



1. Project Data

Project ID
P121842

Project Name
ID-Research and Innovation in S&T

Country
Indonesia

Practice Area(Lead)
Education

L/C/TF Number(s)
IBRD-82450

Closing Date (Original)
31-Dec-2020

Total Project Cost (USD)
69,584,160.44

Bank Approval Date
29-Mar-2013

Closing Date (Actual)
31-Dec-2021

| | IBRD/IDA (USD) | Grants (USD) |
|---------------------|-----------------------|---------------------|
| Original Commitment | 95,000,000.00 | 0.00 |
| Revised Commitment | 69,584,160.44 | 0.00 |
| Actual | 69,584,160.44 | 0.00 |

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2. Project Objectives and Components

a. Objectives

According to the Loan Agreement (p. 6), the project's original objectives were "to create an enabling policy environment for research and development in science and technology, to improve the public research and development institutes' performance, and to improve science, technology and innovation (STI) human resource capacity."

At a 2017 restructuring, the objectives were modified: "support the government in: (1) improving STI human resource capacity; and (2) strengthening technology transfer, institutional functioning, and data management



of public research agencies (LPNKs)." At that restructuring, some output targets were also revised to be less ambitious.

This Review will perform a split rating, acknowledging that some of the objectives remained consistent across the original and restructured project. The assessed objectives are:

1. Create an enabling policy environment for research and development in science and technology (original objective)
2. Improve the public research and development institutes' performance/strengthen technology transfer, institutional functioning, and data management of LPNKs (original/revised objectives essentially the same)
3. Improve STI human resource capacity (original/revised objectives identical)

At the time of restructuring, US\$29.6 million, or 42.5 percent of total Bank financing, had been disbursed.

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

30-Jan-2017

c. Will a split evaluation be undertaken?

Yes

d. Components

The project contained four components:

1. Improving innovation policy framework and performance of Public Research Centers (appraisal: US\$4 million; 2017 restructuring: US\$2.5 million; actual: US\$2.4 million). This component was to improve the innovation policy framework through support for coordination and consensus-building by the State Ministry of Research and Technology (RISTEK) on a national innovation strategy and action plan; a technical and policy study by RISTEK of relevant issues for development of that strategy; capacity building for RISTEK; development of a national science and technology information system; and review by RISTEK of the legal framework for STI. The component was to improve the performance of LPNKs through support for RISTEK to undertake LPNK institutional assessments; creation of institutional development plans for select LPNKs; and pilot implementation of those plans.

2. Strengthening public research funding (appraisal: US\$4 million; 2017 restructuring: US\$2.5 million; actual: US\$1.9 million) was to support RISTEK to undertake a feasibility study and design of a competitive national research funding system, strengthen its existing institutional research funding program, establish industrial and global research linkages for science and technology researchers, improve monitoring and



evaluation (M&E) of publicly funded research, and improve the effectiveness of the science and technology planning and budgeting system.

3. Developing science and technology human resources capacity (appraisal: US\$80 million; 2017 restructuring, US\$68 million; actual: US\$60.3 million) was to support implementation by RISTEK of a competitive fellowship program and a non-degree professional (NDP) course and training program, including provisions in both programs for competitive selection of candidates, orientation/pre-departure program, and scholarships.

4. Project management (appraisal: US\$7 million; 2017 restructuring: US\$7 million; actual: US\$5.0 million) was to support the operation of a Steering Committee, Technical Committee, and Project Management Office to carry out project coordination, M&E, procurement, financial management, and advisory activities.

After two years of project implementation, it became clear that the systemic change envisioned as a result of activities under the first component, intended to achieve the first original objective "to create an enabling policy environment for R&D in science and technology," was a longer-term proposition than initially realized and was beyond the scope of a single project. The project's 2017 restructuring revised the objectives and components accordingly. The revised objectives focused on the project's main thrust, to improve human resource capacity at LPNKs and at MoRTHE (Ministry of Research, Technology, and Higher Education, formed with the 2014 merger of RISTEK and the Directorate General of Higher Education of the Ministry of Education and Culture). (MoRTHE was separated back to the Ministry of Research and Technology, MoRT, in 2019.)

Component 1 was renamed **Support the government in strengthening technology transfer**, with activities on development of technology transfer organizations (which would serve as the "front offices" of LPNKs, while research agencies would be the "back offices"), design of Science and Technology Parks (STPs), and development of a management information system (MIS) and database for STI.

