



# Technology Bank for the Least Developed Countries

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## Council

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### Budget estimates and programme of work for 2019

## Technology Bank for the Least Developed Countries: budget and programme of work for 2019

### I. Overall orientation

1. The Istanbul Programme of Action for the Least Developed Countries for the Decade 2011–2020, adopted in 2011 at the Fourth United Nations Conference on the Least Developed Countries, called for the establishment of a technology bank dedicated to the least developed countries. The creation of such a bank has been a long-standing priority of the least developed countries, as confirmed in the Addis Ababa Action Agenda of the Third International Conference on Financing for Development and in the 2030 Agenda for Sustainable Development, under Sustainable Development Goal 17.

2. On 23 December 2016, the General Assembly adopted resolution [71/251](#), on the establishment of the Technology Bank for the Least Developed Countries. By that resolution, the Assembly decided to establish the Bank as a subsidiary organ of the General Assembly and adopted its Charter (see [A/71/363](#)). In the same resolution, the Assembly invited Member States and other stakeholders to provide voluntary funding to the trust fund of the Bank for the operationalization of the Bank.

3. That operationalization was achieved in 2018 after the signing, on 22 September 2017, of the agreement between the United Nations and Turkey concerning the establishment of the Bank and the agreement between the two parties on financial and in-kind support for the Bank, the inauguration of the premises of the Bank in Gebze, Turkey, on 4 June 2018, and, finally, the appointment of its managing director, on 24 November 2018.

4. The Director of the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States served as acting Managing Director of the Technology

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\* TBLDC/2019/1.

Bank in 2018, which thus remained a transitional year for the Bank. The staff of the Office of the High Representative provided support to the Bank on a transitional basis during that year.

5. The Technology Bank is expected to be a major step in advancing the efforts of the least developed countries to enhance their science, technology and innovation capabilities and to integrate those capabilities into their sustainable development and the structural transformation of their economies. The operationalization of the Bank, which is target 17.8 of Sustainable Development Goal 17, is the first target to be reached under that Goal and contributes directly to the objective of the 2030 Agenda to leave no one behind, as well as to the implementation of the Istanbul Programme of Action.

6. In accordance with its Charter, the Technology Bank will strengthen the science, technology and innovation capacity of the least developed countries, including their capacity to identify, absorb, develop, integrate and scale up the deployment of technology and innovations, including indigenous ones, as well as the capacity to address and manage intellectual property rights issues; promote the development and implementation of national and regional science, technology and innovation strategies; strengthen partnerships among public entities and with the private sector working in this field; promote cooperation among all stakeholders involved in science, technology and innovation, including researchers, research institutions and public entities, within and between least developed countries, as well as with their counterparts in other countries; and promote and facilitate the identification and utilization of and access to appropriate technology by the least developed countries, as well as the transfer of such technology to them, while respecting intellectual property rights and fostering national and regional capacity among the least developed countries to use such technology effectively in order to bring about transformative change.

7. The budget estimates and the programme of work for 2019 set out in the present document are in line with the indications contained in the strategic plan of the Technology Bank.<sup>1</sup> The hiring of staff has been limited in order to maintain a judicious balance with the budgeted programmatic activities. The core staff of the Bank, besides its Managing Director, comprises two Programme Officers, who came on board in December 2018 and January 2019, respectively. An additional programme officer will be recruited in 2019.

8. The present budget estimates and draft programme of work for 2019 are mainly aimed at consolidating and somewhat expanding the activities started in 2018, while continuing the implementation of the activities included in the budget and programme of work for 2018. Consequently, the programme of work for 2019 will continue to focus on in-country activities in two main areas:

- (a) Science, technology and innovation reviews and technology needs assessments;
- (b) Digital access to research and technical knowledge.

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<sup>1</sup> Available at <http://unohrrls.org/custom-content/uploads/2017/01/Strategic-Plan-of-the-Technology-Bank-for-the-LDCs-8-August.pdf>.

9. As part of the science, technology and innovation reviews and technology needs assessments, the Technology Bank will carry out baseline reviews for several least developed countries. This will be done in close collaboration with the relevant United Nations agencies. The reviews will identify technological gaps and priority needs in those countries, focus on options to strengthen policies and measures aimed at improving national and regional technological capabilities and encourage innovation. The reviews are intended to provide a blueprint for science, technology and innovation capacity-building programmes and to guide future activities of the Bank and other stakeholders.

10. To advance digital access to research, the Technology Bank will build on existing initiatives and focus on facilitating and increasing online access to scientific journals, books and databases at no direct charge. It will provide capacity-building training for librarians, university teachers, graduate students, researchers and information technology specialists. This activity is expected to facilitate access for scientists and researchers to data, publications and initiatives in the fields of science, technology and innovation. It is also intended to enhance international collaboration among least developed countries and among research centres and universities.

