



# Technology Bank for the Least Developed Countries

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## **Council**

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Agenda item 4

**Discussion and adoption of the budget and programme of  
work for 2021**

## **Technology Bank for the Least Developed Countries: budget and programme of work for 2021**



## Overview

### I. Introduction

1. In the Istanbul Programme of Action for the Least Developed Countries for the Decade 2011–2020, adopted in 2011, 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 the bank was a long-standing priority of the least developed countries, that was 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 (Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development).

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 Technology 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 for the operationalization of the Technology Bank.

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

4. The Technology Bank is a major step in advancing the efforts of the least developed countries to enhance their science, technology and innovation capabilities and on the way to the integration of those capabilities into their sustainable development efforts and the structural transformation of their economies. The operationalization of the Bank, which is target 17.8 of Goal 17, is the first target of Sustainable Development Goal 17 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.

5. In accordance with its Charter, the Technology Bank will continue to support the strengthening of 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 technologies and innovations, including indigenous ones. The Bank will also support the capacity of the least developed countries 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; and promote cooperation among all stakeholders involved in science, technology and innovation, including researchers, research institutions and public entities within and operating between the least developed countries, as well as with their counterparts in other countries. In addition, the Bank will promote and facilitate the identification and utilization of and access to appropriate technologies by the least developed countries, as well as the transfer of such technologies 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.

## II. Overall orientation

6. The programme of work for 2021 will continue to be focused on in-country activities in the area of science, technology and innovation organized along the following programmatic activities to reflect the Bank's core mandate as outlined in its strategic three-year plan:

- (a) Technology needs assessment;
- (b) Technology transfer;
- (c) Enhancing science, technology and innovation capacities in the least developed countries;
- (d) Partnerships and coordination.

7. Furthermore, in response to the coronavirus disease (COVID-19) pandemic, the 2021 programme of the Technology Bank will include the Bank's new global initiative, the Technology Access Partnership, which was launched in 2020 to support the manufacture of critical medical equipment to deal with COVID-19 in the least developed countries. The Partnership is being implemented as part of the Bank's technology transfer programme and is a strategic partnership between the Bank and the United Nations Development Programme, the United Nations Conference on Trade and Development, the World Health Organization and the Commonwealth Secretariat.

8. The Partnership is in line with the stated objective of establishing a digital technology transfer platform to assist the least developed countries in technology scouting and the identification and review of appropriate technology solutions to address their needs in relation to the Sustainable Development Goals. In 2021, as part of the technology transfer programme, the Bank will also focus on enhancing the institutional capacity of the least developed countries to identify, adapt to and deploy new technologies.

9. A new programme on partnerships and coordination is proposed for inclusion in the 2021 budget and programme, among other things to oversee the engagement of the Technology Bank with key stakeholders including the private sector. Furthermore, the programme on partnerships and coordination will be used to coordinate the Bank's strategic engagement with key partners and programmes and ensure that its projects and activities are implemented in accordance with the guiding principles outlined in the three-year strategic plan. Furthermore, the Programme will be used to oversee the Bank's programme-level monitoring and evaluation activity, which will be undertaken with the support of the Office of Internal Oversight Services.

10. Taking into account the disruption to the 2020 work programme caused by the suspension of field activities because of COVID-19, a significant proportion of the 2021 work programme will be a continuation of the 2020 work programme, particularly in the key areas of technology needs assessment, establishing and strengthening of academies of science, and enhancing science, technology and innovation capacities. The resources for unimplemented 2020 activities that are carried over to 2021 are included in the budget proposed at present. In 2021, technology needs assessments will be undertaken in the following 15 countries: Bangladesh, Benin, Cambodia, Djibouti, Haiti, Kiribati, Lesotho, Malawi, Mozambique, Nepal, Rwanda, Sao Tome and Principe, Sierra Leone, Sudan and Zambia.

11. In 2020, a new activity, enhancing research capacities in the least developed countries, was introduced under the programme on enhancing science, technology and innovation capacities in the least developed countries. In 2021, that activity will continue to be used for providing online training through a newly developed massive

online course. In 2020, this new delivery modality facilitated a significant increase in country and participant coverage. Moreover, it is less resource-intensive: in 2018–2019, over 2,600 experts were trained in over 15 countries, but in 2020, using the new online platform, over 3,500 participants were trained in 71 countries, of which 39 were among the least developed countries. The objective for 2021 is to increase that number significantly and reach all the least developed countries. Furthermore, under the programme on enhancing science, technology and innovation capacities in the least developed countries, the Technology Bank, in partnership with the Office for Outer Space Affairs, will offer specialized training on the utilization of satellite technology to experts and officials in the least developed countries for climate change mitigation and disaster management purposes. In addition, the Bank has partnered with the International Centre for Genetic Engineering and Biotechnology to introduce a new programme to offer fellowships to young researchers from the least developed countries for periods of up to six months.

12. Furthermore, in line with the directive adopted by the Council at its third session, the programme of the Technology Bank on enhancing innovation capacity in the least developed countries will now be implemented as a subprogramme of the programme on enhancing science, technology and innovation capacities in the least developed countries. The goal remains that of developing national and regional innovation ecosystems that can attract technology and generate home-grown research and innovation. The Bank will also undertake diagnostic work in selected pilot countries to gain a comprehensive understanding of the current innovation ecosystems in various countries with a view to formulating tailor-made strategies.

13. In 2019, to further enhance institutional infrastructure and capacity in the least developed countries, the Technology Bank launched a programme on academies of science. Academies of science can play an important role in enhancing coordination of the regional and national science, technology and innovation agendas and serve as key interlocutors for the Bank. Also in 2019, four regional consultations were held, one each in East Africa, West Africa, Southern Africa and North Africa. In February 2020, another regional consultation was held for Asia-Pacific. The outcomes of those consultations form the basis of the current capacity-building programme and underlie the establishment of new academies of science. However, in 2020, because of COVID-19-related restrictions, planned activities were suspended. They will resume in 2021.