Component 2 was renamed **Institutional functioning and data management of LPNKs**, with activities on support for the implementation of an improved government output-based unit cost methodology, and support for increased coordination among research funding agencies and improvement in international networking.

Components 3 and 4 were not modified.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

The project was approved in March 2013, became effective on June 12, 2013, and closed on December 31, 2021, one year after its original closing date of December 31, 2020. It was to be financed by a specific investment loan of US\$95 million. A total of US\$71.7 million was disbursed. US\$15 million of the loan was cancelled at a 2017 restructuring, and US\$5.2 million at a 2020 restructuring.

There were two restructurings:

- January 30, 2017: Revised the objectives, components, and results framework, and cancelled US\$15 million of the loan to reflect modifications to project activities.



- November 19, 2020: Extended the closing date by one year, from December 31, 2020 to December 31, 2021, to allow extension of support for NDP study to additional participants because of the COVID-19 pandemic, and cancelled US\$5.2 million of unused funds.

3. Relevance of Objectives

Rationale

At appraisal, despite strong economic growth and increasing regional and global standing, Indonesia had fallen behind other emerging economies on export sophistication and the knowledge economy. The share of raw commodities in Indonesia's exports had increased significantly in the preceding decade. In 2010, only 11 percent of manufacturing exports were high-technology exports. On the Bank's Knowledge Economy Index, Indonesia ranked 108 out of 146 countries, surpassing only Laos and Cambodia in the region. It needed to move up the value chain to sustain and increase economic growth, with investments in the human resources, infrastructure, and policy framework necessary for increasing innovation capacity. However, the STI system was underdeveloped, suffering from low availability of resources (especially advanced human capital), low productivity, and low quality and relevance of research outputs. The main reasons for poor system performance were institutional: lack of a coherent policy framework; fragmented institutional arrangements and funding; and poor performance of the main implementers of research and development (R&D) policy, the public research institutes (LPNKs). Indonesia's seven LPNKs, under coordination of the Ministry of Research and Technology (RISTEK), accounted for 35 percent of the government's R&D expenditures and employed 20 percent of the country's researchers, but they were inward-oriented institutions, lacking the capacity and incentives to respond to the needs of customers in the broader economy. In addition, after the discontinuation of large-scale scholarships for graduate study a decade earlier, there was a shortage of high-quality researchers: fewer than 5 percent of LPNK staff held PhD degrees, and only 15 percent held master's degrees.

At appraisal, the government had recently made innovation a priority area. In 2011, it created a National Innovation Commission to oversee implementation of a "Master Plan for Acceleration and Expansion of Indonesia's Economic Development 2011-2025." Technological and science capacity was one of the three main strategies in that master plan. The government recognized the need to address short-term constraints, especially on human resources, while providing support for an overall policy framework that would facilitate effective innovation and medium- and longer-term institutional reforms. Government strategy has continued to focus on science and technology skills development through its most recent medium-term Development Plan 2020-2024, which includes a strategy area for nurturing of human capital.

The Bank's Country Partnership Strategy at appraisal (CPS, FY2013-2015) contained an objective on enhancing skills and technology, in support of a longer-term objective to enhance R&D, science, and technology. The project was relevant to that CPS. However, the FY2016-2020 Country Partnership Framework focused primarily on infrastructure development; this project was included under that CPF's objective to simplify business licensing processes to support the private sector, without a direct and coherent logical chain tying the project's outcomes to the CPF objective. The project was better aligned with the 2020 Systematic Country Diagnostic Update in 2020, which noted that nurturing world-class human capital was one of four key pathways toward poverty reduction and shared prosperity in the country. The



project is cited under the current CPF's (FY2021-2025) objective to strengthen the quality and equity of education and skills.

As the project's objectives have been aligned with country conditions and with government strategy across its lifetime, and with Bank strategy for most of its lifetime, relevance is rated Substantial.

Rating

Substantial

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

Create an enabling policy environment for research and development in science and technology (original objective)

Rationale

The theory of change for this objective held that development of a National Innovation Strategy and Action Plan, technical and policy studies, the creation of a National Science and Technology Information System, and review and revision of the legal framework governing research and development would lead to an improved policy environment for research and development in science and technology. The ICR (p. 7) also hypothesized that an institutional assessment of LPNK research centers, as well as the creation of institutional development plans by the LPNKs and piloting of reforms under those plans, would contribute to an improved policy environment, but it is unclear how that would have been the case.