11. A specific activity will be aimed at increasing the visibility of the Technology Bank through the preparation of a communication strategy that can facilitate the ongoing resource mobilization efforts and the development of joint initiatives with public and private stakeholders. The Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States continues to support the Bank on communication issues. A resource mobilization strategy aimed at boosting the programmatic resources of the Bank will also be prepared, making use of the resources allocated in the programme of work for 2018.

## **II. Overview of budget estimates and available resources**

12. According to its Charter, the Technology Bank is to be financed by voluntary contributions from Member States and other stakeholders, including the private sector and foundations. The resources of the Bank are kept in a trust fund, with all funds subject to audit by the Board of Auditors of the United Nations.

13. Given the vast needs of least developed countries in terms of science, technology and innovation, it is estimated that the Technology Bank would require an annual budget of \$35 million to \$40 million to undertake activities addressing the full range of objectives set out in its Charter and to make a difference on the ground in all least developed countries.

14. For the programme of work for 2019, the Technology Bank will be able to rely on the contribution of \$2 million from the host country, Turkey, in accordance with the agreement on financial and in-kind support for the Bank signed on 22 September 2017. In addition, the carry-over of unspent resources for 2018, which was a start-up year for the Bank, is projected at \$4,105,257. Total available resources thus amount to \$6,105,257. Table 1 below contains a description of expenditure for 2018.

15. The overall budget requirements for 2019 amounts to \$6,479,960, which comprises \$2,567,433 for the continuation of the implementation of

the programme of work for 2018 and \$3,912,528 for the programme of work for 2019. The requirements cover staff costs, Council support costs, programme costs, operational costs and programme support costs (see table 2 below). The implementation of activities included in the present budget and programme of work may continue during 2020. The resource gap between the overall budget requirements and the total available resources amounts to \$374,703.

16. The Managing Director (D-2) was appointed on 24 November 2019. Two Programme Officers (P-4) were recruited in December 2018 and February 2019, respectively, and the recruitment of an additional Programme Officer (P-4) is budgeted for 2019.

17. In April 2018, the Technology Bank entered into an agreement with the United Nations Office for Project Services for the provision of administrative services.

Table 1  
**Expenditure in 2018**  
(United States dollars)

<i>Resources</i>	<i>Budget</i>	<i>Expenditure</i>
<b>A. Staff costs</b>		
1. International staff	1 252 300	102 605
2. Local staff	73 100	–
<b>Subtotal, staff costs</b>	<b>1 325 400</b>	<b>102 605</b>
<b>B. Council support costs</b>		
1. Travel	60 000	–
2. Hospitality	12 000	–
<b>Subtotal, Council support costs</b>	<b>72 000</b>	<b>–</b>
<b>C. Programme costs</b>		
Activity 1: produce science, technology and innovation reviews and technology needs assessments in selected least developed countries	1 200 000	53 387
Activity 2: promote access to research and technical knowledge in selected least developed countries	1 266 500	570 078
Activity 3: resource mobilization	75 000	–
<b>Subtotal, programme costs</b>	<b>2 541 400</b>	<b>623 465</b>
<b>D.1 Operational costs</b>		
1. Travel of staff	50 000	47 033
2. Contractual services		
(a) Security-related expenditure	100 000	–
(b) Website development and administration	28 000	–
(c) Translation and printing of documents	50 000	–
3. Equipment	40 000	–

<i>Resources</i>	<i>Budget</i>	<i>Expenditure</i>
4. Supplies	1 000	–
<b>D.2 General operating expenses</b>		
1. Information technology support services and software licences	2 000	–
2. Other miscellaneous expenses	4 000	–
3. Hospitality	10 000	–
4. Implementation direct costs	–	14 312
<b>Subtotal, operating costs</b>	<b>285 000</b>	<b>61 345</b>
<b>E. Programme support costs</b>		
Programme support costs <sup>a</sup>	549 107	86 608
<b>Total</b>	<b>4 773 007</b>	<b>874 023</b>

<sup>a</sup> Programme support cost for the trust fund is 11 per cent of total expenditure.