14. To establish a strong science, technology and innovation research agenda, the Technology Bank in collaboration with the Canada-based International Development Research Centre, launched its research activity. The first research it commissioned was focused on access to finance for micro-, small and medium-sized enterprises in technology industries led by women in the least developed countries. In 2021, the Bank will consolidate that work by commissioning additional research in key areas of the science, technology and innovation agenda and implement that activity as a subprogramme under the programme on enhancing science, technology and innovation capacities.

15. Furthermore, in preparation for the Fifth United Nations Conference on the Least Developed Countries, scheduled for January 2022, the Technology Bank will commission an in-depth study on the state of science, technology and innovation in the least developed countries, the report of which will be presented at the Conference. It will be a flagship report of the Bank.

16. The current three-year strategy of the Technology Bank will end in 2021. A new three-year strategy will be prepared and submitted to the Council for approval at its fifth session in November 2021.

17. In 2021, the Technology Bank will consolidate its institutional capacity by hiring additional professional and administrative staff. Since its inception, the Bank

has relied on external service providers for most of its core local and non-local administrative capacities. The Bank will engage an additional Programme Management Officer at the P-4 level for the Technology Access Partnership/technology transfer programme. This will bring the number of programme management officers to four.

18. Also in 2021, the Technology Bank will continue to devote resources to the implementation of its resource mobilization strategy scheduled for conclusion by December 2020. In addition, the Bank will actively continue to seek out new strategic partnerships in the public and private sectors to support technology deployment and capacity-building in the least developed countries.

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

19. In accordance with its Charter, the Technology Bank is to be financed through voluntary contributions from Member States and other stakeholders, including the private sector and private foundations. The resources of the Bank are kept in a separate trust fund and subject to the Financial Regulations and Rules of the United Nations, including audit by the oversight bodies of the Organization.

20. Given the vast needs of the least developed countries in terms of science, technology and innovation, and on the basis of the Technology Bank's three-year indicative budget, which was prepared in December 2016 by the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, it is estimated that the Bank would require an annual budget of \$35 million to \$40 million in order to effectively undertake activities in all of the least developed countries, address the full range of objectives set out in its Charter and make the expected transformational impact in all of the least developed countries.

21. The status of contributions, financial resources by component and post resources are described in tables 1 to 3.

22. For the 2021 programme of work, the Technology Bank will be able to rely on a contribution of \$2 million from the host country in accordance with the agreement on financial and in-kind support for the Bank signed with the Government of Turkey in 2017. In addition, it is estimated that there will be unspent resources in the amount of \$4,724,606 at the end of 2020 (see table 1). Therefore, total available resources in 2021 are projected to be \$6,724,606.

23. The overall budget requirements for 2021 amount to \$5,615,966, which cover the costs of Council support, executive direction and management and operational support, the programme of work and 13 per cent programme support cost (see table 2).

24. To strengthen the in-house capacity of the Technology Bank, in addition to 10 continuing posts approved in 2020, 7 new posts are proposed to be established in 2021: 1 Programme Management Officer at the P-4 level, 1 Public Information Officer at the P-3 level, 1 Administrative Assistant at the G-7 level, and 4 Programme Assistants at the G-5 level (see table 3).

25. The increase of \$885,277 in requirements for 2021 is mainly due to: (a) a net increase of \$707,999 resulting from increased requirements of \$1,787,554 for posts, consultants and experts, the travel of staff, general operating expenses, and grants and fellowships, offset by reduced requirements of \$1,079,555 for the travel of Council members, the travel of participants to workshops, contractual services and equipment; and (b) an increased requirement of \$177,278 for programme support costs, which is assumed at 13 per cent, pending the Controller's approval of a reduced rate.

Table 1  
**Status of contributions**

(United States dollars)

	<i>Amount</i>
Fund balance, 1 January 2019	4 105 257
Voluntary contributions received in 2019	2 289 921
Interest income, 2018–2019	194 123
<b>Subtotal</b>	<b>6 589 301</b>
Expenditures in 2019	(2 278 602)
<b>Subtotal</b>	<b>(2 278 602)</b>
<b>Fund balance, 31 December 2019</b>	<b>4 310 699</b>
Voluntary contributions received in 2020	3 098 438
Interest income, January–June 2020	42 841
<b>Subtotal</b>	<b>7 451 978</b>
Expenditures, January–June 2020	(1 280 858)
Projected expenditures, July–December 2020	(1 446 514)
<b>Subtotal</b>	<b>(2 727 372)</b>
<b>Projected fund balance, 31 December 2020</b>	<b>4 724 606</b>

Table 2  
**Financial resources by component**

(United States dollars)

<i>Component</i>	<i>2019 expenditure</i>	<i>2020 approved</i>	<i>Change</i>	<i>2021 estimate</i>
Council support	46 770	78 000	(28 505)	49 495
Executive direction and management and operational support	824 650	1 035 574	106 501	1 142 075
Programme of work	1 181 396	3 148 308	630 003	3 778 311
<b>Subtotal</b>	<b>2 052 816</b>	<b>4 261 882</b>	<b>707 999</b>	<b>4 969 881</b>
Programme support costs <sup>a</sup>	225 787	468 807	177 278	646 085
<b>Total</b>	<b>2 278 602</b>	<b>4 730 689</b>	<b>885 277</b>	<b>5 615 966</b>

<sup>a</sup> Programme support costs for the trust funds for 2019 and 2020 is 11 per cent of total expenditure. Programme support cost for 2021 is 13 percent of total expenditure pending the Controller's approval of a reduced rate.