Outputs and outcomes

A National Innovation System (SINAS) concept was discussed by MoRTHE, LPNKs, and other relevant ministries, local government agencies, and universities. It was agreed in 2014 that the SINAS would cover three areas: STPs, consortia, and local innovation system development. The ICR provided no further information on the SINAS concept.

The original project contained an outcome indicator on the percentage of LPNK reform milestones reached. Project documents were not clear on how these reform milestones were defined and how their achievement was to have measured the creation of an enabling policy environment for science and technology R&D. In any event, the ICR (p. 17) reported no progress on this indicator.

The ICR (p. 19) noted that policy papers on the STI legal framework, innovation funding system, and commercialization were written, and that these papers "informed a number of regulations and implementation," including Law No. 11/2019 on a National System of Science, Technology, and Innovation. It



also noted that "strategy action plans were submitted for consideration to the new national research and innovation master plan." No further information or detail about the Law or master plan was provided.

Due to lack of information on outputs and outcomes, achievement of this objective is rated Modest.

Rating
Modest

OBJECTIVE 2

Objective

Improve the public research and development institutes' performance/strengthen technology transfer, institutional functioning, and data management of LPNKs (original/revised objectives essentially the same)

Rationale

The theory of change for this objective held that institutional assessment of LPNK research centers, as well as the creation of institutional development plans by the LPNKs and piloting of reforms under those plans, would improve LPNK performance. Carrying out a feasibility study for a competitive funding system and establishment of research networks would lead to strengthened institutional performance and technology transfer. Improvements in M&E and the R&D budget system would lead to better data management of LPNKs.

Outputs and outcomes

Strengthening institutional functioning of LPNKs: The ICR (p. 19) stated that MoRTHA issued a regulation in 2019 (No. 25/2019) on STP governance, resulting in institutionalization of reforms in five STPs in three LPNKs. The ICR did not state exactly what those reforms were or how they were institutionalized. The project team later added that the regulation addressed reform in four areas: technology use, human resource development, institutional management, and financing systems. The ICR (p. 47) stated that the five STPs were developed through a "programs of excellence" selection process, and that the STPs created road maps and action plans, identified industrial needs, engaged in management capacity building, and prepared for networking and training. The ICR did not state the extent to which road maps and action plans were implemented, networking and training took place, and/or identified industrial needs were incorporated into STP activities.

The ICR (p. 20) stated that project activities "brought the improvement of a regulation on the output-based cost standard" for the STI research funding system, indicating that new regulations replaced older ones, but no information on the content of the regulations was provided. Later in the ICR (p. 47), it was implied that new regulations in this area were issued on an annual basis. The project team later added that the improved regulation shifted the way unit costs were calculated and financing allotted, from an input basis to an output basis.

Strengthening technology transfer: Technology Transfer Office (TTO) Management Guidelines and guidelines for technology valuation and incentive systems were revised and aligned with the 2019 National System of



STI Law. Four TTOs were created, and 30 TTO staff were certified as Registered Technology Transfer Professionals by the Alliance of Technology Transfer Professionals.

Strengthening data management: The ICR (p. 20) stated that a National Information System for STI database was expanded to include national, local government, and university STI data, and that STI was "continuously being collected," but it did not define or provide context about the database. It noted that "the process was continued through the establishment of Monevrisbang," but it did not define that term. It cited "key results" as an increased number of research programs in LPNKs and MoRTHE with focus on higher ranks of the "Technology Readiness Level," strengthened R&D M&E capacity, and twelve independent evaluations of multi-year research activities, but no details or information were provided on the number or characteristics of these research programs, what constitutes a higher "Technology Readiness Level," by what measure or in what ways R&D M&E capacity was strengthened, and what multi-year research activities were evaluated and by whom. Annex 1 of the ICR (p. 38) reported an output indicator on "strengthened R&D M&E capacity" with a baseline of zero, target of 12, and actual achievement of 6, but no units of measurement were specified, and it is not clear what this indicator measured.

The ICR (p. 19) stated that "the number and quality of inventions increased," but no evidence was provided to support this claim.

The original project included an outcome indicator on the share of total LPNK R&D revenue that would be generated from external partners. That share declined from about five percent in 2013 to four percent in 2016. However, external funding -- from industry, the local community, and foreign grants -- was beyond the scope of the project, making this indicator invalid as a measure of achievement of the objective.