Table 2  
**Budget requirements for 2019**

(United States dollars)

<i>Resources</i>	<i>Programme of work for 2018 carried forward to 2019</i>	<i>Programme of work for 2019</i>	<i>Total for 2019</i>
<b>A. Staff costs</b>			
1. International staff	–	714 800	714 800
2. Local staff	–	69 000	69 000
<b>Subtotal, staff costs</b>		<b>783 800</b>	<b>783 800</b>
<b>B. Council support costs</b>			
1. Travel	60 000	60 000	120 000
2. Hospitality	12 000	–	12 000
<b>Subtotal, Council support costs</b>	<b>72 000</b>	<b>60 000</b>	<b>132 000</b>
<b>C. Programme costs</b>			
Activity 1: produce science, technology and innovation reviews and technology needs assessments in selected least developed countries	1 146 613	600 000	1 746 613
Activity 2: promote access to research and technical knowledge in selected least developed countries	696 422	1 853 000	2 549 422
Activity 3: resource mobilization	75 000	–	75 000
Activity 4: communication strategy preparation	–	40 000	40 000
<b>Subtotal, programme costs</b>	<b>1 918 035</b>	<b>2 493 000</b>	<b>4 411 035</b>

<i>Resources</i>	<i>Programme of work for 2018 carried forward to 2019</i>	<i>Programme of work for 2019</i>	<i>Total for 2019</i>
<b>D.1 Operational costs</b>			
1. Travel of staff	2 967	50 000	52 967
2. Contractual services			
(a) Security-related expenditure	100 000	–	100 000
(b) Website development, maintenance and administration	28 000	–	28 000
(c) Translation and printing of documents	50 000	20 000	70 000
3. Equipment	40 000	–	40 000
4. Supplies	1 000	4 000	5 000
5. Other contractual services	–	2 000	2 000
<b>D.2 General operating expenses</b>			
1. Information technology support services and software licences	2 000	7 000	9 000
2. Other miscellaneous expenses	4 000	2 000	6 000
3. Hospitality	10 000	–	10 000
4. Implementation direct costs	85 000	103 000	188 000
<b>Subtotal, operating costs</b>	<b>322 967</b>	<b>188 000</b>	<b>510 967</b>
<b>E. Programme support costs</b>			
Programme support costs <sup>a</sup>	254 430	387 728	642 158
<b>Total</b>	<b>2 567 433</b>	<b>3 912 528</b>	<b>6 479 960</b>

<sup>a</sup> Programme support cost for the trust fund is 11 per cent of total expenditure.

**(a) Staff costs**

18. The amount of \$714,800 will provide for the funding of three international staff, the Managing Director (D-2) and two Programme Officers (P-4), and for the costs associated with the recruitment of an additional Programme Officer (at the P-4 level). The amount of \$69,000 will provide for the funding of three support staff to provide administrative and information technology assistance.

**(b) Council support costs**

19. The amount of \$132,000 will provide for the travel of Council members and other experts to official meetings, including two council meetings expected to be held in 2019, and hospitality for official functions.

**(c) Programme costs**

20. The amount of \$4,411,035 will provide for the implementation of programme activities. Related activities and detailed resource requirements are described in section III below.

**(d) Operational costs**

21. The amount of \$510,967 will provide for general operating costs, such as equipment, supplies, information technology services, the translation and printing of documents, travel, hospitality, implementation direct costs and other miscellaneous expenses.

**III. Programme of work for 2019****A. Activity 1****Produce science, technology and innovation reviews and technology needs assessments in selected least developed countries****1. Background and rationale**

22. Science, technology and innovation are key instruments for the socioeconomic transformation of the least developed countries and their sustainable development. These countries suffer from serious deficits in their science, technology and innovation capacities and lag substantially behind the more advanced developing countries that are closing the gap with developed, knowledge-based economies. The Technology Bank, through its capacity-building efforts, can play an important role in bridging that gap.

23. Under this activity, the Bank will carry out a series of baseline reviews for a limited group of least developed countries, and, over time, scale up to cover all least developed countries. The reviews should be organized in collaboration with the United Nations Conference on Trade and Development (UNCTAD), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and other relevant organizations, and should build upon existing science, technology and innovation country reviews expanded to cover technology needs assessments. These science, technology and innovation reviews and technology needs assessments will identify technological gaps and priority needs, as a first step towards developing coherent and integrated strategies tailored to the specific situation of the country under review. The reviews will include recommendations for strengthening policies and measures to improve national and regional technological capabilities, and encourage innovation, including detailed assessments in areas of critical importance for the countries under review.

24. In order to help to build the ability of the least developed countries to attract technological innovation from the outside, and to facilitate knowledge and technology transfer on voluntary and mutually agreed terms, the Technology Bank, in collaboration with relevant organizations, will in particular conduct science, technology and innovation reviews and technology needs assessments that focus on specific priorities of the Istanbul Programme of Action, as well as relevant Sustainable Development Goals, as agreed in advance with the relevant government entities and in consultation with key stakeholders.

25. The reviews and assessments will provide a blueprint for the capacity-building programmes that each country may include as part of their national development strategies to accelerate efforts towards the implementation of the priorities contained in the Istanbul Programme of Action and to promote the achievement of relevant Sustainable Development Goals. The blueprints, in turn, will produce a set of science, technology and innovation capacity-building priorities that should provide a valuable guide to bilateral donors, multilateral and regional development banks, foundations, non-governmental organizations and the private sector.