Table 3  
**Post resources**

<i>Component</i>	<i>2019</i>	<i>2020 approved</i>	<i>Change</i>	<i>2021 estimate</i>
Professional and higher	4	5	2	7
General Service and related categories	3	5	5	10
<b>Total</b>	<b>7</b>	<b>10</b>	<b>7</b>	<b>17</b>

## A. Council support

26. The resource requirements for Council support are described in table 4.

Table 4  
**Resource requirements for Council support**

(United States dollars)

<i>Object of expenditures</i>	<i>2019 expenditure</i>	<i>2020 approved</i>	<i>Change</i>	<i>2021 estimate</i>
Travel	46 770	71 768	(27 673)	44 095
Hospitality	–	4 200	–	4 200
Contractual services	–	2 032	(832)	1 200
<b>Total</b>	<b>46 770</b>	<b>78 000</b>	<b>(28 505)</b>	<b>49 495</b>

27. The amount of \$49,495, reflecting a decrease of \$28,505, will provide for the travel of Council members (\$44,095) and for accommodations for up to eight observers (\$1,200) to one two-day Council session, expected to be held in 2021, and for hospitality for the Council session (\$4,200). The decrease is due mainly to the reduction in the number of sessions from two in 2020 to one in 2021 and to the reduction of the daily subsistence allowance rate for Gebze from \$102 to \$91.

## B. Executive direction and management and operational support

28. The programme of work of the Technology Bank will continue to be overseen by the Managing Director (D-2).

29. The launch of the Technology Bank internship programme was delayed owing to COVID-19-related restrictions and will be launched in 2021 to offer students from diverse academic backgrounds a professional experience through practical work assignments within the international environment of the United Nations while offering the Technology Bank the assistance of qualified students specializing in various professional fields. Resources are provided for a transportation stipend for interns.

30. All administrative and general service staff currently on United Nations Office for Project Services (UNOPS) contracts will be transitioned to regular Technology Bank General Service contracts effective January 2021.

31. In line with the legal opinion offered by the Office of Legal Affairs, the Technology Bank is becoming autonomous and independent from the United Nations Secretariat and, as part of that process, will enter into a service level agreement with a new provider of trust fund administration and payroll services in consultation with Department of Management Strategy, Policy and Compliance and Department of Operational Support. The provision of administrative and programme delivery services by UNOPS will be phased out in 2021 as the Technology Bank builds internal capacity.

32. Given the importance of the information technology infrastructure of the Technology Bank, annual security assessments will continue to be conducted to safeguard the integrity of the Bank's infrastructure. Migration to a cloud-based information management system will continue throughout 2021 in accordance with relevant United Nations information and communications technology regulations and standards.

33. Resource mobilization will remain a key priority of the Technology Bank in 2021, and, to that end, the Bank's new resource mobilization strategy will continue to be fully operationalized.

34. To effectively implement the communications strategy of the Technology Bank, a post for a Public Information Officer at the P-3 level is proposed to be established in 2021. A post for an Administrative Assistant at the G-7 level is also proposed to be established to assist in the management of the Office of the Managing Director.

35. Also in 2021, the Bank will benefit from the support of an Associate Programme Management Officer at the P-2 level to be provided by Italy under the Junior Professional Officers programme.

36. The resource requirements for executive direction and management and operational support are described in table 5.

Table 5

**Resource requirements for executive direction and management and operational support**

(United States dollars)

<i>Object of expenditure</i>	<i>2019 expenditure</i>	<i>2020 approved</i>	<i>Change</i>	<i>2021 estimate</i>
<b>Staff and other personnel costs</b>				
1. International staff	207 560	324 300	223 100	547 400
2. Local staff	66 037	149 110	21 190	170 300
3. Consultants and experts	–	75 000	(15 000)	60 000
<b>Subtotal, staff and other personnel costs</b>	<b>273 597</b>	<b>548 410</b>	<b>229 290</b>	<b>777 700</b>
<b>Operational costs</b>				
1. Travel of staff	347 220	135 164	(84 589)	50 575
<b>Subtotal, travel of staff</b>	<b>347 220</b>	<b>135 164</b>	<b>(84 589)</b>	<b>50 575</b>
2. Contractual services				
Security of premises	105	10 000	–	10 000
Website development, maintenance and administration	16 498	20 000	10 000	30 000
Translation and printing of documents	6 983	20 000	(20 000)	–
Other contractual services	14 125	6 000	4 000	10 000
<b>Subtotal, contractual services</b>	<b>37 711</b>	<b>56 000</b>	<b>(6 000)</b>	<b>50 000</b>
3. Equipment and vehicles	24 893	62 000	(52 200)	9 800
<b>Subtotal, equipment and vehicles</b>	<b>24 893</b>	<b>62 000</b>	<b>(52 200)</b>	<b>9 800</b>
4. Supplies	6 708	10 000	–	10 000
<b>Subtotal, supplies</b>	<b>6 708</b>	<b>10 000</b>	<b>–</b>	<b>10 000</b>
5. General operating expenses				
Information technology support services and software licences	3 911	12 000	–	12 000
Internal service, language translation and printing of documents	15 840	–	20 000	20 000
Other miscellaneous expenses	3 240	10 000	–	10 000
Hospitality	4 627	5 000	–	5 000
Vehicle fuel and maintenance	–	24 000	–	24 000

<i>Object of expenditure</i>	<i>2019 expenditure</i>	<i>2020 approved</i>	<i>Change</i>	<i>2021 estimate</i>
Rental of sub-office at United Nations Development Programme in Istanbul	–	3 000	–	3 000
Internship programme	–	20 000	–	20 000
Loss on exchange	209	–	–	–
Implementation direct costs	106 693	150 000	–	150 000
<b>Subtotal, general operating expenses</b>	<b>134 520</b>	<b>224 000</b>	<b>20 000</b>	<b>244 000</b>
<b>Subtotal, operational costs</b>	<b>551 052</b>	<b>487 164</b>	<b>(122 789)</b>	<b>364 375</b>
<b>Total</b>	<b>824 649</b>	<b>1 035 574</b>	<b>106 501</b>	<b>1 142 075</b>

## 1. Staff and other personnel costs

37. The amount of \$717,700, reflecting an increase of \$244,290, will provide for the funding of nine posts for executive direction and management, as follows:

(a) \$547,400 for three international staff: the continuation of the Managing Director post at the D-2 level and the Administrative Officer post at the P-3 level, and the proposed establishment of one new Public Information Officer post at the P-3 level;

(b) \$170,300 for six local general service staff: the continuation of five posts (one Information Technology Assistant at the G-6 level; one Finance and Budget Assistant at the G-5 level; one Administrative Assistant at the G-5 level; one Team Assistant at the G-4 level; and one Driver at the G-2 level); and the proposed establishment of one new Administrative Assistant post at the G-7 level.