Due to lack of information on outputs and outcomes, achievement of this objective is rated Modest.

Rating
Modest

OBJECTIVE 3

Objective

Improve STI human resource capacity (original/revised objective)

Rationale

The theory of change for this objective held that support for scientists, in the form of scholarships to graduate degree programs overseas and non-degree professional courses, would improve the human resource capacity for science, technology, and innovation.

Outputs and outcomes

The project provided scholarships for degree and non-degree programs covering tuition and fees, travel, living and book allowances, and research and journal publication allowances. The ICR provided inconsistent information on the number of students who received scholarships: 3,026 (p. 24), 2,756 (p. 26), or 457 (p. 20)



scholars were supported by the project. According to Annex 1 of the ICR (p. 38), 457 LPNK, MoRTHE, or research agency staff were supported by the project for study overseas, meeting the target of 457 staff. 378 of those 457 scholars (83 percent) had completed their studies as of November 2021, and 17 (4 percent) had dropped out. 62 scholars (14 percent) remained active and aimed to complete their programs after project closure, using university scholarships or their own funding. The ICR provided contradictory information on the number of students -- 1,670 or 2,289 -- who participated in non-degree professional courses and training, meeting the target of 1,670; the ICR did not provide detail on the specific subject matter that was studied or where the courses/training were offered or completed. The project team later added that most scholarship recipients studied in natural science and technology areas, with some also focusing on social science subjects, and that the overseas courses were conducted in a large number of different countries in Asia, Europe, North and South America, Australia, and domestically (in Indonesia).

236 of 253 scholars (93 percent) who received master's degrees with project-financed scholarships took research posts aligned with their fields of study within their respective LPNKs, exceeding the target of 90 percent. 131 out of 137 PhD graduates (96 percent) who were supported by the project went on to lead research projects in their fields of study within their respective LPNKs, exceeding the target of 90 percent. The other six PhD degree recipients were, as of the writing of the ICR, waiting for positions aligned with their fields of study.

The ICR (p. 23) noted that an undefined number of project-supported alumni now teach and have become academic supervisors for post-graduate students in universities across Indonesia, as well as resource persons for institutions such as the Indonesian Statistics Agency, UNESCO, and the G-20.

Scholars supported by the project published 699 scientific articles, including 382 indexed publications, 318 unindexed publications, and 27 patents. 62 of these publications were approved for a Publication Allowance (undefined in the ICR), including 45 indexed in Scopus, seven in international journals that are not globally indexed, and ten in international proceedings.

Rating
Substantial

OVERALL EFFICACY

Rationale

With modest achievement of the objectives to improve the enabling policy environment for STI R&D and to improve LPNK performance, and substantial achievement of the objective to improve STI human resource capacity, efficacy under the original objectives is rated Modest.

Overall Efficacy Rating
Modest

Primary Reason
Insufficient evidence



OVERALL EFFICACY REVISION 1

Overall Efficacy Revision 1 Rationale

With modest achievement of the objective to improve LPNK performance, and substantial achievement of the objective to improve STI human resource capacity, efficacy under the revised objectives is rated Substantial, but with important shortcomings related to lack of evidence on improved technology transfer, institutional functioning, and data management of LPNKs.

Overall Efficacy Revision 1 Rating

Substantial

5. Efficiency

The PAD's economic analysis (pp. 12-13 and Annex 6) presented qualitative arguments justifying overall investment in the STI sector through high returns to R&D spending, acknowledging that increased public resources must be accompanied by institutional reforms and must be used to leverage private resources (not crowd out private investment).

The ICR (pp. 21-25 and Annex 4) performed a cost-benefit analysis. Benefits included the social return from a strengthened national innovation strategy, strengthened public research funding, and increased human resources capacity in science and technology. Drawing from international literature, the rate of return to R&D spending was estimated at 200 percent, at the low end of typical findings. It was also assumed that 30 to 40 percent of financing for scholarships would generate social return after four years. Costs included the direct costs of the project as well as indirect costs (human capital depreciation, assumed to be six percent; costs associated with students who dropped out; and opportunity costs associated with cancelled/undisbursed project funds). The analysis found, in a base case scenario, a net present value (NPV) of about US\$18.5 million and an internal rate of return (IRR) of 12 percent. This estimate was considered to be a lower bound, with positive externalities such as increased future salaries of scholars who benefited from the project not reflected in the analysis. Slightly higher NPV and IRR results were found under scenarios that assumed higher social rates of return.