26. The beneficiaries of this activity include the scientific community, government officials (with responsibility for science, technology and innovation issues, that is, ministries of science, industry, technology, education, agriculture and planning), entrepreneurs, educational institutions and civil society.

## **2. Relationship to the strategic plan of the Technology Bank**

27. The activity is linked to area 1 (science technology and innovation policy and capacity-building), actions lines A (attracting outside technology and facilitating technology transfer on voluntary and mutually agreed terms and condition), B (supporting home-grown innovation and research) and C (bringing imported and indigenous technologies to market), of the strategic plan of the Technology Bank, prepared by the interim Council at its meeting of 26 and 27 July 2016 at United Nations Headquarters.

## **3. Objectives**

28. The overarching goal of this activity is to perform science, technology and innovation reviews and technology needs assessments. Each review intends to provide critical insights into the functioning of the national innovation capabilities, present an overview of the national science, technology and innovation and technological deployment ecosystems and understand how the national policy framework in science, technology and innovation has an impact on national sustainable development. The reviews will:

(a) Identify the core areas of focus for the least developed country under review (such as public health, agriculture, industry, environmentally sound technology, sustainable energy and information and communication technology) and specific initiatives to maximize the impact of technology as an instrument to foster structural transformation, reduce poverty and promote sustainable development. For each subject area, the review should focus on four broad issues:

(i) The country's current capacity in terms of innovation capabilities, collaboration on research and development, technology scouting, intellectual property systems, engineering, technical and vocational skills;

(ii) Technology and capacities that are required to achieve specific Sustainable Development Goals or the objectives of the Istanbul Programme of Action;

(iii) Policies and programmes that are needed to build this capacity;

(iv) Best practices that are particularly suitable for the least developed country to achieve those Goals and objectives;



(b) Identify opportunities to strengthen science, technology and innovation capabilities and research and development infrastructure, as well as opportunities to improve the utilization of existing capacity-building programmes;

(c) Identify opportunities for collaboration at the regional level, as well as among clusters of countries that share common characteristics and challenges, and explore synergies and complementarities.

#### 4. Expected accomplishments

29. Under activity 1, the expected accomplishments include:

(a) Facilitating a space for dialogue among all stakeholders involved in science, technology and innovation in the country;

(b) Providing a clear understanding of the policy and regulatory science, technology and innovation framework in the country;

(c) Articulating a series of concrete measures and capacity-building initiatives to improve science, technology and innovation for sustainable development;

(d) Improving national legislation plans and measures to maximize the impact of science, technology and innovation for sustainable development;

(e) Contributing to building capacity to interact with donors, United Nations agencies and international organizations by articulating the priority needs of the least developed countries and preparing proposals for their support.

#### 5. Indicators of achievement

30. The following are the indicators of achievement under activity 1:

(a) Number of stakeholders interviewed;

(b) Number of participants in national workshops;

(c) Increased advocacy for science, technology and innovation with the relevant authorities;

(d) Increased attention by policymakers to science technology and innovation-related issues;

(e) Increase in expenditure and investment in the field of science technology and innovation.

#### 6. Main activities

31. The Technology Bank, by means of its own staff, other United Nations staff, when possible, and contracted experts, will carry out the activities, which are necessary for the preparation of the science, technology and innovation reviews and technology needs assessments, indicatively described as follows:

(a) *First visit.* An initial technical fact-finding visit will be carried out to meet with government officials and other key science, technology and innovation stakeholders from academia, the private sector and civil society and collect information and data, with the aim of mapping the science,

technology and innovation landscape, policies, legal frameworks, institutions and operational instruments. During the visit, a workshop on science, technology and innovation policy design, review and implementation will be organized. The workshop will be organized for high-level ministerial officials and other national stakeholders in the field of science, technology and innovation, with the participation of, inter alia, representatives of the ministries (or equivalent administrative units) of science and technology, higher education, finance and planning, industry and trade, agriculture, health, energy and mining, universities, chambers of commerce and industry, research institutions and statistical offices. Efforts will be made to ensure gender balance. The main purpose of the initial workshop is to plan the science, technology and innovation review and technology needs assessment and establish a national working group;

(b) *Establishment of a national working group.* A national working group will be established with representatives of the main national entities in the field of science, technology and innovation designated by the authorities, to perform an in-country analysis of existing capacities;

(c) *Second visit.* After the workshop, the contracted experts, together with members of the national working group, will interview the most relevant science, technology and innovation stakeholders (various ministries and major organizations) in the country to collect information on policies and policy instruments for the evaluation of the research and innovation landscape;

(d) *Inventory of national science, technology and innovation assets, instruments and capabilities.* The contracted experts, with the assistance of the national working group, will perform three inventory exercises, to be prepared within two months of the holding of the workshop, namely:

(i) Inventory of national and, as appropriate, regional and international measures, policies and rules applicable to science, technology and innovation activities;

(ii) Inventory of science, technology and innovation and higher education institutions;

(iii) Inventory of policy and operational instruments on science, technology and innovation;

(e) *Desktop review.* Other information needed to produce the review will be collated by contracted experts through desktop studies;

(f) *Preparation of the draft science, technology and innovation review and technology needs assessment.* On the basis of the information collated from the inventories, other statistical material and desktop work, the contracted experts will prepare a draft science, technology and innovation review and technology needs assessment;

(g) *Validation workshop.* A second workshop (validation) will be organized after the draft is distributed to the national working group members and other stakeholders. The purpose of the validation workshop is to review the content of the draft and to work together in completing the strengths, weaknesses, opportunities and threats exercise on the basis of the empirical evidence collected during the preparation of the draft. Training sessions can be organized on topics for which important gaps and lack of capacities have been identified;

(h) *Preparation of a second draft of the science, technology and innovation review and technology needs assessment.* The contracted experts will prepare a second draft of the review, taking into account the results of the validation workshop. A science editor will work with the experts for the final edition of the review;

(i) *Release of the electronic version of the science, technology and innovation review and technology needs assessment.* The Bank will release an electronic version of the report, in collaboration with the relevant United Nations agencies;

(j) *Presentation of the science, technology and innovation review and technology needs assessment.* The Bank, the relevant United Nations agencies and national authorities will arrange for a presentation of the major findings, and the contracted experts of the Bank will suggest a list of possible policy options, initiatives and capacity-building priorities, on the basis of the empirical evidence collected during the exercise.

32. Given that the completion time of science, technology and innovation reviews and technology needs assessments can be estimated at 18 to 24 months, the budget estimated for activity 1 for 2019 reflects 50 per cent of the estimated total cost of the reviews.

## 7. Country coverage

33. Work towards the preparation of the reviews of Guinea, Haiti, the Sudan, Timor-Leste and Uganda, as provided for in the budget and programme of work for 2018, is under way, in cooperation with UNESCO and UNCTAD. The review is expected to be finalized by the end of 2019, making use of the resources carried forward from 2018. With regard to 2019, it is suggested that, subject to the countries' approval, reviews be prepared for the five additional least developed countries to be selected by the Council.

## 8. Budget estimate

34. The budget estimate for activity 1 is shown below.

Table 3  
**Budget requirements for activity 1**

(United States dollars)

<i>Category</i>	<i>Programme of work for 2018 carried forward to 2019</i>	<i>Programme of work for 2019</i>	<i>Total for 2019</i>
<b>A. Staff and other personnel costs</b>			
National and international experts	420 000	235 000	655 000
<b>Subtotal</b>	<b>420 000</b>	<b>235 000</b>	<b>655 000</b>
<b>B. Travel</b>			
1. Travel of participants to workshop and meetings	530 000	265 000	795 000
2. Travel of experts	176 613	90 000	266 613
<b>Subtotal</b>	<b>706 613</b>	<b>355 000</b>	<b>1 061 613</b>

<i>Category</i>	<i>Programme of work for 2018 carried forward to 2019</i>	<i>Programme of work for 2019</i>	<i>Total for 2019</i>
<b>C. Contractual services</b>			
Printing and layout	20 000	10 000	30 000
<b>Subtotal</b>	<b>20 000</b>	<b>10 000</b>	<b>30 000</b>
<b>Total</b>	<b>1 146 613</b>	<b>600 000</b>	<b>1 746 613</b>

**(a) Staff and other personnel costs**

35. The amount of \$655,000 will provide the specialized expertise, including from United Nations entities, required for the preparation of the science, technology and innovation reviews and technology needs assessments.

**(b) Travel**

36. The amount of \$1,061,613 will provide for country visits, the organization of workshops and the travel of experts, as required in the performance of their assignment.

**(c) Contractual services**

37. The amount of \$30,000 will provide for the editing, formatting, layout and printing of the science, technology and innovation reviews and technology needs assessment.

**B. Activity 2**

**Promote access to research and technical knowledge in selected least developed countries**

**1. Background and rationale**

38. Least developed countries have very limited access to published research, which contributes to their poor performance in the fields of science, technology and innovation. To achieve its overall objective of strengthening national capabilities and providing expertise to the world's least developed countries to ensure that they are no longer left behind in achieving internationally agreed development goals, the Technology Bank is working to:

(a) Advocate the importance of education in the fields of science and technology and of research in those fields to the Governments of the least developed countries;

(b) Produce measurable results quickly in order to encourage commitment from the least developed countries and in the donor community;

(c) Stimulate the production of high-quality research in the least developed countries, including international research collaboration, both South-South and South-North.