38. The provision of \$60,000, reflecting a decrease of \$15,000, will cover the costs for the engagement of a consultant to prepare a report on the resource mobilization strategy and a consultant for graphic design to complement the tasks to be assigned to the proposed new Public Information Officer post.

## 2. Operational costs

39. The amount of \$364,375, reflecting a decrease of \$122,789, will provide for operational costs such as travel of staff; contractual services (security of premises, website development, maintenance and administration, translation and printing of documents and other contractual services); office equipment (new equipment for seven new proposed posts), supplies, and general operating expenses (information technology support services and licenses, internal translation and printing of documents, hospitality, vehicle maintenance, rental of a sub-office at the United Nations Development Programme in Istanbul, Turkey, internship programme and implementation direct costs). The reduced requirements for operational costs are due mainly to the non-recurrent provision for the purchase of a vehicle in 2020 and the outward redeployment of resources for travel of staff directly related to substantive programmes to programme of work.

## **IV. Programme of work**

### **A. Technology needs assessment programme**

#### **1. Background and rationale**

40. Technology needs assessments provide a blueprint for the capacity-building programmes that each country may include as part of their national development strategies in order to accelerate efforts towards the implementation of the priorities contained in the Istanbul Programme of Action, as well as to promote the achievement of relevant Goals. Such assessments provide 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. They also cover technology needs and enable technology developers and innovators to innovate technologies that suit the needs of the least developed countries. In that respect, the adoption, adaptation and implementation of technologies will be expedited and facilitated.

41. Science, technology and innovation-related policies, the innovation ecosystem and the technology commercialization capacity of the least developed countries are assessed, and gaps and appropriate interventions are identified. The technology needs assessments promote collaboration at the regional level and among groups of the least developed countries sharing common characteristics and challenges, thereby allowing them to explore synergies and complementarities.

42. The beneficiaries of the assessment activity include the scientific community, government officials with responsibility for science, technology and innovation issues (i.e., 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**

43. The assessment programme is linked to project 1 (science, technology and innovation policy and capacity-building), under the action lines of the strategic plan of the Technology Bank: (a) attracting outside technology and facilitating technology transfer on voluntary and mutually agreed terms and conditions; (b) supporting homegrown innovation and research; and (c) bringing imported and indigenous technologies to market.

#### **3. Objectives**

44. The objective of the programme is to perform technology needs assessments. Each assessment provides critical insights into the functioning of the national innovation capabilities, presents an overview of the national science, technology and innovation and technological deployment ecosystems and provides an understanding of the impact of the national policy framework in science, technology and innovation on national sustainable development. The objectives of the reviews are as follows:

(a) To identify the core areas of focus for the least developed country under review and specific initiatives to maximize the impact of technology as an instrument to foster structural transformation, reduce poverty and promote sustainable development;

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

(c) To identify opportunities for collaboration at the regional level and among clusters of countries that share common characteristics and challenges, thereby allowing them to explore synergies and complementarities;

(d) To assist the least developed countries in identifying the technology solutions appropriate for their needs;

(e) To support the efforts of the least developed countries towards identifying, prioritizing and formulating their technology needs.

#### **4. Expected accomplishments**

45. The expected accomplishments under the programme are as follows:

(a) Facilitation of dialogue among all of the stakeholders involved in science, technology and innovation;

(b) Facilitation of the identification, prioritization and formulation of technology needs in the least developed countries;

(c) Contribution to the creation of policies, regulations and an enabling environment for technology transfer;

(d) Improvement of the national capacity of the least developed countries in the adoption, adaptation and implementation of technologies;

(e) Assessment of policy gaps and technology gaps;

(f) Formulation of capacity-building activities to improve science, technology and innovation for sustainable development.

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

46. The indicators of achievement under the programme are as follows:

(a) Enhanced communication between policymakers and science, technology and innovation stakeholders;

(b) Enhanced profile of science, technology and innovation in national development strategies;

(c) Increased expenditure and investment in science, technology and innovation;

(d) Facilitated and informed access to technology information.

#### **6. Main activities**

47. The main activities involved in the preparation of the technology needs assessments are the following:

(a) Development of a methodology in collaboration with the relevant stakeholders for identifying, formulating and prioritizing technology needs;

(b) Initial technical fact-finding visit in order to interact 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;

(c) Organization of a workshop on science, technology and innovation policy design, review and implementation for high-level ministerial officials and other national stakeholders to plan the technology needs assessment review and the establishment of a national working group;

(d) Establishment of a national working group with representatives of the main national entities in the field of science, technology and innovation, designated by the authorities to perform in-country analysis of existing capacities;

(e) Interviews conducted by the contracted experts, together with members of the national working group, with the most relevant science, technology and innovation stakeholders (various ministries and major organizations) in the country in order to collect information on policies and policy instruments for the evaluation of the research and innovation landscape; preparation of a draft technology needs assessment on the basis of the information collated from the inventories, other statistical material and desk-based research by the contracted experts; organization of a validation workshop during the visit, after the draft is distributed to the national working group members and other stakeholders; and organization of training sessions on topics for which important gaps and a lack of capacities have been identified;

(f) Presentation of the major findings to the Government of the respective country, including a list of possible policy options, initiatives and capacity-building priorities, on the basis of the empirical evidence collected during the exercise.

## **7. Country coverage**

48. In 2019/2020, the Technology Bank carried out a series of baseline reviews of five countries: Bhutan, the Gambia, Guinea, Timor-Leste and Uganda. The reviews were organized in collaboration with the United Nations Conference on Trade and Development, the United Nations Educational, Scientific and Cultural Organization and other relevant organizations. In 2021, the programme will be implemented in the following 15 countries: Bangladesh, Benin, Cambodia, Djibouti, Haiti, Kiribati, Lesotho, Malawi, Mozambique, Nepal, Rwanda, Sao Tome and Principe, Sierra Leone, Sudan and Zambia.

