are presented in this chapter.

4.1. CNA activities for Kenya

The CNA stakeholder and document mapping tables were prepared in consultation with the representatives from the Ministry of Education (MoE) and the Kenya National Examinations Council (KNEC) over four online meetings in June and July 2022. KNEC is an implementing agency of examinations and large-scale assessments in Kenya. The mapping exercise assisted in the subsequent CNA activities. The stakeholder and document mapping tables are presented in Annex B.

The CNA questionnaires were then administered to the key stakeholders that were nominated by the representatives from the MoE and KNEC. Valid responses were received from 23 respondents for the questionnaire for officials, and from 15 respondents for the questionnaire for individuals over the period of approximately four weeks in July and August 2022.

Stakeholder consultations were carried out during the in-country visit undertaken by Neelam Kumar Yadav from ACER from 18 to 22 July 2022 to obtain further information that was unable to be collected through the online questionnaires. The consultations took place in Nairobi, the capital city of Kenya, with senior officials of the MoE and representatives of educational institutions, including KNEC. Consultations were also carried out with representatives from key development partners. Annex C shows a complete list of participants in the stakeholder consultations.

The information collected through the above activities were collated and analysed along with the relevant documents obtained through the document mapping exercise.

4.2. Summary of key findings

For each indicator area, a rating is provided together with a brief rationale and identified capacity needs. The details of the assessment are provided in Annex A.

4.2.1. *Enabling environment*

Assessment system structure (E1) – Established

The Kenya National Examinations Council (KNEC) is a State Corporation under the Ministry of Education in Kenya. KNEC sets, administers, supervises and oversees all national examinations in Kenya.

KNEC also undertakes key research activities under the National Assessment Centre (NAC) with the aim to identify learner acquisition of basic skills and competencies spelt out in the national curriculum in different tiers, as well as collect empirical data on the contextual characteristics that influence learning outcomes.

KNEC is responsible for conducting the National Assessment System for Monitoring Learner Achievement (NASMLA)⁶ to carry out Monitoring Learner Achievement (MLA) studies to monitor basic and essential competencies in Grades 3 and 6.

⁶ For more information on NASMLA and related activities follow www.knec.ac.ke/nasmla/

Kenya has also participated in the regional assessment of Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ, now SEACMEQ) studies at Grade 6.

Regular participation in regional and national assessments shows that Kenya has an assessment culture that is supported by the government to introduce policy and changes in the educational sphere of Kenya.

Participation in SEACMEQ enables the Kenyan PISA team to have a better understanding around adaptations of instruments, sampling design, and reporting.

The large-scale assessment programmes also provide relevant contextual data. Kenya has an established system of large-scale assessments being implemented through KNEC.

KNEC is also the key body for conducting school certification examinations.

Legislation or policy (E2) – Established

The Sessional Paper No.1 of 2005 on “A Policy Framework for Education, Training and Research” recommended, among other things, the establishment of NASMLA in Basic Education.

As an outcome of the sessional paper, the Ministry of Education established the National Assessment Centre (NAC), which is institutionalised in the KNEC organisational structure under the Research and Quality Assurance division. NAC is mandated to carry out MLA studies under the NASMLA Framework, which was developed in 2007.

Kenya’s Sessional Report No. 1, released in 2019, is being implemented through the National Education Sector Strategic Plan 2018-2022 (NESSP). NESSP envisions Kenya’s participation in international large-scale assessment programmes, to compare skills acquisition of Kenyan children with those from other countries. A new Strategic Plan by KNEC aims to monitor learner achievement/progress at various levels through participation in large-scale assessments like PISA and SEACMEQ. The strategic document refers to the need for the establishment of applied research and innovative partnerships in educational assessments.

Leadership (E3) – Established

The Ministry of Education and KNEC promote the implementation of national and international large-scale assessments. This is demonstrated through articles on each institutions’ websites and meeting minutes. Kenya’s participation in international large-scale assessments is well-discussed and co-ordinated within the Ministry of Education and KNEC, which indicates strong leadership in support of large-scale assessment. In addition, regular attendance of representatives from KNEC at the PISA CBIS fortnightly online meetings indicate senior leadership in support of the PISA implementation in Kenya.

Institutional arrangements (E4) – Established

KNEC is the recognised institution in Kenya as the authority in student assessment, according to section 10 of the Kenya National Examinations Council Act No. 29 of 2012.⁷ According to its mandate, KNEC is responsible for national large-scale assessments, certification examinations and international large-scale assessments.

⁷ <https://kneec.ac.ke/wp-content/uploads/2020/09/SERVICE-CHARTER-English-booklet-Final-7th-Edition.pdf>

KNEC is accountable to the Minister of Education/Cabinet Secretary in charge of education.

Funding (E5a) – Emerging

Kenya has been participating in SEACMEQ largely through donor support, with no allocation of funds from the exchequer, however, it has secured funding for participation in PISA 2025. This indicates the government's provision of stable funding for the national large-scale assessment. NASMLA is supported through donor funding, but provisions need to be made for participation in international large-scale assessments, including provisions for participation of staff in meetings, field operations, and other infrastructural and staff requirements for the roll-out of the assessment.

Funding from donors (E5b) – Emerging

Kenya's large-scale assessment programmes are currently funded by the government and donors. The Ministry of Education's ongoing effort to engage development partners presents opportunities to tap into funding from donors in support of large-scale assessment implementation and assessment capacity building. The World Bank has supported similar assessments earlier. Donor funding has been secured for the implementation of PISA 2025 in Kenya (World Bank/Global Partnership for Education) but not for training and other capacity building opportunities.

Use of assessment data (E6) – Emerging

Data collected through the CNA indicate that data from large-scale assessments has been used for evidence-based education policy and planning in Kenya, including:

- Education sector planning
- Curriculum development

Discussions with leadership indicated the need for further outreach to all stakeholders and the need for strategies to be put in place for better use of the assessment data from large-scale national assessments. Stakeholder engagement is still in the early stages. Leadership has carried out a formal approach to engage stakeholders at different levels, with the latest approach taken at the county level in 2018. Wider stakeholder engagement will help Kenya when they promote the PISA assessment and its results to teachers, students and parents.

Educational Management Information System (E7) – Emerging

Kenya has multiple agencies – the Teachers Service Commission (TSC), Kenya National Examinations Council (KNEC) and Ministry of Education – maintaining school-level data. There is also a National Education Management Information System (NEMIS) to facilitate the collection of data for policy formulation and planning at all levels of education and training. NEMIS is relatively new, and a database of student data is being developed. The KNEC – Strategic Plan 2021 – 2026 strategy 2.3 is to “Enhance Strategic Data and Knowledge Management Systems to Support Research and Innovation” with a particular focus on data management.

Under the competency-based assessment, it is required that learners register and be assigned a unique identifier number from Grade 3. This unique identifier is then used to track the learner's progress throughout their basic education. This data is available at KNEC and is up to date.

4.2.2. Organisational level

Assessment team (O1) – Emerging

The PISA NC within KNEC was established at the time of undertaking the CNA. Ms. Ephel Epha Owano Ngota (National Assessment Centre coordinator, Principal Subjects Officer), with experience of implementing national large-scale assessments, has been appointed the PISA NPM. KNEC has used experience from participation in regional large-scale assessments to develop and implement national large-scale assessments, including management, instrument development, test design, survey operations, data management and analysis, and reporting and dissemination. While KNEC has this valuable experience, some areas, such as sampling, linguistic quality control, analysis and reporting, might present challenges as some of PISA's methods and procedures are different and more complex compared with other international large-scale assessments.

Mobilisation of funding (O2) – Emerging

KNEC has funds to undertake national assessments, but funds for PISA need to be budgeted for to ensure triennial participation, and the National Studies indicate that KNEC is able to mobilise the allocated funds to complete the diverse tasks associated with large-scale assessments. Securing funding for capacity building of KNEC staff members may further increase the chance of successfully implementing PISA 2025. The Project Implementation Plan (PIP) will assist the Kenyan national team to budget for PISA 2025 and mobilise funds.

Temporary staff (O3) – Established

KNEC budgets for and recruits temporary staff, including subject matter experts, translation specialists and coders as needed, for assessment activities. Temporary staff are employed under standard government contracts. Furthermore, KNEC has a resource pool of temporary staff to augment any shortfall. These resources also contribute towards the development of certification examinations conducted by KNEC.

Physical infrastructure (O4) – Established

The PISA NC will be located within KNEC premises. KNEC has sufficient physical infrastructure for implementing large-scale assessments, including workstations for staff, meeting rooms and security procedures.

IT infrastructure and support (O5) – Established for PBA; Latent for CBA

KNEC is well-equipped with the necessary IT infrastructure to complete national large-scale assessments. KNEC has IT support staff, secure workstations and other necessary infrastructure.

However, significant IT capacity for KNEC staff may be needed if Kenya opts for CBA. Such capacity may include assistance with specific software, student delivery, coding system and assessment team support in all IT-related aspects.

Security policies and procedures (O6) – Established

Security policies and procedures have been established at KNEC to ensure assessment material and data is kept secure and confidential. All KNEC staff are fully aware of and understand the need to keep assessment material and data secure. For PISA implementation, the capacity to develop security policy and protocols in accordance with

PISA technical standards may be needed if they are different from those that are currently being followed.

