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Globalization and interdependence: science and technology for development

Report of the Second Committee*

Rapporteur: Ms. Juliet Hay (New Zealand)

I. Introduction

1. The Second Committee held a substantive debate on agenda item 21 (see [A/68/440](#), para. 2). Action on sub-item (b) was taken at the 32nd and 39th meetings, on 6 November and 3 December 2013. An account of the Committee's consideration of the sub-item is contained in the relevant summary records ([A/C.2/68/SR.32](#) and 39).

II. Consideration of proposals

A. Draft resolutions [A/C.2/68/L.11](#) and [A/C.2/68/L.49](#)

2. At the 32nd meeting, on 6 November, the representative of Fiji, on behalf of the States Members of the United Nations that are members of the Group of 77 and China, introduced a draft resolution entitled "Science and technology for development" ([A/C.2/68/L.11](#)), which read:

"The General Assembly,

"Recalling its resolutions [58/200](#) of 23 December 2003, [59/220](#) of 22 December 2004, [60/205](#) of 22 December 2005, [61/207](#) of 20 December 2006, [62/201](#) of 19 December 2007, [64/212](#) of 21 December 2009 and [66/211](#) of 22 December 2011,

* The report of the Committee on this item is being issued in five parts, under the symbol A/68/440 and Add.1-4.



“Taking note of Economic and Social Council resolutions 2006/46 of 28 July 2006, 2009/8 of 24 July 2009, 2010/3 of 19 July 2010, 2011/17 of 26 July 2011 and 2012/6 of 24 July 2012,

“Recalling the 2005 World Summit Outcome,

“Recalling also the outcomes of the World Summit on the Information Society,

“Taking note of the report of the Commission on Science and Technology for Development on its fourteenth session,

“Recalling its resolutions 64/208 of 21 December 2009 and 65/280 of 17 June 2011,

“Recalling also the agreed conclusions of the Commission on the Status of Women on access and participation of women and girls in education, training and science and technology, adopted at its fifty-fifth session,

“Recognizing the vital role that science and technology, including environmentally sound technologies, can play in development and in facilitating efforts to confront global challenges, including to eradicate poverty, achieve food security, fight diseases, improve education, protect the environment, accelerate the pace of economic diversification and transformation, and improve productivity and competitiveness,

“Recognizing also that science and technology cooperation and collaboration with developing countries is fundamental to enhance their ability to produce, access, comprehend, select, adapt and use science and technology knowledge,

“Concerned that many developing countries lack affordable access to information and communications technologies and that for the majority of the poor the promise of science and technology remains unfulfilled, and emphasizing the need to effectively harness technology to bridge the digital divide,

“Recognizing that international support can help developing countries to benefit from technological advances and enhance their productive capacity, and build and support innovation capacity in developing countries to enable the development, adoption and dissemination of technology,

“Reaffirming the need to enhance the science and technology programmes of the relevant entities of the United Nations system,

“Noting with appreciation the collaboration between the Commission on Science and Technology for Development and the United Nations Conference on Trade and Development in establishing a network of centres of excellence in science and technology for developing countries and in designing and carrying out science, technology and innovation policy reviews,

“Noting the efforts by the World Intellectual Property Organization to establish technology and innovation support centres in over 65 countries providing access to technological information through patent databases, and access to scientific literature through the Access to Research for Development and Innovation project,

“Taking note with interest of the establishment of the inter-agency cooperation network on biotechnology, UN-Biotech,

“Taking note of the reports of the Secretary-General,

“Encouraging the development of initiatives to promote private sector engagement in technology transfer and technological and scientific cooperation,

“1. Reaffirms its commitment:

“(a) To strengthen and enhance existing mechanisms and to support initiatives for research and development, including through voluntary partnerships between the public and private sectors, to address the special needs of developing countries in the areas of health, agriculture, conservation, sustainable use of natural resources and environmental management, energy, forestry and the impact of climate change;

“(b) To promote and facilitate, as appropriate, access to, and development, transfer and diffusion of, technologies, including environmentally sound technologies and the corresponding know-how, to developing countries, and in this regard calls for the establishment of a technology facilitation mechanism for the development, transfer and dissemination of clean and environmentally sound technologies;

“(c) To assist developing countries in their efforts to promote and develop national strategies for human resources and science and technology, which are primary drivers of national capacity-building for development;

“(d) To provide enhanced financial and technical support to the least developed countries for research and development, science and technology, including for strengthening national and regional institutions, as appropriate and in line with least developed countries’ national development priorities;

“(e) To promote and support greater efforts to develop renewable sources of energy, including appropriate technology;

“(f) To implement policies at the national and international levels to attract both public and private investment, domestic and foreign, that enhances knowledge, transfers technology on mutually agreed terms and raises productivity;

“(g) To support the efforts of developing countries, individually and collectively, to harness new agricultural technologies in order to increase agricultural productivity through environmentally sustainable means;