## **B. Technology transfer programme**

### **1. Background and rationale**

49. A technology gap exists between the least developed countries and the rest of the world, representing the differences in technological and innovation capabilities between developed and developing nations. As a result of inadequate incentive structures and institutional and policy weaknesses, technology is inaccessible to the least developed countries.

50. Bridging the technology gap is a necessary condition to accelerate convergence in terms of income and productivity levels and thus foster development. New policies and mechanisms are necessary to reduce this gap.

51. One of the core mandates of the Technology Bank is to support the least developed countries in closing that gap by supporting the development of new science, technology and innovation policies and mechanisms.

52. In that regard, in General Assembly resolution [71/251](#), reference is made to the importance of improving the least developed countries' scientific research and innovation base, promoting networking among researchers and research institutions and helping the least developed countries to access and utilize critical and appropriate technologies, building upon bilateral initiatives and coordinated support by multilateral institutions, including the relevant entities of the United Nations system, such as the Technology Facilitation Mechanism, and the private sector.

53. Furthermore, the Charter of the Technology Bank has, as one of its objectives, to promote and facilitate the identification and utilization of and access to appropriate

technologies by the least developed countries, as well as their transfer to the least developed countries, while respecting intellectual property rights and fostering the national and regional capacity of the least developed countries for the effective utilization of technology in order to bring about transformative change.

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

54. The programme is part of the thematic area entitled “Intellectual property rights acquisition and technology transfer”. The programme line provides that the projects and activities that are directly implemented, as well as those that are promoted and catalysed through the work done under the programme, will help the least developed countries to build science, technology and innovation capacities, ecosystems and regulatory frameworks that can harness the benefits of newly available technologies by attracting outside technology, facilitating the transfer of technology and bringing imported and indigenous technologies to market.

## **3. Objectives**

55. The objectives of the programme are as follows:

(a) To build capacity in the least developed countries to attract outside technologies and facilitate technology transfer on voluntary and mutually agreed terms and conditions;

(b) To build capacity in institutions and mechanisms, including at the regional level, that can facilitate technology transfer;

(c) To facilitate negotiations for technology transfer to ensure efficient, effective and result-based technology transfer;

(d) To facilitate cost-effective access to customized information on available technologies;

(e) To assist the universities, research institutes, scientists and private businesses in the least developed countries in obtaining access to and utilizing available technical knowledge in order to conduct developmental research and adapt the technologies for local use;

(f) To support the transfer or diffusion of technologies to local entrepreneurs who can utilize them to produce more knowledge-intensive, higher value-added goods and services;

(g) To support the emergence of new entrepreneurs and attract existing entrepreneurs from inside and outside the country to initiate new ventures on the basis of technologies that are new to the country;

(h) To develop mechanisms to facilitate joint research and development programmes involving the least developed countries and their development partners for the development of technologies in the prioritized sectors;

(i) To assist in designing financing mechanisms which enable innovation, customization and the successful application of transferred technologies in the least developed countries;

(j) To enhance the awareness of key stakeholders in the least developed countries that, to be effective, the transfer of technology from developed countries to the least developed ones must be absorbed and adapted to reflect the realities and priorities of the recipient least developed countries.

#### **4. Expected accomplishments**

56. The expected accomplishments under the programme are as follows:

(a) Development of a successful model for an institutional framework for technology transfer that can be applied to the least developed countries;

(b) Full operationalization of the digital technology transfer platform including the Technology Access Partnership, to support the transfer of COVID-19-relevant technologies;

(c) Increased use by the technology transfer offices of the services of the Technology Bank, including the Technology Access Partnership, as a conduit.

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

57. The indicators of achievement under the programme are as follows:

(a) Conclusion of at least six technology transfer transactions to several of the least developed countries;

(b) Published principles for good technology transfer practices used by technology seekers and holders, and use as a key reference tool (number of requests, number of references in policymaking forums);

(c) Widespread use of the digital technology transfer platform (number of users);

(d) Widespread use of technical, legal and policy guidelines developed by the programme for technology seekers (number of requests/downloads from website).

#### **6. Main activities**

58. The activities will be aimed at creating tailor-made policies and procedures for the pilot host institution in a turnkey format, and template policy and procedural documents that can be adapted by all interested parties in the hosting least developed country. The main activities are:

(a) Identification and launch of a partnership with an institution experienced in establishing technology transfer offices at the national, regional and/or international levels;

(b) Engagement of an expert consultant to support the Technology Bank in building a model technology transfer office that can be implemented in the least developed country or countries selected;

(c) Analysis at the macro and micro levels to structure the business model and devise the infrastructure for each technology transfer office in a way that best fits the capabilities and national priorities of the host country. The activities at this phase will include desktop research, site visits and mentoring;

(d) Preparation for the implementation and final phases, which will include the enhancement of skills sets through capacity-building training, the integration of a collaboration platform and the preparation of an action plan for implementation. This phase will include the identification of possible strategic partners for commercialization and the organization of marketing events to introduce technologies;

(e) Highly intensive mentoring and coaching programme. The hosting technology transfer office will have a personalized project plan for the following one-year period. In this phase, activities will be undertaken to mentor and train the trainers;

(f) Full operationalization of the digital technology transfer platform, including the Technology Access Partnership.

## **7. Country coverage**

59. All of the least developed countries will have access to and benefit from the services provided under the technology transfer programme.

## **C. Programme on enhancing science, technology and innovation capacities in the least developed countries**

### **1. Background and rationale**

60. Science, technology and innovation are the building blocks for economic growth and sustainable development. Capacity-building and skills development are integral to harnessing the transformative potential of the ongoing developments in science, technology and innovation. Over the past two decades, the exponential worldwide growth in technology, coupled with the increasing availability of Internet access, has significantly extended opportunities to gain access to information, communicate and collaborate, as well as to improve economic and social circumstances. However, many of the least developed countries have been unable to take advantage of such access owing to challenges with regard to infrastructure and costs and thus, large parts of the populations of the least developed countries remain offline.