Instrument development (O7) – Emerging

KNEC has significant experience in the development of test instruments, including for national assessments, graduation exams and school certification exams. A team of specialist test developers for secondary school subjects is supplemented by outside specialists for the development of assessment materials. Staff at KNEC has mostly worked in the context of Kenya only, and experience with development of instruments for international large-scale assessments will enrich the staff by way of understanding of the rigour that needs to go into instrument development when the usage of the materials are beyond the context within which they are currently working.

Translation and linguistic quality control (O8) – Emerging

For PISA in Kenya, cognitive items and contextual questionnaires will be adapted from the English source version to the Kenyan context following the PISA translation and adaptation guidelines. While KNEC has a well-developed process of instrument development and quality assurance, some of the PISA translation and adaptation processes will be new to KNEC. Kenya will test its students in English hence translations may not be needed. However, adaptation of assessment materials will be required to suit the Kenyan context.

Target population and sampling (O9) – Emerging

KNEC staff has experience in undertaking sample-based national large-scale assessments. KNEC staff are involved with the development of sampling frames for large-scale assessments, and their experience is limited to development of the sampling frame only. In addition, PISA's target population is age-based while KNEC's experience in large-scale assessments is mostly with grade-based target population. Identifying the age-based population may require the KNEC sampling team to create a sampling frame using data from multiple grades in the NEMIS, and it could potentially involve more effort and time to develop a clean sampling frame. Capacity may be required of KNEC staff to create a sample frame that provides complete coverage of the age-based target population with exclusions being clearly defined and documented.

Survey operations and logistics (O10) – Established for PBA; Latent for CBA

Drawing upon the experience of implementing multiple cycles of SEACMEQ and conducting National Examinations, KNEC is very well-placed to implement the PISA survey operations. However, if Kenya considers choosing the option of CBA delivery, the option will entail more complex survey operations and logistics. Capacity will be needed for planning quality assurance mechanisms to ensure survey operations for CBA are standardised, monitored and documented.

Data management (O11) – Emerging

The NEMIS platform is currently being operationalised to support digital registration of learners/students. So far, primary and secondary school learners have been registered on NEMIS. This is work in progress before it becomes fully operational for the purposes of educational policy and planning. The data in NEMIS is updated on a yearly basis by the school through an access login on a yearly basis.

Data analysis and reporting (O12) – Latent

KNEC does not have in-house data analysis specialists, including experienced psychometricians. Producing a national report based on PISA international results will be a new experience for KNEC. Capacity will be needed to analyse and interpret PISA data and use the findings from PISA results in the national context.

Dissemination and communication (O13) – Emerging

Results from international large-scale assessments are widely disseminated through the media. However, currently, there is no tailoring of results to different stakeholders. Capacity needs were identified to tailor products and approaches to reporting and dissemination to different stakeholder groups.

4.2.3. Individual level

National Project Manager (I1) – Established

The NAC co-ordinator of KNEC has been appointed to the role of PISA NPM. She has decision-making authority within the organisation to lead the PISA assessment team and oversee all PISA activities. She can communicate effectively, orally and in writing, in English. She will be available to work on PISA 2025 in a full-time capacity for the duration of PISA 2025 and will be available to attend the NPM meetings and international training as required.

Assessment instruments co-ordinator (I2) – Emerging

The co-ordinator to fill the role for PISA has also worked for a similar role when implementing other large-scale assessments. While his experience with those assessments is highly valued, there are some adaptation procedures of assessment materials which he is not familiar with. Building capacity to organise adaptation and verification in accordance with the PISA technical standards may be highly beneficial for this role.

Sampling manager (I3) – Emerging

The sampling manager has experience with developing sampling frames for other large-scale assessments. He is not a specialist in sampling, so capacity may be required to create a sample frame that provides complete coverage of the age-based target population with exclusions being clearly defined and documented.

Survey operations and logistics manager (I4) – Established for PBA; Latent for CBA

The staff member is experienced to co-ordinate preparation of school-level materials, assessment logistics, test administration and training, and national quality monitoring and security and confidentiality requirements of operations for PBA.

If Kenya chooses CBA, extensive capacity of the manager will need to be enhanced to handle the logistics of distributing and delivering the assessment.

Data manager (I5) – Emerging

A staff member from KNEC is appointed to the role of data manager. He has been working at KNEC and has worked to prepare datasets for large-scale assessments. He may be available to attend the NPM meetings and international trainings as required. He can work

with statistical packages and has some experience with data analysis. In addition to the above, the staff also has access to NEMIS.

Data analyst (I6) – Latent

KNEC does not have an in-house data analyst and has appointed someone to the role of data analyst for PISA 2025. He has experience in a range of data analysis tasks. However, PISA will be the first international large-scale assessment programme under which national-level analyses and report writing will be undertaken by him. Therefore, opportunities to build capacity to analyse and interpret PISA data and to use the PISA data in the national context, will be highly beneficial. This will enhance institutional capacity in data analysis and reporting which can be leveraged in other large-scale assessments undertaken by Kenya.

Information Technology co-ordinator (I7) – Established for PBA, Latent for CBA

The IT co-ordinator has experience in setting up systems for staff at KNEC for examinations and assessments that are implemented via paper-based assessments in Kenya. The IT co-ordinator also has basic IT skills in troubleshooting hardware for computers, laptops and printers, as well as networking. However, CBA will require IT infrastructure to include monitoring and tracking at the student level. Therefore, opportunities to build the capacity to develop systems to use IT in the national context, will be highly beneficial. Further, capacity building on large-scale survey operations, as well as capacity building in IT aspects of maintaining data and communications security in an internet environment, will be beneficial to the successful implementation of PISA.

Communication in English (I8) – Established

Most of the key staff members of KNEC are generally fluent in English.

5. Conclusions

The CNA for Kenya indicates that capacity to implement PISA 2025 has already been established for the most part at the enabling environment.

While Kenya has long-term experience in implementing international and national large-scale assessments, some areas at the organisational and individual levels may present challenges, as PISA's methods and procedures are different and more complex comparing with Kenya's prior experience. Also, if Kenya chooses the CBA option, there will be further challenges with the survey operations, logistics of assessment delivery and IT infrastructure.

At the individual level, the assessment co-ordinator, sampling expert, data manager and analyst would most benefit from the capacity development opportunities available within PISA 2025.

Overall, it is strongly recommended that the Kenyan PISA NC makes the best use of the capacity building opportunities in the challenging areas that will be offered during the course of PISA 2025. These opportunities will be laid out in the CBP for Kenya as a next step.

Annex A. Detailed findings of the CNA

Annex A presents the detailed findings of the CNA for Kenya for each dimension:

Table A A.1. Enabling environment

Table A A.2. Organisational level

Table A A.3. Individual level

For each capacity indicator, a rating is provided and the justification with a description of the capacity assets and needs. The identified capacity needs are stated in the last column.

Table A A.1. Enabling environment

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
E1 Assessment system structure	Large-scale assessment programmes form part of the assessment system to provide performance data in key learning domains and relevant context data at key stages of primary and secondary school education at relevant levels of the education system.	Established	<p>Kenya has been implementing the National Assessment System for Monitoring Learner Achievement (NASMLA; a sampled-based national large-scale assessment programme) since 2010 and Southern and Eastern Africa Consortium for Monitoring Educational Quality (SEACMEQ; a sampled-based international large-scale assessment programme) since 1995. These large-scale assessment programmes form part of the assessment system in Kenya to provide performance data in key learning domains of: English, Kiswahili at Grade 3, science, life skills and health knowledge. The large-scale assessment programmes also provide relevant contextual data.</p> <p>KNEC is responsible for conducting NASMLA⁸ to carry out Monitoring Learner Achievement (MLA) studies to monitor basic and essential competencies in Grades 3 and 6.</p> <ul style="list-style-type: none"> • Lower Primary (Grade 3) <ul style="list-style-type: none"> ○ Literacy ○ Numeracy ○ Life skills. • Upper Primary (Grade 6) and Lower Secondary (Form 2) <ul style="list-style-type: none"> ○ Languages ○ Science ○ Mathematics ○ Health Knowledge <p>The national assessment centre in KNEC has carried out the following Monitoring Learner Achievement Studies to report on the percentage of learners achieving minimum proficiency:</p> <ul style="list-style-type: none"> • NASMLA Class 3 Study (2010) • NASMLA Class 3 Study (2016) • NASMLA Class 3 Study (2018) • NASMLA Class 7 Study (2019) • EGMA Baseline Study (2016) • EGMA Midline Study (2018) • EGMA Endline Study (2019) • MLA Form 2 Study (2017) • MLA Form 2 Baseline Study (2018) 	

⁸ For more information on NASMLA and related activities follow www.knec.ac.ke/nasmla/