39. Research4Life is an existing United Nations partnership that has been leveraged by the Technology Bank for the rapid delivery of results. Research4Life is the collective name for five programmes (managed by the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme, the World Intellectual Property Organization and the International Labour Organization) that provide developing countries with free or low-cost access to academic and professional content online. Research4Life has been active in more than 100 lower-income countries, including all of the least developed countries, since 2002. By joining with Research4Life as a new United Nations partner, the Bank has built on what the partnership has already accomplished and is producing results beyond the reach of the current partnership for and in the least developed countries. Research4Life has proved that online access to the world's high quality published scientific and technical information, while challenging, is possible in all of the least developed countries. Activity 2 is ensuring that the least developed countries may make the best possible use of this access.

40. Activity 2 is enabling the Technology Bank to create strong in-country networks and to open channels for regular feedback from the least developed countries. It is facilitating and making use of all opportunities to increase connectivity and facilitate access to information. The substantial improvement in the scientific and technical information infrastructure in the least developed countries that activity 2 is working to bring about will enhance the ability of national institutions to train researchers and produce high-quality research, laying the groundwork for further activities of the Bank. It is facilitating and promoting South-South and the South-North collaboration among researchers, young scholars and entrepreneurs working and living in the least developed countries.

41. The Research4Life framework has been developed over 18 years and has become a model for other access initiatives. It is a public-private partnership that brings together United Nations agencies, 185 international publishers, along with universities and other organizations, to provide researchers, academics, students, professionals and others in the developing world with online access to high-quality international academic and professional journals, books, databases and other information resources. All least developed countries automatically qualify for free access. The Research4Life partners are formally committed until at least 2025, with periodic programme reviews and extensions. New publishers join the partnership regularly. Research4Life comprises five programmes operating online portals:

- (a) Hinari (Health InterNetwork Access to Research Initiative);<sup>2</sup>
- (b) AGORA (Access to Global Online Research in Agriculture);<sup>3</sup>
- (c) OARE (Online Access to Research in the Environment);<sup>4</sup>
- (d) ARDI (Access to Research for Development and Innovation);<sup>5</sup>
- (e) GOALI (Global Online Access to Legal Information).<sup>6</sup>

## 2. Relationship to the strategic plan of the Technology Bank

<sup>2</sup> [www.who.int/hinari](http://www.who.int/hinari).

<sup>3</sup> [www.fao.org/agora](http://www.fao.org/agora).

<sup>4</sup> [www.unenvironment.org/explore-topics/environment-under-review/what-we-do/information-management/online-access-research](http://www.unenvironment.org/explore-topics/environment-under-review/what-we-do/information-management/online-access-research).

<sup>5</sup> [www.wipo.int/ardi](http://www.wipo.int/ardi).

<sup>6</sup> [www.ilo.org/goali](http://www.ilo.org/goali).

42. The activity is linked to area 3 (digital research access and networking) of the strategic plan of the Technology Bank, under actions line B (supporting home-grown innovation and research).

### **3. Objectives**

43. The objectives of activity 2 are to:

(a) Enable, facilitate and increase online access to costly scientific journals, books and databases at no direct charge;

(b) Put in place the necessary capacities to create or scale up access to and use of scientific and technical knowledge;

(c) Provide training for librarians, university teachers, graduate students, researchers, information technology specialists and other relevant constituencies;

(d) Create tangible, measurable results quickly through intensive, countrywide campaigns in the least developed countries in order to integrate the use of scientific and technological evidence in all relevant activities;

(e) Lay the groundwork for other activities of the Technology Bank through substantial improvement in the scientific and technical information infrastructure in least developed countries.

### **4. Expected accomplishments**

44. At the country level, “information infrastructure” comprises two interactive elements: access to high-quality, relevant, up-to-date scientific and technical publications; and the capacity to integrate it appropriately into all relevant activities, such as teaching, continuing education, research, policymaking, professional practice and public awareness. While there are variations from country to country, certain common “indicators for success” have become evident through the extensive experience gained under Research4Life, namely:

(a) The active engagement of local champions;

(b) Training;

(c) Improved user experience with online interfaces to access scientific and technical journals.

### **5. Indicators of achievement**

45. The indicators of achievement for activity 2 will include programme indicators as well as indicators that will eventually be used to demonstrate impact and inform further planning for each country.

#### **(a) Programme indicators**

46. The programme indicators for activity 2 are:

(a) Numbers of institutions registered for access;

(b) Number of trainers trained;

(c) Number of workshops organized;

(d) Number of participants per workshop, including breakdown by institution, discipline, profession and gender;

- (e) Numbers of institutional support centres established;
- (f) Numbers of user logins (visits).