The efficiency analysis (p. 24) noted that the project's scholarship amounts were comparable with those under other Indonesian government scholarship schemes, as well as several international scholarship programs. The ICR argued that the project was efficient because it reached more beneficiaries while spending less than planned, but it did not provide sufficient information on the types of scholarships and fellowships provided to support that argument fully. The ICR (p. 32) also noted that scholarship recipients found it difficult to identify foreign universities offering their desired field of study or specialization, suggesting inefficiency in the absence of an education agent or agency who could liaison between international universities and selected students.

The ICR (p. 23) referred to implementation inefficiencies such as frequent staff turnover, structural changes in the executing agency (presumably referring to the merger of RISTEK into MoRTHE in 2014 and then back into MoRT in 2019), and slow procurement and disbursement. The ICR (p. 27) also stated that the project went forward despite "uncertainties around government commitment to the project at the time of project preparation," and that "specific administrative and technical linkages" between RISTEK and the LPNKs were "not assessed comprehensively then," leading to the need for later project restructuring and scaling down. It noted that



"institutional strengthening during project implementation was disrupted frequently" (p. 26). There was inadequate oversight from MoRTHE on project implementation in 2014-2015, contributing to slow implementation of activities and low disbursements. Payment processes for scholarship recipients under the third component were slow, exacerbated by "long and cumbersome" project fund withdrawal processes from MoRTHE's internal finance unit (ICR, p. 28). Inaccuracy in the project's annual budget document, coupled with government cuts, "frequently required revisions to the budget document (again requiring lengthy processes.)" The ICR (p. 28) stated that project design was simplified at the first restructuring, but it did not describe how implementation efficiency improved; the project team later explained that the simplified design produced accelerated implementation across all activities.

Due to implementation inefficiencies, project efficiency is rated Modest.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

| | Rate Available? | Point value (%) | *Coverage/Scope (%) |
|--------------|-----------------|-----------------|---|
| Appraisal | | 0 | 0 <input type="checkbox"/> Not Applicable |
| ICR Estimate | ✓ | 12.00 | 100.00 <input type="checkbox"/> Not Applicable |

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Under the original objectives: The project was relevant to country conditions and government strategy, and it was well aligned with Bank strategy over most of its lifetime. Relevance is therefore rated Substantial. The project modestly achieved its two objectives to improve the enabling policy environment for STI R&D and to improve LPNK performance, and substantially achieved its third objective to improve STI human resource capacity, consistent with a Modest overall efficacy rating. Efficiency is rated Modest due to significant implementation inefficiencies. Outcome under the original objectives is rated Moderately Unsatisfactory.

Under the revised objectives: The project was relevant to country conditions and government strategy, and it was well aligned with Bank strategy over most of its lifetime. Relevance is therefore rated Substantial. The project modestly achieved its objective to improve LPNK performance, and substantially achieved its objective to improve STI human resource capacity, consistent with a Substantial overall efficacy rating. Efficiency is rated Modest due to significant implementation inefficiencies. Outcome under the revised objectives is rated Moderately Satisfactory.



Following IEG/OPCS guidelines, overall outcome is determined by weighting performance under the original and revised objectives according to the amount of Bank financing disbursed under each set of objectives. In this case, 42.5 percent of the loan had been disbursed at the 2017 restructuring that revised the objectives.

- Original objectives. Outcome = MU (3) * 0.425 = 1.275
- Revised objective: Outcome = MS (4) * 0.575 = 2.3

1.275 + 2.3 = 3.575, which rounds to 4 (MS).

Overall outcome is rated Moderately Satisfactory, indicative of moderate shortcomings in the project's preparation, implementation, and achievement.

a. Outcome Rating
Moderately Satisfactory

7. Risk to Development Outcome

The ICR (p. 31) noted that sustaining STI capacity developed under the project will require the development of multi-stakeholder research funding and strengthening of the research and innovation ecosystem in the country through increased synergy of funding from various institutions that are members of the Indonesia Research Funder Forum. It also recommended (p. 32) that the government support scholarship programs with a focus on graduate-level training and public-private partnerships. The ICR did not assess the extent to which these things are happening or likely to happen.