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
			<ul style="list-style-type: none"> • MLA Form 2 Midline Study (2021) • Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ, now SEACMEQ) studies. SACMEQ studies are regional, currently involving sixteen (16) countries. Kenya has participated in SACMEQ studies since 1995 (SACMEQ I). In Kenya, the study is done at Class 6 <p>The following cycles of SEACMEQ have been done in Kenya:</p> <ul style="list-style-type: none"> • SACMEQ I (1995-2000) • SACMEQ II (2000-2005) • SACMEQ III (2005-2011) • SACMEQ IV (2012-2016) in 2017 <p>Kenya is currently implementing SEACMEQ V (2018-2023).</p>	
E2 Legislation or policy	The large-scale assessment programmes that form part of the assessment system are guided by legislation or policy.	Established	The <i>National Education Sector Strategic Plan 2018-2022</i> was developed by the Ministry of Education and stipulates Kenya's participation in international large-scale assessment programmes, specifically in international assessments.	
E3 Leadership	The government demonstrates senior leadership and political will in support of large-scale assessments. A strategy is in place to promote participation, effective implementation, and dissemination of results amongst all relevant national stakeholders.	Established	<p>The Ministry of Education and KNEC promote the implementation of national and international large-scale assessments, as demonstrated through reports on KNEC's website. Kenya's participation in international large-scale assessments is well discussed and co-ordinated within the Ministry of Education, which indicates strong leadership in support of large-scale assessment.</p> <p>"The National Assessment Centre with the support of the Ministry of Education institutionalized the National and County Education Quality Dialogues in 2018. Through these dialogues, education stakeholders engage in discourses on issues such as access, retention, transition and predictors of learning outcomes such as provision of infrastructure, instructional materials as well as parental involvement in their children's work."⁹</p> <p>Start of a dialogue with the education stakeholders at the county level enables a buy in by the larger group and better engagement with the leadership.</p>	
E4 Institutional arrangements	The government has well-established institutional arrangements for large-scale assessments with clear accountability mechanisms.	Established	<p>KNEC is recognised in Kenya as an authority in student assessment. KNEC reports to the Ministry of Education and its responsibilities include:</p> <ul style="list-style-type: none"> • Set and maintain examination standards. • Conduct public academic, technical and other national examinations within Kenya at basic and tertiary levels. 	

⁹ www.knec.ac.ke/nasmla-key-achievements-of-the-national-assessment-centre/

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
			<ul style="list-style-type: none"> • Award certificates or diplomas to candidates in such examinations. • Confirm authenticity of certificates or diplomas issued by the Council upon request by the government, public institutions, learning institutions, employers and other interested parties. • Issue replacement certificates or diplomas to candidates in such examinations upon acceptable proof of loss or damage of the original. • Undertake research on educational assessment. • Advise any public institution on the development and use of any system of assessment when requested to do so, and in accordance with such terms and conditions as shall be mutually agreed between the Council and the public institution. • Promote the international recognition of qualifications conferred by the Council. • Advise the Government on any policy decision that is relevant to, or has implications on, the functions of the Council or the administration of examinations in Kenya. • Do anything incidental or conducive to the performance of any of the preceding functions. <p>Its responsibilities include international large-scale assessments, national large-scale assessments, and certification examinations. KNEC is accountable to the Minister of Education/Cabinet Secretary in charge of education.</p>	
E5a Funding	The government provides sufficient and stable funding for large-scale assessments.	Emerging	Kenya has been participating in SEACMEQ since 1995 and has funding sources for their participation in PISA 2025. However, the implementation of PISA 2025 will need to be budgeted for the Ministry of Education to approve.	Budgeting needs to be approved from the Ministry of Education.
E5b Funding from donors	The government receives funding from donors for large-scale assessments.	Emerging	Kenya's large-scale assessment programmes are currently funded by the government. Also, development partners are willing to invest funds in education along with the Ministry of Education presents future opportunities to tap into funding from donors to support not only large-scale assessment implementation, but also assessment capacity building. For example, the World Bank has funded educational programmes in Kenya and is willing to fund staff capacity in PISA 2025.	Continued discussions are needed with development partners to assist with funding of Kenya's participation in PISA 2025, along with capacity building activities.

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
E6 Use of assessment data	Government and key stakeholders have capacity to use data from large-scale assessments for evidence-based education policy and planning.	Emerging	<p>Responses to the CNA questionnaires and a SEACMEQ country reports on education in Kenya, indicate that assessment data has been used for evidence-based education policy and planning in Kenya, including:</p> <ul style="list-style-type: none"> • Education sector planning • Monitoring and evaluation • Curriculum development • School education workforce development (e.g. qualification and professional development of teacher trainers, teachers, school principals) • Professional development for teachers 	Archiving national and international assessment data using cloud technologies for ease of reference by policy makers; packaging key messages from studies for target groups; using social media to disseminate the study finding sustainably.
E7 Educational Management Information System	The government has developed a system for the collection, integration, processing, maintenance and use of data and information related to school, teachers and students.	Emerging	<p>The National Education Management Information System (NEMIS) is a web-based data management solution which collects data and information from education institutions, processes and reports the status of designed indicators, and provides the sector a solid ground for effective management to ensure that every learner counts. NEMIS in Kenya is managed by the Ministry of Education.</p> <p>The objective of NEMIS is to help streamline the data management for informed decision-making and planning of the education sector by hosting student/pupil data, linked to a unique identifier that is randomly generated using a verifiable algorithm. Specific objectives include:</p> <ul style="list-style-type: none"> • Providing an online platform to capture education data at the school level (school and learner information). • Providing a platform that allows all education agencies to share data collected to ease and facilitate administrative and decision-making processes. • Providing an integrated business intelligence (BI) interface that provides statistics used to report national and international indicators in education and training sub-sectors. • Providing a platform to handle resources (including infrastructure support, textbooks and facilitation of school feeding programmes) that go to education institutions. • Helping to track costing parameters in education and training. <p>Including Geographic Information System (GIS) components, to help with the geographical analysis of education indicators (including production of various maps needed in the education sector).</p>	The production and use of NEMIS is still in progress and not yet established.

Table A.A.2. Organisational level

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
O1 Assessment team	There is a dedicated and skilled assessment team to complete the diverse tasks associated with large-scale assessments, including management, instrument development, translation and linguistic quality control, test design, sampling, survey operations and logistics, data management, data analysis, reporting and dissemination. Capacity-building is provided for assessment centre staff.	Emerging	<p>The establishment of PISA NC is within KNEC. The National Assessment Centre (NAC) co-ordinator, Principal Subjects Officer is designated as the PISA NPM. Her team has experience implementing large-scale assessments. KNEC has leveraged the experience gained from participation in regional large-scale assessments to develop and implement national large-scale assessments.</p> <p>Some specifics of KNEC's staff arrangements include:</p> <ul style="list-style-type: none"> • Having in-house test developers as well as using invited specialists. • Co-ordination, design, item development, implementation, analysis and reporting of the National Studies, all completed within KNEC. <p>While KNEC has these valuable experiences, some areas such as sampling, instrument adaptation, analysis and reporting, might present challenges as some of PISA's methods and procedures in these areas are different and more complex compared to other international large-scale assessments.</p>	The assessment team will need to build capacity in PISA's methods and procedures in the following areas: CBA, sampling, instrument adaptation, analysis and report writing, as they are different from what they have been doing.
O2 Mobilisation of funding	The large-scale assessment centre is able to mobilise the allocated funds to complete the diverse tasks associated with large-scale assessments. Funding is also mobilised to provide for capacity-building of assessment centre staff.	Emerging	KNEC's regular implementation of SEACMEQ and the NASMLA studies indicate that KNEC is able to mobilise the allocated funds to complete the diverse tasks associated with large-scale assessments. Securing funding for capacity building of KNEC staff members may further increase the chance of successfully implementing PISA 2025.	Continuing conversations and plans need to be had to secure funding for capacity building of KNEC staff members.
O3 Temporary staff	Clear and transparent criteria and procedures are in place for recruiting and remunerating temporary staff, including translators and reconcilers, test administrators, quality monitors, coders of constructed response items, coders of occupational data, and data entry and data management support staff.	Established	KNEC budgets for, and recruits, temporary staff, including subject matter experts, test developers, as needed for assessment activities. Temporary staff are employed under standard government contracts.	Capacity building of the quality monitors with CBA quality assurance strategies and the best practices from the International Quality Control Monitors (IQCM) coders of constructed response items and of occupational data in line with the PISA technical standards.
O4 Physical infrastructure	The physical infrastructure of the large-scale assessment centre is adequate, i.e. there is sufficient and secure office space, meeting rooms, telephones with international access, secure facilities for data processing, coding operations and storage of assessment material.	Established	The PISA NCs to be located within KNEC. KNEC has sufficient physical infrastructure for implementing large-scale assessments, including workstations for staff, meeting rooms and security procedures.	