61. Building human and institutional capacity is critical for achieving the Goals. Goal 17 calls for enhanced international support for implementing effective and targeted capacity-building in the least developed countries in order to support national plans to implement all of the Goals. As science, technology and innovation act as enablers of such development, the ongoing need for capacity and skills development is evident in most of the Goals. The Technology Bank, through its capacity-building efforts, can assist countries in acquiring not only technical or scientific knowledge, but also strategic, managerial and policy-making skills that will allow them to elaborate and implement science, technology and innovation strategies and programmes for development, inclusive public policies and effective means of governing.

62. Academies of science are unique institutions capable of acting as major conduits between government and civil society. They serve the very important purpose of advising Governments by providing authoritative and organized guidance on issues related to science and technology, thus benefiting both the economy and society and, as such, should play a major role in the development of national science and technology, and in sustainable development policies.

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

63. The programme is linked to project 1 (science, technology and innovation policy and capacity-building), project 3 (digital research access and networking) and project 5 (intellectual property training and technical assistance) of the strategic plan of the Technology Bank.

### **3. Objectives**

64. The primary objective of the programme is to enhance the science, technology and innovation-related capacities of representatives of government, universities, business and civil society in the least developed countries to ensure that there is a critical mass of expertise in science, technology and innovation within those countries. The specific objectives of the programme are as follows:

(a) To increase the awareness of stakeholders in the public and private sectors, universities and research institutions of the availability of scientific resources on the Research4Life platform by providing training for librarians, university teachers, graduate students, researchers, information technology specialists and other relevant constituencies on gaining access to and using scientific and technical journals and tools;

(b) To enhance the capacity of experts and decision makers in the least developed countries to use all types of space-based information to support the full disaster management cycle, to use space infrastructure, data, applications and services to combat global health challenges such as the COVID-19 pandemic and to improve understanding of the ways in which stakeholders use space-based solutions to support sustainable development and thus identify priority areas to accelerate sustainable development in the region through the enhanced use of space-based solutions;

(c) To develop a programme for collaboration and exchanges that will empower the research and innovation capabilities of biotechnology scientists in the least developed countries and increase the capabilities of regulators and policymakers in beneficiary countries in relation to biotechnology policy and regulatory requirements;

(d) To enhance the capacities of the least developed countries in industrial design, the Technology Bank will partner with the World Eco-Design Conference to launch a programme to build capacity in eco-design and technology education in the least developed countries, facilitate access to environmentally friendly industrial technology and industrial design solutions for those countries and provide training and workshops to promote technical exchanges between eco-design experts;

(e) To design a comprehensive innovation strategy and implementation roadmap for the Technology Bank that is focused on supporting the least developed countries in exploiting their “latecomer advantage” to leverage existing technology through entrepreneurial activity with capacity to find, adapt and adopt proven, off-the-shelf technology and indigenous technologies;

(f) To strengthen the capacity of academies of science in the least developed countries to serve as advisers to the Government and to industry on science, technology and innovation and to assist in directing science and technology policies. Such an approach is aimed at ensuring that science, technology and innovation will support the achievement of sustainable development.

#### **4. Expected accomplishments**

65. The expected accomplishments under the programme are as follows:

(a) Increased access to and use of scientific and technical journals through the Research4Life platform and increased number of professionals trained in research skills, technologies and methodologies;

(b) Trained end-users on how to access, use and apply satellite data and information in their respective professional areas;

(c) Strengthened capabilities of scientists working in biomedicine, biotechnology and agriculture at universities and research institutes in the least developed countries;

(d) Enhanced eco-design capacities in the least developed countries as a contribution to sustainable development through enhanced access to environmentally friendly industrial technology and design solutions;

(e) Identification, mapping and analysis of best practices, policies and stakeholders regarding the development of national and regional innovation ecosystems, with a special focus on enhancing the capacity of the least developed countries to leapfrog existing technology; completed mapping and analysis of global and United Nations system-wide innovation initiatives to help the Technology Bank to identify gaps and opportunities to make a positive impact without replicating existing efforts by identifying opportunities for collaboration and co-creation with other United Nations programmes;

(f) Establishment of a platform for regular dialogue between policymakers and scientists to ensure the involvement of academies of science in national policy debates and national commitments to supporting national policy formulation, implementation and overall monitoring under the 2030 Agenda.

## **5. Indicators of achievement**

66. The indicators of achievement under the programme are as follows:

(a) Number of user logins and institutions registered for access to the Research4Life platform and increased participation of researchers from the least developed countries in events and conferences, and in the global scientific community as a whole; number of participants per training programme, with a detailed breakdown of participants by sector, institution, discipline, profession and gender;

(b) Number of training workshops, events and conferences on satellite technology delivered; increased use of satellite information in national disaster preparedness manuals;

(c) Number of early-career biotechnology researchers from the least developed countries that are supported by means of fellowships;

(d) Development of an innovation strategy and implementation road map;

(e) Preparation of draft charters for academies of science in six pilot countries; establishment of new academies of science by national legislative bodies or other relevant authorities; increased involvement of academies of science in national and regional science, technology and innovation policy forums.

## **6. Main activities**

67. The main activities under the programme are as follows:

(a) Deliver massive open online courses on the Research4Life platform in order to develop capacities in information use, scholarly communication and information management in the least developed countries with a view to their full participation in the global scientific community;

(b) Deliver training workshops in the countries and/or through online web courses;

(c) Bring early-career researchers from the least developed countries to the locations of the International Centre for Genetic Engineering and Biotechnology in Italy, South Africa, and India for research projects at the Centre's laboratories there;

(d) Conduct detailed research and mapping that includes desk research, literary reviews, interviews and field visits to identify best practices in the development of national and regional innovation ecosystems, and global and United Nations system-wide initiatives on innovation;

(e) Organize capacity development activities in line with priorities for existing academies, identify opportunities for South-South exchanges between

academies, identify the core science, technology and innovation leaders who will be responsible for the development of the charter of the academy.