8. Assessment of Bank Performance

a. Quality-at-Entry

The project's technical design was based on extensive sector assessments conducted under a 2002 RISTEK "PERISKOP" project as well as a RISTEK team's feasibility study on overseas training programs. A Steering Committee, chaired by the RISTEK Executive Secretary, was established to provide the project with guidance and oversight, and a Technical Committee was set up to provide technical advice. Key lessons learned from prior international experience (PAD, pp. 7-9) included: (a) for reform of public research institutes, staying in the lane of commercialization, leaving basic research and innovation to companies; being flexible and adaptive to local and global market forces; and having government facilitate but not micromanage strategies and activities; (b) for overseas training for researchers, expecting PhD-level program completion to take longer than a few years, and reasonably expecting a high return rate of students; and (c) on competitive research grant programming, giving high-quality researchers grants large enough to stay in their home countries as key to building capacity in critical research areas. Risk assessment was thorough (PAD, Annex 4), with key identified risks relating to project complexity and the extent to which LPNKs would share a common vision for reforms; RISTEK's lack of familiarity with Bank policies and procedures; the need for the National Innovation Committee to effectively mitigate potential fragmentation among key players by building national consensus on the



enabling policy environment; and the need to translate the development of higher-quality research personnel into meaningful research outcomes through market orientation and industry linkages.

However, as described by the ICR (pp. 27, 28), the project as originally designed was overly ambitious and did not take into consideration the level of government experience in the science and technology area or uncertainties about government commitment. Risk mitigation measures were inadequate. RISTEK's administrative and technical linkages with LPNKs were not adequately assessed. These shortcomings were particularly noteworthy since this was the second Bank-financed project in the sector (the ICR did not provide information on the first project). M&E design had significant shortcomings, including results framework indicators that were not consistent with desired outcomes.

Quality-at-Entry Rating Moderately Unsatisfactory

b. Quality of supervision

The ICR (p. 31) noted that Bank supervision and implementation support missions were carried out regularly, that the same Task Team Leader was in place throughout the eight-year implementation period, and that expert teams from the Bank provided inputs on financial management, procurement, and other issues. The Bank team worked closely with the PMO and high-level leadership of MoRT. The project was restructured when it became clear that the original objectives and results framework were inadequate. The task team facilitated the shift to NDP activities when the COVID-19 pandemic erupted (ICR, p. 31). The ICR did not provide further details on Bank supervision following the first restructuring, and the results framework remained inadequate to measure achievement of project objectives.

Quality of Supervision Rating Moderately Satisfactory

Overall Bank Performance Rating Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The M&E framework (PAD, p. 10 and Annex 1) was built around three data collection mechanisms: STI surveys at the sector level, coordinated by the Deputy for Science and Technology Institutions of RISTEK; annual Independent Assessment Panel review of LPNK performance; and routine project monitoring by the Project Management Organization (PMO). The Independent Assessment Panels were to be comprised of scientists, engineers, institutional management specialists, and private sector representatives (PAD, p. 31).

As the ICR noted (p. 28), the original objectives were ambitious, with a formulation that went beyond the scope of planned activities. The outcome indicators did not adequately measure intended outcomes, and



some outcome targets were vague and not operationalizable. For example, "LPNK research agency reforms are institutionalized" is not a well-defined or measurable indicator, and the target was an unsatisfying binary "in progress."

b. M&E Implementation

According to the ICR, all three data collection mechanisms were implemented as planned. The ICR (p. 29) stated that the annual STI survey updated key system indicators that were "comparable to STI performance indicators defined by UNESCO or the Organisation for Economic Co-operation and Development." It also stated that Independent Assessment Panels "carried out annual review and evaluation of LPNK performance based on targets set through the Institutional Development Plan of each LPNK," and that routine project monitoring was implemented by the PMO. It is noteworthy, however, that the ICR did not appear to present information from these sources; for example, there was no mention in the ICR of the specific results of the STI surveys, or of the LPNKs having actually formulated and implemented Institutional Development Plans, or presentation of the targets and achievements of those Plans.

The ICR (p. 29) stated that there "could have been an issue" with complaints from applicants who did not receive scholarship awards following the competitive application process, but that "the number of complaints and how they were addressed was not well documented."

c. M&E Utilization

The ICR (p. 29) noted that the findings of the 2016 Mid-Term Review "contributed lessons learned and ways forward to keep the project on track through project restructurings." It also stated that an Indonesian Ministry of Religious Affairs staff scholarship program is applying this project's guidelines and lessons to its own design and implementation.