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
O5 IT infrastructure and support	The IT infrastructure of the large-scale assessment centre is adequate, i.e. there are computers running Windows with up-to-date Microsoft Office, high bandwidth internet connection, secure networked environment, secure servers, cloud access/storage, printers, copiers, scanners and email. Necessary specialised software licenses are identified, acquired, installed and maintained. IT personnel is available to support the assessment team in all IT related aspects.	Established for PBA Latent for CBA	KNEC is well-equipped with necessary IT infrastructure to complete national large-scale assessments. KNEC has IT support staff, secure workstations and other necessary infrastructure. However, improved IT capacity for KNEC staff will be needed if Kenya chooses to go with the CBA option. In particular, KNEC staff members expressed their concerns during the in-country visit regarding the use of computers in PISA 2025, noting the challenge of bringing computers to small and remote schools. Such capacity may include assistance with specific software, student delivery, coding system and assessment team support in all IT-related aspects.	Additional support will be needed to carry out the CBA of PISA 2025 if this option is chosen. Assistance will be needed with specific software, student delivery, coding and assessment team support securing designated PISA server space for long term use, capacity building in archiving of the study reports, research instruments and data sets in formats storable in virtual machines that enable future access on new operating systems.
O6 Security policies and procedures	Security policies and procedures are established to ensure assessment material and data is kept secure and confidential. Legally binding measures are in place to ensure compliance (e.g. confidentiality agreements).	Established	Security policies and procedures have been established at KNEC to ensure assessment material and data is kept secure and confidential. All KNEC staff sign confidentiality agreements and are fully aware of and understand the need to keep assessment material and data secure. For PISA implementation, the capacity to develop security policy and protocols in accordance with PISA technical standards may be needed if they are different from those that are currently being followed.	
O7 Instrument development	Quality assurance mechanisms are in place to ensure the assessment instruments (tests and contextual questionnaires) are reliable, valid and fair.	Emerging	KNEC has significant experience in the development of test instruments for national assessments, graduation exams and university entrance exams. KNEC has test developers specialising in a range school subjects, including languages, sciences, mathematics, and other areas. A team of specialist test developers for secondary school subjects is supplemented by outside specialists to bring in external expertise to KNEC.	KNEC instrument developers will need capacity building in CBA instrument development procedure.
O8 Translation and linguistic quality control	Where assessment instruments are developed in multiple languages, linguistic quality assurance procedures are in place to ensure the items are linguistically and psychometrically equivalent across multiple languages.	Emerging	For PISA in Kenya, cognitive items and contextual questionnaires will be adapted from the English source version, to suit the Kenyan context, following the PISA translation and adaptation guidelines. While KNEC has a well-developed process of instrument development and quality assurance, some of the PISA translation and adaptation processes will be new to KNEC. In addition, if Kenya intends to opt for CBA, more test items will need to be adapted and translated for CBA than for PBA, as CBA will be an adaptive testing which requires a larger pool of items than PBA. An extensive capacity building opportunity in the area of translation and adaptation along with linguistic quality control will be beneficial to the PISA NC in Kenya.	KNEC staff will need to build capacity to carry out adaptation tasks according to the PISA linguistic quality assurance procedures, particularly if the CBA option is chosen.

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
O9 Target population and sampling	The sample frame provides complete coverage of the defined target population. Practicalities for assessing the target population are considered in the sampling design. Exclusions are clearly defined and documented.	Emerging	KNEC has experience with developing the sampling frame for undertaking sample-based national large-scale assessments. It also has access to NEMIS. However, PISA's target population is age-based while KNEC's experience in large-scale assessments is mostly with grade-based target population. Capacity may be required of KNEC staff to create a sample frame that provides complete coverage of the age-based target population with exclusions being clearly defined and documented.	KNEC staff will need to learn how to create a sample frame that provides complete coverage of the age-based target population with exclusions being clearly defined and documented.

Table A A.3. Individual level

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
I1 National Project Manager	There is an appropriately skilled and experienced National Project Manager (NPM) with decision-making authority within the assessment centre to lead the assessment team and to oversee all assessment activities. The NPM is able to communicate effectively, orally and in writing, in English. The NPM is employed on a full-time basis for the duration of the assessment cycle.	Established	<p>The NAC co-ordinator, Principal Subjects Officer is designated as the PISA NPM. Her team has experience of implementing large-scale assessments. She, along with the Deputy Director, Research & Quality Assurance, has decision-making authority within the organisation to lead the PISA assessment team and oversee all PISA activities. She is able to communicate effectively, orally and in writing, in English. She will be available to work on PISA 2025 in a full-time capacity for the duration of PISA 2025 and will be available to attend the NPM meetings and international training as required.</p> <p>She anticipates that developing a sampling frame, carrying out data analysis and reporting will be the most challenging aspects of PISA 2025 for Kenya as these were undertaken by international contractors in other large-scale international assessments. She also anticipates that implementing CBA will be challenging as it is a new assessment delivery mode in Kenya.</p> <p>She has access to infrastructure and equipment (e.g. computer, secure network, workspace) that are required for fulfilling his role.</p>	Capacity will be needed to plan, implement and quality assure /monitor CBA as it is a new assessment delivery mode.
I2 Assessment instruments co-ordinator	The national-level tasks related to the assessment instruments are overseen by an appropriately skilled and experienced team member, including national item review, organisation of translation, adaptation and verification, coding of constructed response items, and coding of occupational data. If needed, domain and contextual experts are engaged to assist with national item review, linguistic and contextual adaptation, supervising coders and interpretation of findings.	Emerging	<p>The co-ordinator assigned the role for PISA had a similar role when implementing other large-scale assessments. While her experience with SEACMEQ and NASMLA is highly valued, there are some adaptation procedures of assessment materials with which she is not familiar. In addition, considering that Kenya intends to opt for CBA, more test items will need to be adapted for CBA than for PBA, as CBA will be an adaptive testing which requires a larger pool of items than PBA.</p> <p>Building capacity to organise translation, adaptation and verification in accordance with the PISA technical standards may be highly beneficial for this role.</p>	Capacity will be needed to organise translation, adaptation and verification in accordance with the PISA technical standards, especially if the CBA option is taken.
I3 Sampling manager	The sampling manager is appropriately skilled and experienced in sample design and in the use of scientific sampling methods, to oversee and manage all sampling-related activities at the national level.	Latent	<p>Kenya has assigned the sampling responsibility to a team of experts. The lead role is likely to be filled by one of them. Given the experience of the team with sampling in other large-scale assessments, their experience is limited to developing a sampling frame for grade-based sample only. Experience with PISA age-based sampling frame is not available within the team and the data from NEMIS may not be enough to develop the sampling frame. Building capacity to develop a sampling frame in accordance with PISA technical standards may be highly beneficial for this role.</p>	Building capacity to develop a sampling frame in accordance with PISA technical standards may be highly beneficial for this role, especially using an age-based sampling frame.

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
I4 Survey operations and logistics manager	The survey operations and logistics tasks are organised and overseen by an appropriately skilled and experienced team member, including preparation of school-level materials, school contact and co-ordination, assessment logistics, test administration and training, and national quality monitoring (including monitoring response rates at school and student levels). A good understanding of the security and confidentiality requirements, and the technical support requirements for computer-based delivery (as applicable) is critical.	Established for PBA Latent for CBA	<p>The team assigned for the operations is highly experienced and one of them is likely to fill in this role. Each team member is capable of supervising complex operations, monitoring, quality assurance and secured material handling. The manager is well-placed to lead survey operations for PBA.</p> <p>Considering that Kenya intends to opt for CBA, the operations will entail more complex logistics, e.g.:</p> <ul style="list-style-type: none"> • Ensuring PISA participating schools have adequate and a sufficient number of computers, including schools in remote areas, can be challenging. • Training test administrators for CBA will be more complex than for PBA. • Troubleshooting protocols during the test administration period should be well planned. <p>Capacity will be needed for planning quality assurance mechanisms to ensure survey operations for CBA are standardised, monitored and documented.</p>	If Kenya opts for CBA delivery, the survey operations and logistics manager will need additional support for the survey operations and logistics, especially with delivering computers/tablets to remote schools, and ensuring the smooth delivery of the assessment.
I5 Data manager	The data manager is appropriately skilled and experienced in data management, data processing, quantitative data analysis and using statistical packages such as SPSS, SAS, STATA or R, to oversee and manage all data-related activities at the national level.	Emerging	<p>A staff member from KNEC is appointed to the role of data manager. He has been working in KNEC has been associated with managing student data for national examinations and large-scale assessments. He has experience in validating data collected from students and supervising data entry and data management support staff.</p> <p>He may be available to attend the NPM meetings and international trainings as required. He has access to infrastructure and equipment (e.g. computer, secure network, workspace) that are required for fulfilling his role and can communicate effectively in English.</p>	Funding needs to be secured for the data manager to attend relevant international workshops and meetings.
I6 Data analyst	There is a senior data analyst who is appropriately skilled and experienced in quantitative data analysis and using statistical packages (e.g. SPSS, SAS, STATA or R), to assist with national-level data analysis and reporting. The senior data analyst is familiar with Item Response Theory and is able to interpret item statistics. The senior data analyst is familiar with methods for calculating appropriate standard errors of statistics in complex survey designs to support interpretation of assessment results.	Latent	The data analyst appointed to assist with PISA 2025 has experience in validating data collected from students, and in training and supervising data entry and data management support staff. He along with the team has some experience in writing national-level reports about student achievements based on tests and questionnaire results. However, he is not experienced in Item Response Theory and is not too familiar with advanced statistical methods.	The data analyst will require some training to analyse and interpret PISA data and use the PISA data in the national context. Building capacity of other team members will enable effective interpretation and use of the PISA data.