#### **7. Country coverage**

68. The programme will be open to participants from all of the 47 least developed countries.

### **D. Partnership and coordination programme**

#### **1. Background and rationale**

69. Given the vast needs of the least developed countries in terms of science, technology and innovation, the Technology Bank relies on core strategic partnerships within and outside the United Nations system and with non-State actors to address the full range of objectives set out in its Charter and make the expected transformational impact in all of the least developed countries. Therefore, coordinating those partnerships, developing key instruments and conducting research to underpin programmes is critical. The programme will serve to oversee the activities and programmes of the Technology Bank in that regard.

70. To achieve the objectives of the Technology Bank and improve its operations, an appropriate system for monitoring and evaluation will be put in place. The system will be comprehensive, transparent and evidence-based, with a strong focus on the assessment of outputs and impacts. A comprehensive monitoring and evaluation strategy will be followed to ensure appropriate and systematic evaluation coverage of all activities and projects of the Bank and define a detailed timetable for specific evaluation work.

71. At the centre of the monitoring and evaluation policy pursuant to Technology Bank will be a focus on data gathering in order to provide a strong evidence-based assessment of the progress towards objectives, quality, output and impact of projects and activities, but in a manner that does not over-burden beneficiary countries and stakeholders. Evaluation activities will be supported by independent evaluation experts and involve users with a view to providing expert advice and strategic guidance on the further development of the Bank.

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

72. The programme is linked to the Charter of the Technology Bank and operational guidelines of the Bank outlined in its three-year strategy.

#### **3. Objectives**

73. The objectives of the programme are as follows:

(a) To develop and pursue strategic relationships;

(b) To commission a full-scale, external evaluation in 2021 to coincide with the end of the three-year strategic planning cycle. The evaluation will include an in-depth analysis of the rationale for the effort, the results of its implementation to date and the impact of activities and projects. The findings of this evaluation will be taken into account in the formulation of the second three-year strategic plan;

(c) To ensure continuous monitoring and review of all activities and projects of the Technology Bank so as to provide managers and key stakeholders with regular feedback on the consistency of their performance with set outputs and outcomes, as well as an indication of external and internal factors that may affect the delivery of projects and activities;

- (d) To develop a full-fledged second three-year strategic plan for the Bank;
- (e) To launch the flagship report of the Bank on the state of science, technology and innovation in the least developed countries.

#### **4. Expected accomplishments**

74. The expected accomplishments under the programme are as follows:

- (a) Establishment of an extensive network of strategic partnerships for programme development and delivery;
- (b) Full development of a set of projects ready for implementation;
- (c) Carrying out of a programme-level monitoring and evaluation exercise with the support of the Office of Internal Oversight Services. Monitoring and evaluation will follow the results-based model and monitoring framework, which is focused on achieving realistic expected results, monitoring progress toward their achievement, evaluating outcomes, integrating lessons learned into management decisions and reporting on performance;
- (d) Preparation of a second three-year strategic plan for the Technology Bank;
- (e) Publication of the first flagship report of the Technology Bank on the state of science, technology and innovation in the least developed countries.

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

75. The indicators of achievement under the programme are as follows:

- (a) Increased participation in global networks and initiatives;
- (b) An overall system of evaluation and monitoring for the programme and activities of the Technology Bank;
- (c) A data-gathering methodology to facilitate a strong evidence-based assessment of the quality, output and impact of projects and activities, and of the progress made towards objectives;
- (d) Formulation and adoption of common templates, methodologies and indicators to promote comparability and coherence and facilitate an aggregated overview of the impact of projects and activities across beneficiary countries;
- (e) A framework for linkage and collaboration between the Technology Bank and the Technology Facilitation Mechanism and its inter-agency task team on science, technology and innovation for the Sustainable Development Goals, as well as with the Commission on Science and Technology for Development as appropriate;
- (f) Adoption of the second three-year strategy for the Technology Bank;
- (g) Launch of flagship report.

#### **6. Main activities**

76. The main activities under the programme are as follows:

- (a) Active participation in the work of activities related to the Technology Facilitation Mechanism;
- (b) Designing and developing strategic documents, tools, processes and programmes in line with the objectives and expected achievements;
- (c) A comprehensive internal review of the Technology Bank and its activities and projects;

(d) A continuous monitoring and review of all Technology Bank activities and projects to provide managers and key stakeholders with regular feedback on the consistency of their performance with set outputs and outcomes, as well as an indication of external and internal factors that may affect the delivery of projects and activities;

(e) Global launch event for the flagship report on the state of science, technology and innovation in the least developed countries on the occasion of the Fifth United Nations Conference on the Least Developed Countries, scheduled for January 2022.

## 7. Country coverage

77. In 2021, the programme will cover all programmes of the Technology Bank being implemented in the least developed countries.

Table 6  
**Resource requirements for programme of work**

(United States dollars)

<i>Object of expenditure</i>	<i>2019 expenditure</i>	<i>2020 approved</i>	<i>Changes</i>	<i>2021 estimate</i>
<b>Staff and other personnel costs</b>				
1. International staff	291 180	482 800	228 200	711 000
2. Local staff	–	–	67 200	67 200
3. Consultants and experts	337 676	827 296	243 384	1 070 680
<b>Subtotal, staff and other personnel costs</b>	<b>628 856</b>	<b>1 310 096</b>	<b>538 784</b>	<b>1 848 880</b>
<b>Travel</b>				
1. Travel of staff	79 885	314 424	425 369	739 793
2. Travel of participants to meetings and workshops	249 278	933 700	(933 700)	–
3. Travel of consultants/resource persons/panellists	–	70 488 <sup>a</sup>	304 820	375 308
<b>Subtotal, travel</b>	<b>329 163</b>	<b>1 318 612</b>	<b>(203 511)</b>	<b>1 115 101</b>
Grant out and fellowship	–	–	290 280	290 280
Contractual services	206 446	519 600	(59 150)	460 450
General operating expenses	16 931	–	63 600	63 600
<b>Total</b>	<b>1 181 396</b>	<b>3 148 308</b>	<b>630 003</b>	<b>3 778 311</b>

<sup>a</sup> Travel of resource persons/panellists.