Given the information gaps in the ICR and low quality of indicators for measuring intended outcomes, project M&E is rated Modest.

M&E Quality Rating

Modest

10. Other Issues

a. Safeguards

The project was Environmental Assessment category "C" and did not trigger any safeguard policies.

b. Fiduciary Compliance



According to the ICR (pp. 29-30), the project experienced significant shortcomings in financial management in its initial years, including continued delays in the payment of scholarship-related expenditures, and weaknesses in soft expenditures such as travel. The Audit Board of the Republic of Indonesia reviewed the project's financial report annually with clean opinions. Ineligible expenditures were found in FY2017 and FY2018, all of which were refunded. The ICR (p. 30) reported that a total of US\$1.91 million was refunded. Following those findings, the Project Management Office replaced the assistant treasurer and decision-making officer, assigned additional verification staff, and hired financial management and procurement consultants. At the second restructuring, the Ministry of Finance required MoRT to submit a statement of accountability for the ineligible expenditures. The project team later added that, in the project's later years, the timeliness of payment of scholarship-related expenditures improved.

c. Unintended impacts (Positive or Negative)

None reported.

d. Other

11. Ratings

| Ratings | ICR | IEG | Reason for Disagreements/Comment |
|------------------|-------------------------|-------------------------|--|
| Outcome | Moderately Satisfactory | Moderately Satisfactory | |
| Bank Performance | Satisfactory | Moderately Satisfactory | Significant shortcomings in Quality at Entry, and continued uncorrected shortcomings in the results framework during Supervision. |
| Quality of M&E | Substantial | Modest | Sparse presentation in the ICR of information from the project's M&E system, and low quality of indicators to measure intended outcomes. |
| Quality of ICR | --- | Modest | |

12. Lessons

The ICR (pp. 32-33) presented findings and recommendations from which some lessons can be gleaned:

Scholarship programs supporting students to study in other countries can benefit from the services of education agencies or individual agents to liaise between students and international universities.



In the case of this project, students who were awarded scholarships found it difficult to identify universities in other countries that offered their desired field of study or specialization.

The different administrative elements of a large-scale scholarship program require different institutional set-ups and skills. Recruiting and selecting candidates, supporting their orientation prior to enrollment at foreign universities, managing and monitoring funds transfers to them, and helping them overcome problems during their studies all require different teams or departments with different capacities and skill sets.

Recipients of government-financed education abroad programs, upon the completion of their studies and return home, form a valuable talent pool that can be drawn upon with high levels of return for many years later. In this case, MoRT facilitated professional networking and development programs for returning scholars that translated into their employment with domestic and international agencies.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR contained all of the sections required by ICR guidelines. It presented the country and sectoral context for the project. However, there were major shortcomings with the document. The ICR was repetitive and lacked clarity in many aspects. The document did not, in any section, present a coherent logic or results chain describing and linking planned project activities with desired intermediate outcomes and final outcomes. The single key assumption cited as underpinning the theory of change related to achievement of the project's long-term impact rather than its stated objectives. The ICR reported and rated achievement based solely on selected indicators, leaving gaps in the assessment of achievement of the stated objectives; the ICR's Efficiency Analysis (Annex 4, p. 47) provided a more straightforward presentation of project activities than the ICR's main text did. Results, especially for scholarship recipients, were reported inconsistently at various points throughout the document; this was especially visible in Annex 1 ("Results Framework and Key Outputs"), which contained results data that were not cited or matched anywhere in the main ICR text. The ICR's explanation of the revised objectives and components at the 2017 restructuring was not straightforward. Laws and regulations were cited with no explanation of their content. Acronyms were not explained and/or used consistently, and some project activities and institutions were not well defined. The risk to development outcomes discussion contained recommendations rather than an assessment of risk to achieved results. The lessons section presented findings and recommendations rather than lessons, many of which were not based on information presented earlier in the document. The ICR did not perform the split rating analysis correctly, as it assessed achievement by confined project periods (before/after restructuring) rather than achievements across the project's entire lifetime, and the application of the split rating calculation was incorrectly based on a list of indicators rather than on the objectives-based evaluation methodology used by the World Bank.



a. Quality of ICR Rating

Modest