Indicator area	Capacity indicator	Rating	Justification	Identified capacity needs
			<p>KNEC employs consultants to undertake national-level data analysis, use statistical packages (e.g. SPSS, SAS, STATA or R), interpret scores and performance levels, perform descriptive analysis (e.g. frequencies, comparison of mean scores and variances), perform regression analyses depending on the research questions, and calculate standard errors to provide information about the spread or variability of a sample statistic around its mean.</p> <p>However, PISA will be the first international large-scale assessment programme under which national-level analyses and report writing will be undertaken not by the international contractors but by the PISA NC. Therefore, opportunities to build the capacity to analyse and interpret PISA data, and use the PISA data in the national context, will be highly beneficial.</p>	The primary focus could be on the data analyst but also include building the capacity of the entire team too to create an ecosystem where people understand, interpret and use data effectively.
17 Information Technology co-ordinator	The team has a full-time IT co-ordinator for PISA's IT-related activities for the implementation of the computer-based survey within schools in their country/economy (if this option is taken).	Established for PBA Latent for CBA	<p>There is a department within KNEC that is specialised in IT, and a staff member from the department is to be appointed. The manager has experience in setting up systems and processes for staff.</p> <p>Considering Kenya may opt for CBA, the operations will entail more complex IT systems, e.g.:</p> <ul style="list-style-type: none"> • Ensuring PISA participating schools have adequate and a sufficient number of computers, including schools in remote areas, can be challenging. • Troubleshooting protocols during the test administration period should be well planned. <p>Capacity will be needed for planning quality assurance mechanisms to ensure survey operations for CBA are standardised, monitored and documented.</p>	If Kenya opts for CBA, the IT co-ordinator will need assistance to ensure that the participating schools have an adequate number of computers/tablets for completing the assessment, and co-ordinate troubleshooting well.
18 Communication in English	The National Centre ensures that qualified staff are available to respond to requests in English by the OECD and international contractors during all stages of the project.	Established	<p>Most of the key staff members of KNEC are generally fluent in English.</p> <p>Kenya, and KNEC in particular, prefers the United Kingdom version of English in all the official documents.</p>	

Annex B. Stakeholder and document mapping

Table A B.1. Stakeholder mapping table

Dimensions	Government (national or sub-national)	Education or assessment institutions, organisations, agencies	Representatives in education development partner/ donor organisations
Enabling environment	<p>National – Ministry of Education – Senior Government officials in:</p> <ul style="list-style-type: none"> • Education Minister’s office: <ul style="list-style-type: none"> o Cabinet Secretary o Principal Secretary, State Department of Early Learning and Basic Education o Chief Administrative Secretary o Legal Advisor o Chief of Staff • Relevant divisions of the Ministry of Education <ul style="list-style-type: none"> o State Departments o State Department of Early Learning and Basic Education o Post training and Skills Development o Vocational and Technical Training o University Education o Implementation of Curriculum Reforms • Office of the Director General <ul style="list-style-type: none"> o Directorates o Policy, Partnerships and East African Community Affairs o School Audit o Primary Education o Secondary Education o University Education o Research Management o Planning (Entails Monitoring & Evaluation and Data (EMIS/NEMIS)) o Project Co-ordination and Delivery o Quality Assurance and Standards o Teacher Education o Field Services and Co- curricular activities o Alternative Basic Education and Adult and Continuing Education 	<p>Senior representatives in:</p> <ul style="list-style-type: none"> • RTI international • Twaweza (conducts household surveys) • African Population and Health Research Centre • Content and Research experts from public and private universities • Private Teacher Training Colleges • Kenya Private Schools Association • Kenya Publishers Association • Kenya Private School Heads Association 	<p>Senior representatives in:</p> <ul style="list-style-type: none"> • Global Partnership for Education (GPE) • The World Bank • UNESCO • USAID • UNICEF

- o Special Needs Education
- o Human Resource
- o Finance
- o Legal
- o ICT
- o Public Communication
- Semi-Autonomous Government Agencies
 - o Kenya National Examinations Council – This the National Centre for large-scale assessments and has the following relevant departments/divisions, sections and Committees:
 - o Departments /Divisions
 - Test Development
 - Research and Quality Assurance
 - Examinations Administration
 - ICT
 - Finance
 - Supply Chain Management
 - Planning
 - o Sections
 - National Assessment Centre (implements the large scale-learning assessments)
 - Research and Quality Assurance – School Examinations
 - Internal Audit
 - Legal
 - Corporate Communication
- Committees
 - o NASMLA Steering Committee
 - o NASMLA Technical Committee
- Kenya Institute of Curriculum Development (KICD)
- Kenya Institute of Special Education (KISE)
- Kenya Education Management Institute (KEMI)
- National Council for Nomadic Education in Kenya (NACONEK)
- Commissions
 - o Kenya National Commission for UNESCO
 - o Teachers Service Commission
 - o PISA Governing Board
 - o National Steering Committee
- Relevant divisions of provincial district or local education offices (as applicable)
 - o Regional Director of Education
 - o County Director of Education

	<ul style="list-style-type: none"> o Sub-county Directors of Education o County Quality Assurance and Standards Officers o Sub-county Quality Assurance and Standards Officers o School Audit o Regional Director, TSC o County Director, TSC o Sub-county Director, TSC o Curriculum Support Officers • Other officials from Ministries involved in financing international large-scale assessments or allowing legal collaboration with international and foreign organisations and companies <ul style="list-style-type: none"> o National Treasury o Kenya National Bureau of Statistics 		
Organisational level	<p>Leadership roles in relevant divisions of the Ministry of Education:</p> <ul style="list-style-type: none"> • Policy, Partnerships and East Africa Community Affairs <ul style="list-style-type: none"> o Development of policy and legal frameworks upon which key policies concerns addressed by large-scale assessments are anchored o Mobilization of funds o Link with development partners o Dissemination of reports • Project Co-ordination and Delivery <ul style="list-style-type: none"> o Designing of projects o Co-ordination and implementation of projects o Mobilization of funds o Link with development partners o Dissemination of reports • Quality Assurance and Standards <ul style="list-style-type: none"> o Monitoring and evaluation – ensuring quality and standards are met in education and training o Assessment of schools and teachers o Participates in development of syllabi and curriculum designs o Evaluation of instructional materials o Participates in development of assessment tools • Kenya National Bureau of Statistics <ul style="list-style-type: none"> o Collection, compilation, analysis, publishing and dissemination of official statistics • PISA Governing Board – National Steering Committee – draws participation from key education stakeholders, provides oversight to project activities, and approves workplans and budgets 	<p>Leadership roles in institutions involved in PISA implementation:</p> <ul style="list-style-type: none"> • Provision of technical support • PISA NC head <ul style="list-style-type: none"> o Accounting officer for the learning assessments o Approves workplans and budgets o Appoints the national centre team o Provides strategic leadership and oversight to the centre that implements large scale assessments. • PISA NPM <ul style="list-style-type: none"> o Overall, in charge of the design and implementation of the large-scale assessments o Provides oversight and guidance to the Technical Committee o Draws budgets and workplans o Co-ordinates recruitment of part time staff, such as field operators and data operators o Link/ Focal point with external institutions 	<p>Leadership roles in education development partner/ donor organisations:</p> <ul style="list-style-type: none"> • Financial support • Capacity building Task Team • Leadership in Project Implementation

	<ul style="list-style-type: none"> o PISA NC head o Accounting officer for the learning assessments o Approves workplans and budgets o Appoints the national centre team o Provides strategic leadership and oversight to the centre that implements large scale assessments • PISA NPM <ul style="list-style-type: none"> o Overall, in charge of the design and implementation of the large-scale assessments o Provides oversight and guidance to the Technical Committee o Draws budgets and workplans o Co-ordinates recruitment of part time staff, such as field operators and data operators o Mobilization of funds 	<ul style="list-style-type: none"> o Mobilization of funds 	
Individual level	<ul style="list-style-type: none"> • PISA NPM <ul style="list-style-type: none"> o Substantive on permanent employment – Head of the National Assessment Centre, KNEC • PISA NC key staff involved in the overall management of the assessment <ul style="list-style-type: none"> o PISA NPM o Research Officers – substantive on permanent employment o Subject Experts – substantive on permanent employment o Contacted Professionals • Sampling <ul style="list-style-type: none"> o Field operations – drawn from education institutions, research assistant (contracted professionals) o ICT Officers – data management (substantive on permanent employment) • Analysis <ul style="list-style-type: none"> o Contracted professionals o Research and ICT Officers on permanent employment • Reporting <ul style="list-style-type: none"> o Technical Officers on Permanent employment o Experts from Universities and research organisations • Communications <ul style="list-style-type: none"> o Corporate Communication Officers on permanent employment 	<ul style="list-style-type: none"> • PISA NPM <ul style="list-style-type: none"> o PISA NC key staff involved in the overall management of the assessment, assessment development (domain and context experts), sampling, field operations, data management, analysis and reporting, communications 	