**(b) Impact indicators**

47. The information gathered from pre-workshop and post-workshop questionnaires and longer-term follow-up questionnaires will serve as the impact indicators for activity 2 (analysed in conjunction with usage statistics from the Research4Life central authentication system and from the use-tracking systems on the publisher partner websites).

**6. Main activities**

48. Consolidation activities will continue in the 12 countries (Bangladesh, Bhutan, Burkina Faso, Liberia, Madagascar, Malawi Mozambique, Nepal, Rwanda, Senegal, Uganda and United Republic of Tanzania) where activities started under the budget and programme of work for 2018, and work will begin in five new countries. Uganda and the United Republic of Tanzania will undertake significant mentoring activities with other countries in the programme that are the focus of digital access to research activities.

49 With regard to the original 12 countries, new online courses will add a specific focus for researchers, building on the basic foundation in information access achieved in 2018. A second aspect of growth in those countries will be consolidating the partnership of researchers and librarians to achieve high-functioning research teams. A third aspect will be strengthening the relationships with national research and education networks and their regional organizations.

**(a) In-country support**

50. In-country activities for 2019 will include:

- (a) For the additional five countries, identifying “champions” to serve as focal points for coordinating in-country activities;
- (b) Training trainers;
- (c) Organizing workshops;
- (d) Creating professional networks through workshops that bring together students, researchers and professionals from different institutions, disciplines and functions (for example, researchers, librarians and information technology personnel);
- (e) Providing technical support to information technology personnel in national institutions;
- (f) Training librarians and others to act as “support centres” within their own institutions and, in at least three of the countries where work began in 2018, as countrywide support experts;
- (g) Providing specific feedback to audiences in least developed countries to improve and tailor services provided by the Research4Life partnership;
- (h) Conducting surveys at workshops and among users more widely to create baselines and measure activity and progress.

51. In-country support will be managed by experts (electronic library services and training coordinators), with support from the Hinari/Research4Life secretariat at WHO and the Research4Life capacity development team at FAO.

**(b) Upgrading and stabilizing the technical architecture**

52. A central focus of this area of work will be improving the way that users experience access to scientific and technical publications, in particular in response to user feedback as the in-country activities roll out in the least developed countries. This major advocacy and training push in the selected countries will, in turn, create a significant increase in demand for access to Research4Life and put pressure on authentication systems, content portals, data warehouses, in terms of usage statistics, and other back office databases and infrastructures. Ensuring the stability of and regular improvement to the Research4Life technical architecture is therefore essential.

53. These activities will be managed and supported by experts (portfolio technology project management and technical support), with engagement from the Hinari/Research4Life secretariat at WHO, where most of the Research4Life systems are currently maintained.

**7. Country coverage**

54. In 2018, activity 2 focused on 12 countries. With regard to 2019, it is suggested that, subject to the respective country's approval, additional work be carried out in Angola, Guinea, Haiti, Sierra Leone and Vanuatu. As a result, activity 2 will be focused on nine countries that appear to be at an "information tipping point" (Angola, Bangladesh, Mozambique, Nepal, Rwanda, Senegal, Uganda, United Republic of Tanzania and Vanuatu), for which a concerted effort will create the most significant results, and on eight countries that present a more challenging environment for quick uptake of scientific and technological potential (Bhutan, Burkina Faso, Guinea, Haiti, Liberia, Madagascar, Malawi and Sierra Leone). "Champions" and trainers from some of the countries that received attention in 2018 (in particular Uganda and the United Republic of Tanzania) will be directly involved in rolling out support in the next group of countries, creating regional networks and South-South collaboration.

**8. Budget estimate**

55. The budget estimate for activity 2 is shown below.

Table 4  
**Budget requirement for activity 2**

(United States dollars)

<i>Category</i>	<i>Programme of work for 2018 carried forward to 2019</i>	<i>Programme of work for 2019</i>	<i>Total for 2019</i>
<b>A. Staff and other personnel costs</b>			
Experts: capacity development, coordination and management	33 203	332 000	365 203
Experts: technology development and management	31 877	119 000	150 877



<i>Category</i>	<i>Programme of work for 2018 carried forward to 2019</i>	<i>Programme of work for 2019</i>	<i>Total for 2019</i>
Local experts: country focal points	16 837	120 000	136 837
<b>Subtotal</b>	<b>81 917</b>	<b>571 000</b>	<b>652 917</b>
<b>B. Travel</b>			
Staff travel	27 389	105 000	132 389
Workshop related travel	162 385	190 000	352 385
Travel of country focal points	31 614	195 000	226 614
<b>Subtotal</b>	<b>221 388</b>	<b>490 000</b>	<b>711 388</b>
<b>C. Contractual services</b>			
Workshop venue and other capacity development-related services	93 117	342 000	435 117
Technology development: support, maintenance and improvement	300 000	450 000	750 000
<b>Subtotal</b>	<b>393 117</b>	<b>792 000</b>	<b>1 185 117</b>
<b>Total</b>	<b>696 422</b>	<b>1 853 000</b>	<b>2 549 422</b>

**(a) Staff and other personnel costs**

56. The amount of \$652,917 will provide for: capacity development and coordination, management and administrative support; international experts on the capacity development and coordination of electronic library services; international experts on technology development and management; and country focal points.