## 8. Staff and other personnel costs

78. The amount of \$778,200, reflecting an increase of \$295,400, will provide for the funding of eight posts, as follows:

(a) \$711,000 for international staff: the continuation of three Programme Management Officer posts (P-4) and the proposed establishment of one new Programme Management Officer post (P-4). The additional post for a Programme Management Officer (P-4) proposed in 2021 is aimed at providing support for the Bank's expanding technology transfer work, which includes the development of the digital technology repository;

(b) \$67,200 for local General Service staff: the proposed establishment of four new Programme Assistant posts (G-5). The four new Programme Assistants will provide substantive support to the programme of work.

79. The amount of \$1,070,680, reflecting an increase of \$243,384, will provide for the engagement of consultants and experts for the four programmes and the preparation of a new three-year strategic plan for 2022–2025 for adoption by the Council at its fifth session, in November 2021. The increase is mainly due to consultancies required for: (a) the development of the concepts for a technology transfer platform and the model technology transfer office framework for the least developed countries; and (b) the in-depth study on the state of science, technology and innovation in the least developed countries.

#### **9. Travel**

80. An amount of \$1,115,101, reflecting a decrease of \$203,511, will provide for the travel of Technology Bank staff, consultants, resource persons and panellists, their substantive and programmatic support and their participation in local consultations, workshops and training courses. The decrease is mainly due to an increased focus on online training through a newly developed massive open online course, resulting in reduced requirements for the travel of participants to attend meetings and workshops.

#### **10. Grants and fellowships**

81. An amount of \$290,280 will provide for South-North and South-South visits of scientist fellows as well as for six collaborative research programmes.

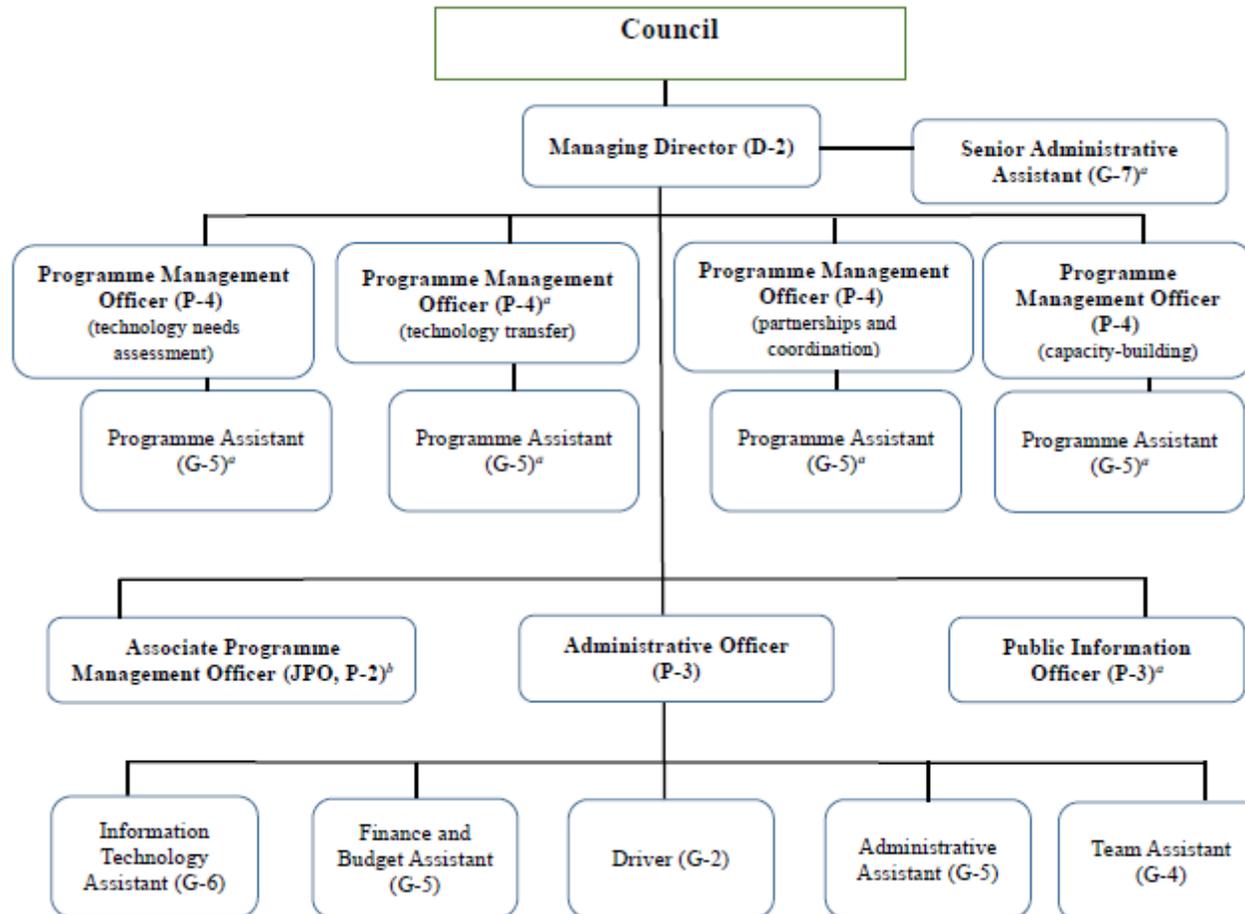
#### **11. Contractual services**

82. An amount of \$460,450, reflecting a decrease of \$59,150, will provide for the cost of venues and other related services for workshops, side events and meetings, and for translation, printing and layout services for the related reports. The decrease is mainly due to the host countries' covering the costs of venues for workshops and other related costs, such as printing.

#### **12. General operating expenses**

83. An amount of \$63,600 will provide for the costs of research projects incurred by the hosting laboratories in the South-North exchange and the South-South exchange, such as for reagents, services, field work and/or other expenses associated with the scientific visits.

## Organizational structure and post distribution for 2021



Abbreviation: JPO, Junior Professional Officer.

<sup>a</sup> New post.

<sup>b</sup> Position is separately funded and not part of the budget of the Technology Bank for the Least Developed Countries.