Table A B.2. Document mapping table

Dimensions	Documents
Enabling environment (Information about education in Kenya)	<ul style="list-style-type: none"> • Kenya Vision 2030 • Education Sector Analysis-2018 • National Education Sector Strategic Plan (NESSP), 2018-2022 • Basic Education Act 2013 • Sessional Paper No 1 of 2005 & 2019 • Basic Education Curriculum Framework • National Curriculum Policy • National Education Quality Assurance and Standards Framework (NEQAF) • National Guidelines for School re-entry in Early Learning and Basic Education • Kenya Basic Education Statistical Booklet- 2019 • Sector Policy for Learners and Trainees with Disabilities • Project Appraisal Documents for the PRIEDE and SEQIP projects • Project Implementation Manuals for the PRIEDE and SEQIP projects • Kenya Data Protection Act
Organisation level (Information about assessment in Kenya)	<ul style="list-style-type: none"> • Organisation charts <ul style="list-style-type: none"> o Organisational structure available • Assessment Framework <ul style="list-style-type: none"> o The National Assessment System for Monitoring Learner Achievement (NASMLA) Framework • Reports on large scale assessments <ul style="list-style-type: none"> o NASMLA Class 3, 2010 o NASMLA Class 3, 2016 o NASMLA Class 3, 2020 o SACMEQ IV Study, 2020 o NASMLA Class 7, 2020 o EGMA End line Study, 2020 o MILO Study, 2021 o MLA Form 2 Baseline Study, 2020 • Field Operations Manual <ul style="list-style-type: none"> o Manuals for Data Collectors – available • Data Management Manual <ul style="list-style-type: none"> o Available – MILO, SACMEQ • Dissemination Products <ul style="list-style-type: none"> o Policy briefs, video clips

Individual level (Information about ATC/PISA NC)	PISA NC Position Description/TORs The PISA NC shall: <ul style="list-style-type: none">• Constitute a national centre team with requisite technical capacity to implement the PISA• Co-ordinate all activities in different phases of the project• Implement the Capacity Building Plan for the national centre team• Facilitate the Capacity Building and Implementation Support process• Facilitate the Capacity Needs Assessment by providing the relevant documents and availing the relevant personnel for interview• Facilitate the launch of the PISA project in Kenya
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Annex C. Capacity Needs Assessment consultations

Table A C.1. List of participants in the Capacity Needs Assessment consultations

Name	Title	Organisation
Mr. Elijah Mungai	Director, Project Coordination and Delivery	Ministry of Education
Mrs. Martha Ekirapa	Deputy Director of Education/ Global Partnership for Education (focal point for Kenya)	Ministry of Education
Owanga Sebastian Aduonga	Deputy Director of Education	Ministry of Education
Anne Gachoya	Deputy Director of Education	Ministry of Education
Bartholomew Lumbasi	Deputy Director of Education	Ministry of Education
Peter K. Gachathi	Deputy Director of Education	Ministry of Education
Kezia Zeruya Wandera	Deputy Director, Quality Assurance & Standards	Ministry of Education
Joseph Carilus Ateng' Ogwel	Education Officer In-Charge of Basic Education Statistics	Ministry of Education
Dr. David K. Njengere	Chief Executive Officer	The Kenya National Examinations Council
Dr. Ibrahim Otieno	Director, ICT Department	The Kenya National Examinations Council
Ms. Imelda Barasa	Director, Examinations Administration Department	The Kenya National Examinations Council
Andrew F Otieno	Deputy Director, Research & Quality Assurance	The Kenya National Examinations Council
Ms. Ephel Epha Owano Ngota	NAC Coordinator, Principal \Subjects Officer	The Kenya National Examinations Council
Kennedy Abuje	Principal and Head Computer Application Section, ICT	The Kenya National Examinations Council
Mr. Kenneth Ombati	Principal ICT Officer	The Kenya National Examinations Council
Diana Mwikali Makau	Principal Research Officer	The Kenya National Examinations Council
Khadija Iman	Principal Subject Officer	The Kenya National Examinations Council
Dr. Asumpta Mulila - Matei	Principal Subject Officer immediate Head of National Assessment Centre	The Kenya National Examinations Council
Patricia O. Omunyang'oli	Research Officer	The Kenya National Examinations Council
Linnet Makori	Senior ICT Officer- Data Analyst/ Systems Analyst	The Kenya National Examinations Council
Charles K Karanja	Subject Officer	The Kenya National Examinations Council
Dr. Tobias O. Owiti	Subject Officer	The Kenya National Examinations Council
Pius Lukingi	Subject Officer	The Kenya National Examinations Council
Musa Kipchirchir	Research Officer	The Kenya National Examinations Council
Doreen Kawira	Research Officer	The Kenya National Examinations Council
Senior Research Officer	Senior Research Officer	The Kenya National Examinations Council
Catherine Koki Masila	Senior ICT Officer	The Kenya National Examinations Council
Mike A. Musisi	ICT Officer	The Kenya National Examinations Council
Edwin K. Kurgat	ICT Officer	The Kenya National Examinations Council
Ms. Ruth Karimi Charo	Senior Education Specialist	The World Bank

Annex D. CNA questionnaires

Questionnaire for officials

Participant information

Please enter your information.

Name	
Job title	
Organisation	
Role in PISA 2025	

Introduction

[Country] is participating in the OECD Programme for International Student Assessment – PISA 2025. ACER has been engaged by the OECD to support [country] in preparing and implementing PISA 2025. One part of this support is to conduct a Capacity Needs Assessment (CNA). The aim of this CNA is to identify capacity assets and needs of [country’s] assessment system for the successful implementation of PISA 2025.

This CNA questionnaire asks you about the capacity assets and needs at the system and organisational levels. We have around [number] questions to ask you and the questionnaire is expected to take approximately 30 minutes.

Voluntary participation and informed consent:

Your participation in this questionnaire is entirely voluntary and explained in the consent form that is provided separately.

Section A: Experience in large-scale assessments

A1.	Has your country implemented a large-scale national assessment before? (please circle your answer)	Yes	No	Not sure
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If you have answered “No” or “Not sure”, proceed to A9 {these will be automatically routed online}

A2.	Please list, up to three, most recent national large-scale assessment(s) your country implemented and tell us about when, and with whom it was implemented.	A3. In which year(s) was it implemented?	A4. What were the targeted grades of school education?
#1	[Enter the name of the national large-scale assessment]		
#2	[Enter the name of the national large-scale assessment]		
#3	[Enter the name of the national large-scale assessment]		

Please answer the following questions about the **national** large-scale assessment you listed as #1 in A2.

Name of the national large-scale assessment (this will be populated by the answers above)	
A5. What learning domains were included?	(drop down menu of: <ul style="list-style-type: none"> • Reading/literacy/language • Mathematics/numeracy • Sciences • Social sciences • Computing/information literacy/IT/ICT • 21st century skills/global citizenship/civics)

A6.	How was the performance data measured?	(Please tick all that apply)
a	Raw scores (or averages of raw scores)	
b	Percent correct (per learning domain)	
c	Scale scores	
d	Performance levels on a scale	
e	Described proficiency levels	
f	Linked performance data (to monitor changes over time/between grades)	

A7.	What type of contextual information was collected?	(Please tick all that apply)
a	Gender	
b	Socio-economic status	
c	Language spoken at home	
d	School structures and resources (e.g., public/private status, location of school, school and class sizes)	
e	Teaching and learning practices (e.g. teaching methods, classroom management)	

A8.	What areas of the large-scale national assessment was led by your country? (Please tick all that apply)	(Please tick all that apply)
a	Coordination of the assessment program	
b	Design of the assessment	
c	Item development	

d	Sampling	
e	Implementation of the assessment	
f	Analysis	
g	Reporting	
h	Dissemination of results	

{Questions A5 to A8 will be repeated for each of the national assessments listed in A2.}

A9.	Has your country implemented a large-scale international assessment before? (please circle your answer)	Yes	No	Not sure
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If you have answered “No” or “Not sure”, proceed to A20 {these will be automatically routed online}

A10.	Please list, up to three, most recent international large-scale assessment(s) your country implemented and tell us about when, and with whom it was implemented.	A11. In which year(s) was it implemented?	A12. What were the targeted grades of school education?
#1	[Enter the name of the international large-scale assessment]		
#2	[Enter the name of the international large-scale assessment]		
#3	[Enter the name of the international large-scale assessment]		

Please answer the following questions about the **international** large-sale assessment you listed as #1 in **A10**.

Name of the international large-scale assessment (this will be populated by the answers above)	
A13. What learning domains were included?	(drop down menu of: <ul style="list-style-type: none"> • Reading/literacy/language • Mathematics/numeracy • Sciences • Social sciences • Computing/information literacy/IT/ICT • 21st century skills/global citizenship/civics)

A14.	How was the performance data measured?	(Please tick all that apply)
a	Raw scores (or averages of raw scores)	
b	Percent correct (per learning domain)	
c	Scale scores	
d	Performance levels on a scale	
e	Described proficiency levels	
f	Linked performance data (to monitor changes over time/between grades)	

A15.	What type of contextual information was collected?	(Please tick all that apply)
a	Gender	
b	Socio-economic status	
c	Language spoken at home	
d	School structures and resources (e.g. public/private status, location of school, school and class sizes)	
e	Teaching and learning practices (e.g. teaching methods, classroom management)	

A16.	What areas of the international large-scale assessment were led by your country? (Please tick all that apply)	(Please tick all that apply)
a	Coordination of the assessment program	
b	Design of the assessment	
c	Item development	
d	Sampling	
f	Implementation of the assessment	
g	Analysis	
h	Reporting	
i	Dissemination of results	

{Questions A13 to A16 will be repeated for each of the international assessments listed in A10.}

A17.	Is there currently an established centre that is responsible for implementing PISA 2025? (please circle your answer)	Yes	No	Not sure
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If you have answered “Yes” please continue to question A18.