**(b) Travel**

57. The amount of \$711,388 will provide for the travel of staff and experts, including country focal points, trainers and workshop participants, as may be necessary to support the main activities.

**(c) Contractual services**

58. The amount of \$1,185,117 will provide for the required support, maintenance and ongoing improvement of the Research4Life technical infrastructure, as well as for scientific and technological capacity-building programmes, such as e-learning, small grants incentives, expert training in country-specific issues, advanced training carried out in a South-South context and other services for the organization and delivery of workshops and professional network building.

### **C. Activity 3 Resource mobilization**

59. The Technology Bank is a major step in advancing the efforts of the least developed countries to enhance science, technology and innovation and the integration of technology in development for structural transformation

and sustainable development. It will help those countries to strengthen their science, technology and innovation capacities, foster the development of national and regional innovation ecosystems that can attract outside technology and generate home-grown innovation and research. The Bank will assist the least developed countries in building their national and regional capacities in the areas of intellectual property rights and technology-related policies, facilitate the transfer of technology and, in the process, accelerate the integration of the least developed countries into the knowledge-based economy.

60. It is estimated that, to realize the objective of the Technology Bank in all of the 47 least developed countries, an annual budget of \$35 million to \$40 million is required. However, an annual budget of \$10 million will enable the Bank to begin substantive activities on the ground in a large number of least developed countries. The resources available for 2018 thus show a significant resource gap that needs to be addressed.

61. Additional efforts are needed to mobilize resources from all stakeholders, including foundations, civil society organizations and the private sector. This will be one of the key tasks of the Managing Director. In order to establish an effective resource mobilization approach, it is necessary to formulate an effective way to raise funding from traditional donors, foundations and other stakeholders. To do so, the Technology Bank will contract resource mobilization experts to prepare a plan based on extensive desk research and direct contacts with a range of representatives within the different donor segments.

Table 5  
**Budget requirement for activity 3**

(United States dollars)

<i>Category</i>	<i>Programme of work for 2018 carried forward to 2019</i>	<i>Programme of work for 2019</i>	<i>Total for 2019</i>
<b>A. Staff and other personnel costs</b>			
Resource mobilization expert	30 000	–	30 000
<b>Subtotal</b>	<b>30 000</b>	<b>–</b>	<b>30 000</b>
<b>B. Travel</b>			
Travel of experts	40 000	–	40 000
<b>Subtotal</b>	<b>40 000</b>	<b>–</b>	<b>40 000</b>
<b>C. Hospitality</b>			
Hospitality	5 000	–	5 000
<b>Subtotal</b>	<b>5 000</b>	<b>–</b>	<b>5 000</b>
<b>Total</b>	<b>75 000</b>	<b>–</b>	<b>75 000</b>

**(a) Staff and other personnel costs**

62. The amount of \$30,000 will provide for consultant services with specialized expertise in resource mobilization (approximately three work-months).

**(b) Travel**

63. The amount of \$40,000 will provide for staff and consultant travel, as may be required for resource mobilization efforts.

**(c) Hospitality**

64. The amount of \$5,000 will provide for hospitality at official functions.

**D. Activity 4****Communication strategy preparation**

65. The Technology Bank is a major step in advancing the efforts of the least developed countries to enhance science, technology and innovation and the integration of technology into development for structural transformation and sustainable development. Its visibility among beneficiaries, stakeholders and donor community needs to be increased.

66. A communication expert will be contracted to draft a communication and social media strategy and to establish the first social media accounts, a new visual identity, a style guide and a repository of images to be used for communications purposes and the website. The communication strategy will need to be instrumental to the resource mobilization efforts of the Technology Bank.

**Budget estimate**

67. The budget estimate for activity 4 is shown below.

Table 6

**Budget requirement for activity 4**

(United States dollars)

<i>Category</i>	<i>2019</i>
<b>A. Staff and other personnel costs</b>	
Communication expert	30 000
<b>Subtotal</b>	<b>30 000</b>
<b>B. Travel</b>	
Expert travel	10 000
<b>Subtotal</b>	<b>10 000</b>
<b>Total</b>	<b>40 000</b>

**(a) Staff and other personnel costs**

68. The amount of \$30,000 will provide for consultant services with specialized expertise in communication issues (approximately three work-months).

**(b) Travel**

69. The amount of \$10,000 will provide for staff and consultant travel, as may be required.

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