If you have answered “No”, please continue to Section B.

A18. What is the name of the centre and where does this centre sit? (For example, a unit or department within the Ministry of Education or external to the ministry and/or government)

A19.	Is the assessment centre widely recognised in your country as an authority in student assessment? (please circle your answer)	Yes	No	Not sure
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A19.a. Please explain the reason for your answer in A19?

A20.	Which body is the assessment centre accountable to?	(Please tick the most accurate answer)
a	An autonomous board or committee that is institutionally separate from the assessment centre (e.g. the centre is within the MoE and reports to a board not within the jurisdiction of the MoE)	
b	A board or committee that belongs to the same institution as the assessment centre (e.g. the centre is within MoE and reports to a board from within MoE)	
c	An internal board or committee that sits within the assessment centre unit	
d	Other	

A20.e If you ticked “Other” in A20, please specify:

A21.	How much autonomy does the assessment centre have?	(Please tick the most accurate answer)
a	Has complete autonomy. It can make decisions regardless of political party or matters.	
b	It has some autonomy. Some decisions can be made, but decisions may be reversed due to political matters.	
c	It does not have any autonomy at all. It is completely affected by political matters	

Section B: Implementation of PISA 2025

B1.	Has an assessment team been established that is primarily responsible for implementing PISA 2025 in your country? (Please circle your answer)	Yes	In progress	No	Not sure
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If you have answered “Yes” or “In progress” please continue to question B2.

If you have answered “No”, or “Not sure” please continue to Section C.

B2.	Is there an organisation chart of the PISA assessment team? (Please circle your answer)	Yes	In progress	No	Not sure
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If you have answered yes to B2, please provide a copy of the organisation chart to your liaison officer.

B3.	What is the availability of the PISA assessment team members to fill the following key roles to work on PISA 2025? (Please tick that apply)	Full-time	Part-time	Not sure
a	National Project Manager			
b	Survey operations and logistics manager			
c	Administrative Officer			
d	Sampling Manager			
e	Assessment instruments coordinator			
f	Data Manager			
g	Data analyst			
h	IT Coordinator			
i	Translation/Adaptation coordinator			

B4.	Are there written job descriptions for each of the key roles for each of the core assessment team members? (please circle your answer)	Yes	In progress	No	Not sure
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If you answered “Yes” or “In progress” to B4, please provide a copy (in English) of any of the available job descriptions to your liaison officer

B5.	Are there processes and procedures in place to secure extra permanent or temporary staff if needed? (Please circle your answer)	Yes	No	Not sure
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B6. Can you describe the office space available for the PISA assessment team?

B7.	Are there adequate and secure (i.e. safe from unauthorised access, theft, fires, floods): (Please tick the relevant box in each row)	Yes	No
a	Workstations		
b	Meeting rooms		
c	Facilities for data processing		
d	Facilities for coding operations		
e	Storage rooms for assessment material		

B8.	Is there adequate: (Please tick the relevant box in each row)	Yes	No
a	Number of computers running Windows with up-to-date Microsoft Office (one per assessment team member)?		
b	High bandwidth internet connection? (e.g. at least 50mbits/sec)		
c	Secure network and servers? (e.g. requires password to access)		
d	Secure cloud access/storage? (e.g. requires password to access)		
e	Number of printers, copiers and scanners?		
f	Email accounts specific for PISA 2025?		

B9.	Do you have security policies and procedures in place to ensure all PISA 2025 assessment material and data is kept secure and confidential at all times? (please circle your answer)	Yes	No	Not sure
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If you answered “Yes” to B9, please provide a copy (in English) of the security policies and procedures to your liaison officer

B10.	Are confidentiality agreements in place with all relevant staff and contractors who have access to assessment materials and data? (please circle your answer)	Yes	No	Not sure
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If you answered “Yes” to B10, please provide a copy (in English) of the confidentiality agreement to your liaison officer

B11.	In your opinion, do all relevant individuals understand the security and confidentiality requirements? (please circle your answer)	Yes	No	Not sure
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B12. What measures are in place to ensure assessment material and data are kept secure from unauthorised access, theft, fire and flood? Please also consider factors such as storage and transportation/delivery in your answer.

Section C: Legislation and engagement

C1.	Are there national policies and/or guidelines for the implementation of large-scale assessments? (please circle your answer)	Yes	No	Not sure
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If you answered “Yes” to C1, please provide a copy (in English) of the policies or guidelines to your liaison officer

C2.	Is there official documentation that outlines:	(Please tick all that apply)
a	The purpose of large-scale assessments	
b	How large-scale assessments inform education policy and practice	
c	The intended uses of assessment data	

C3.	Are large-scale assessments in your country enacted by legislation? (please circle your answer)	Yes	No	Not sure
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If you answered “Yes” to C3, please provide a copy (in English) of the legislation to your liaison officer

C4.	Is the participation in large-scale assessments of schools and students enacted by this law or regulation? (please circle your answer)	Yes	No	Not sure
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C5. How do senior government officials promote large-scale assessments?

C6.	Are there any key stakeholders who oppose large-scale assessment programs? (please circle your answer)	Yes	No	Not sure
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C6.a. If you answered ‘yes’ to C6, what are their main reasons for opposition?

C7.	What kinds of products will be developed to communicate the assessment results to stakeholders?	(Please tick all that apply)
a	Reports	
b	Policy briefs	
c	Assessment database	
d	Press releases	
e	Media reports	
f	Other	

C7.f. If you answered ‘other’ to C7, please specify

Section D: Funding

D1. How is the implementation of PISA 2025 going to be funded?

D2.	In your opinion, is there adequate funding for the implementation of PISA 2025? (please circle your answer)	Yes	No	Not sure
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D2.a. If you answered “no” to D2, please specify why.

D3.	Has funding been fully secured to participate in PISA 2025 international meetings and trainings? (please circle your answer)	Yes	No	Not sure
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D3.a. If funding has not yet been fully secured, do you expect to secure the funding, and by when?

D4.	What is the main source of funding for the implementation of PISA 2025? (please circle your answer)	Internal sources	Donors or sponsors	Equal contribution of internal sources and donors/ sponsors	Not sure
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D5.	Which development partners/donors (if any) have been actively supporting/funding the development of education in your country?	
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D6.	Please list below the current and planned education assessment projects/programs funded by the development partners/donors:
a	
b	
c	

Section E: Use of large-scale assessment data

E1. If assessment data is used to inform educational policy and practice in your country, please provide examples of how this happens. For example:

- Education policy processes, including education sector planning, monitoring and evaluation
- Resourcing/funding allocation
- Curriculum development
- School development
- School education workforce development (e.g., qualification and professional development of teacher trainers, teachers, school principals)

E2.	Do you expect to face any of these challenges when using large-scale assessment data in your country?	(please tick all that apply)
a	Lack of confidence in the reliability and validity of assessment results	
b	Inability to analyse and interpret assessment data	
c	Your own difficulty in understanding the purpose, intent and findings of the assessment	
d	Wider stakeholders have difficulty in understanding the purpose, intent and findings of the assessment	
e	Difficulty in using the results to inform decision making in education policies and practices	
f	Difficulty in dissemination of the results widely to engage wider stakeholders	
g	Fear of reprisal in light of poor assessment results	
h	Other	

E2.i. If you answered "Other" to E2, please specify:

Section F: Educational Management and Information System

F1.	Has an Educational Management and Information System (EMIS ¹⁰) been developed within the Ministry of Education? (please circle your answer)	Yes	No	Not sure

¹⁰ EMIS is a centralised system for the collection, integration, processing, maintenance and use of data and information related to schools, teachers, and students.

F2. If you answered “Yes” to F1, which department or unit of the Ministry of Education or agency/institution is responsible for managing EMIS in your country?

F3. If you answered “No” to F1, please explain how data and information related to schools, teachers and students are currently collected, integrated, processed, maintained, and used:

Section G: Training

G1.	Please select the opportunities (if available) to build capacity of core assessment team members outside of PISA international meetings and trainings. For the areas selected, what form will the capacity building take place (For example, formal qualification, workshop, short course)?	(Please tick all that apply)
a	No opportunities are available	
b	Test development	
c	Translation and adaptation	
d	Test design	
e	Item writing	
f	Sampling	
g	Field operations	
h	Data management	
i	Data analysis	
j	Project management	
k	IT	
l	Other	

G2. If you ticked any of the options in G2, please comment on what form the capacity building will take place.

Thank you very much for completing this Capacity Needs Assessment questionnaire!

Questionnaire for individuals

Participant information

Name	
Job title	
Organisation	
Role in PISA 2025	

Introduction

[Country] is participating in the OECD Programme for International Student Assessment – PISA 2025. ACER has been engaged by the OECD to support [country] in preparing and implementing PISA 2025. One part of this support is to conduct a Capacity Needs Assessment (CNA). The aim of this CNA is to identify capacity assets and needs of [country's] assessment system for the successful implementation of PISA 2025.

This CNA questionnaire asks you about the capacity assets and needs at the individual level. We have around [number] questions to ask you and the questionnaire is expected to take approximately 30 minutes.

Voluntary participation and informed consent:

Your participation in this questionnaire is entirely voluntary and explained in the consent form that is provided separately. If you agree to participate, please sign the second page of the form.

Section A: Your role

A1. Which title best describes your role in PISA 2025?

{Drop down menu for}:

- National Project Manager
- Survey operations and logistics manager
- Administrative officer
- Sampling manager
- Assessment instruments coordinator
- Data manager
- Data analysis
- IT coordinator
- Translation/ Adaptation coordinator
- Other

A1.a. If you selected “Other” in A1, please specify your role.

A2. What previous work experience have you had that has helped you to prepare for your role in PISA 2025?

A3.	Are you a regular employee of the assessment centre ¹¹ ? (please circle your answer)	Yes	No	Not sure
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A4.	Are you aware of processes and procedures in place to secure extra permanent or temporary staff if needed? (please circle your answer)	Yes	No	Not sure
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A5.	Do you have a written job description for your roles in PISA 2025? (please circle your answer)	Yes	No	Not sure
------------	--	-----	----	----------

If you answered “Yes” to A5, please provide a copy (in English) of your job description to your liaison officer

A6.	Will you be available to attend the NPM meetings and international training if required? (please circle your answer)	Yes	No	Not sure
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A6.a. If you answered “No” or “Not sure” to A6, please explain why.

A7.	Which aspects of PISA 2025 do you anticipate will be most challenging for your country?	(please tick all that apply)
a	Developing a sampling frame	
b	Translation of materials	
c	Engaging schools to participate	
d	Coordination of participating schools	
e	Training test administrators	
f	Data management	

¹¹ By “assessment centre” we are referring to the centre which is responsible for the implementation of PISA 2025 in your country

g	Data entry (if paper-based option is taken)	
h	Data analysis	
i	Dissemination and reporting of data	
j	Other, please specify	

A7.k Please explain why you have chosen those aspects in A7.

A8.	Do you have: (please tick all that apply)	Yes	No	Not sure
a	Your own work computer running Windows with up-to-date Microsoft Office			
b	High bandwidth internet connection (e.g. at least 50mbits/sec)			
c	Access to a secure work network and server (e.g. requires a password for access)			
d	Access to secure cloud access/storage for work (e.g. requires a password for access)			
e	Access to professional printers for school materials			
f	Access to a work email account specific for PISA 2025?			
g	Your own workstation/desk cubicle			
h	Access to meeting rooms that you can book and freely use			
i	Access to video-conferencing software that you can freely use			

A9.	Have you signed a confidentiality agreement to ensure all PISA 2025 assessment material and data is always kept secure and confidential? (please circle your answer)	Yes	No	Not sure

If you answered "Yes" to A9, please provide a copy (in English) of the confidentiality agreement to your liaison office

{Depending on what role was selected at the drop-down menu, selected questions for the following roles will appear on screen.}

Section B: Specific aspects of implementing PISA 2025

National Project Manager

B1.	Do you have authority to make decisions regarding the implementation of PISA 2025 for:	Yes	No	Not sure	If no, please state who has the authority
a	Budgeting				
b	Personnel				
c	Infrastructure				

B2.	Have you been responsible for any of the following for other large-scale surveys (e.g. TIMSS, other national assessments)?	Yes	No	Not sure
a	Establishing an assessment team			
b	Using promotional materials to raise awareness of the assessment			
c	Supervising staff to complete tasks			
d	Maintaining ongoing communication with international contractors			
e	Distribution of assessment materials electronically			
f	Distribution of paper-based assessment materials			
g	Contacting schools			
h	Informing schools of assessment requirements			
i	Recruiting test administrators			
j	Training test administrators in standardised material and delivery			
k	Monitoring the quality of test administration			
l	Ensuring security policies and procedures are always followed (including test administrators, schools)			
m	Developing national reports to summarise all data			
n	Developing national dissemination strategy to communicate key findings			
o	Implementing national dissemination strategy to communicate key findings			

If you have any written plans/procedures (in English) relating to any of the above measures, please provide a copy to your liaison officer

B3.	Will you be available to work on PISA 2025 in a full-time capacity from 2023 onwards? (please circle your answer)	Yes	No	Not sure
------------	---	-----	----	----------

B4. What challenges do you anticipate that you could face in ensuring that you have sufficient staff in your assessment centre to implement PISA 2025?

B5. In which areas of PISA or large-scale assessment more broadly, would you like to develop more expertise?

IT Coordinator

B1.	In your opinion, do you have the IT personnel available to support the assessment team in these IT-related aspects of implementing large-scale assessments?	Yes	No	Not sure
a	Troubleshooting problems with hardware			
b	Troubleshooting problems with networks and internet services			
c	Maintaining data and communications security			

B2. What challenges do you anticipate you could face in ensuring that you have sufficient staff to support the assessment team in the IT-related aspects?

B3. In which areas of PISA or large-scale assessment more broadly, would you like to develop more expertise?

Translation/ Adaptation Coordinator

B1. Please describe your experience in translating and/or adapting tests or questionnaires for large-scale assessments to the national context.

B2.	Will domain experts and contextual experts be available for assisting with national adaptations of items and questionnaires? (please circle your answer)	Yes	No	Not sure
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B3.	Will the PISA 2025 assessment items and questionnaires need to be translated for the national context? (please circle your answer)	Yes	No	Not sure
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B4.	Will domain experts and contextual experts be available for:	Yes	No	Not sure
a	Reviewing the translated science test items			
b	Reviewing the translated mathematics test items			
c	Reviewing the translated reading test items			
d	Reviewing the translated questionnaire items			
e	Reviewing the translated items from the innovative domain "Learning in the Digital World"			

B5.	Are you aware that translation of the PISA instruments will require at least three professional translators to work individually on every element of the translation? (please circle your answer)	Yes	No	Not sure
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B6. In which areas of PISA or large-scale assessment more broadly, would you like to develop more expertise?

Sampling manager

B1.	In relation to sampling activities, do you have access to:	Yes	No	Not sure
a	A central database such as an education Management Information System (EMIS)?			
b	A database that provides full details about every school in your country			
c	A database that provides the number of students per age and grade in each school in your country			
d	Accurate and up-to-date enrolment and attendance data for each school in your country			

e	Accurate data for children and youth that are out-of-school ¹²			
f	A complete list of the number of students with special needs in each school			

B2. Please describe any potential challenges in assessing the target population in the sampling design, including students with special needs, students in areas that are difficult to reach (e.g. as a result of conflict, remoteness), and students with a minority language or specific ethnic background.

B3. In which areas of PISA or large-scale assessment more broadly, would you like to develop more expertise?

Data manager

B1. In previous large-scale assessments, how have you monitored school participation and student response rates?

B2.	Do you have previous experience from large-scale assessments to:	Yes	No
a	Validate data collected from students		
b	Train and supervise data entry and data management support staff		

B3.	Will the assessment centre be able to:	Yes	No	Not sure
a	Undertake national-level data analysis			
b	Use statistical packages (e.g. SPSS, SAS, STATA, or R)			
c	Interpret scale scores and performance levels			
d	Perform descriptive analysis (e.g. frequencies, comparison of mean scores and variances)			

¹² Children and youth who are not enrolled or not attending school

e	Perform regression analyses depending on the research questions			
f	Calculate standard errors to provide information about the spread or variability of a sample statistic around its mean			
g	Use correction techniques in the form of sampling weights to adjust the sample and account for biases			

B4. Please describe your previous experience in recording and reporting statistical analysis from national-level data

B5. In which areas of PISA or large-scale assessment more broadly, would you like to develop more expertise?

Thank you for completing this Capacity Needs Assessment questionnaire!

PISA

Capacity Needs Assessment: Kenya

The Organisation for Economic Co-operation and Development (OECD)'s Programme for International Student Assessment (PISA) measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges.

Based on the experiences of the support programmes provided in PISA previously, PISA 2025 offers new participants the Capacity Building and Implementation Support (CBIS) option. CBIS aims at providing new participants with specific and targeted support for their successful implementation of PISA 2025.

At the outset of CBIS, a Capacity Needs Assessment is carried out to assess the participants' capacity to implement PISA. The assessment provides information about their capacity assets and needs in relation to what is required to implement PISA successfully. This report presents detailed findings of the assessment for Kenya. The results are being used to design a capacity building plan for Kenya that will be implemented by the OECD, its contractors, Kenya's Ministry of Education and the Kenya National Examinations Council.

Supported by the



Federal Ministry
for Economic Cooperation
and Development