“(h) To encourage mechanisms that engage the private sector in supporting, through voluntary partnerships, the transfer of technology and related know-how to developing countries, such as the Climate Technology Centre and Network of the United Nations Framework Convention on Climate Change, the climate innovation centres of the World Bank infoDev programme and the Re:Search and GREEN programmes of the World Intellectual Property Organization;

“(i) To support better coordination among United Nations agencies and international organizations providing technical assistance and capacity-building in the field of science and technology for development;

“2. *Recognizes* the role of the United Nations Conference on Trade and Development and other United Nations agencies in helping Governments, upon request, to ensure that their science, technology and innovation policies and programmes support national development agendas;

“3. *Recognizes also* that science and technology, including information and communications technologies, are vital for the achievement of the internationally agreed development goals, including the Millennium Development Goals, and for the full participation of developing countries in the global economy;

“4. *Notes* that full and equal access to and participation in science and technology for women of all ages is imperative for achieving gender equality and the empowerment of women, and underlines that addressing barriers to equal access for women and girls to science and technology requires a systematic, comprehensive, integrated, sustainable, multidisciplinary and multisectoral approach;

“5. *Requests* the Commission on Science and Technology for Development to provide a forum within which to continue to assist the Economic and Social Council as the focal point in the system-wide follow-up to the outcomes of the World Summit on the Information Society and to address within its mandate, in accordance with Council resolution 2006/46, the special needs of developing countries in areas such as agriculture, rural development, information and communications technologies and environmental management;

“6. *Encourages* the United Nations Conference on Trade and Development, in collaboration with relevant partners, to continue to undertake science, technology and innovation policy reviews, with a view to assisting developing countries and countries with economies in transition in identifying the measures that are needed to integrate science, technology and innovation policies into their national development strategies;

“7. *Encourages* the United Nations Conference on Trade and Development and other relevant organizations to assist developing countries in their efforts to integrate science, technology and innovation policies into national development strategies;

“8. *Encourages* Governments to strengthen and foster investment in research and development for environmentally sound technologies and to promote the involvement of the business and financial sectors in the development of those technologies, and invites the international community to support those efforts;

“9. *Encourages* efforts to increase the availability of data to support the measurement of national innovation systems (such as the existing global innovation indices) and empirical research on innovation and development to assist policymakers in designing and implementing innovation strategies;

“10. *Encourages* existing arrangements and the further promotion of regional, subregional and interregional joint research and development projects, where feasible, by mobilizing existing scientific and research and

development resources and by networking sophisticated scientific facilities and research equipment;

“11. *Emphasizes* that science, technology and innovation are critical in meeting development goals in the South and that many developing countries are facing serious challenges in building the national science and technology base that would address the needs of their economic and social development and that science, technology and innovation have been shown to be engines for the three dimensions of sustainable development, and in this respect encourages scientific organizations and research institutions dealing with science, technology and innovation to further expand their fellowship and training programmes, including through North-South, South-South and triangular cooperation, and to develop dynamic strategic alliances with Governments, private and public enterprises, universities, laboratories and civil society in order to help to meet those goals;

“12. *Calls upon* Member States, the United Nations development system and other stakeholders to initiate, implement and support measures to improve the level of participation of scientists from developing countries in international collaborative science and science and technology projects and to promote investments in public knowledge goods in order to promote access to intellectual property and achieve sustainable development;

“13. *Also calls upon* Member States, the United Nations development system and other stakeholders to increase their support for the different science and technology partnerships with developing countries, including higher education, business opportunities for the private sector, science and technology infrastructure and science and technology advice for developing countries;

“14. *Encourages* the international community to continue to facilitate, in view of the differences in levels of development between countries, an adequate diffusion of scientific and technical knowledge and transfer of, access to and acquisition of technology for developing countries, under fair, transparent and mutually agreed terms, in a manner conducive to social and economic welfare for the benefit of society;

“15. *Reiterates its call* for continued collaboration between United Nations entities and other international organizations, civil society and the private sector in implementing the outcomes of the World Summit on the Information Society, with a view to putting the potential of information and communications technologies at the service of development through policy research on the digital divide and on new challenges of the information society, as well as technical assistance activities, involving multi-stakeholder partnerships;

“16. *Requests* the Secretary-General to submit to the General Assembly at its seventieth session a report on the implementation of the present resolution and recommendations for future follow-up, including lessons learned in integrating science, technology and innovation policies into national development strategies.”

3. At its 39th meeting, on 3 December, the Committee had before it a draft resolution entitled “Science, technology and innovation for development” (A/C.2/68/L.49), submitted by the Vice-Chair of the Committee, Waruna Sri

Dhanapala (Sri Lanka), on the basis of informal consultations on draft resolution [A/C.2/68/L.11](#).

4. At the same meeting, the Committee was informed that draft resolution [A/C.2/68/L.49](#) had no programme budget implications.

5. Also at its 39th meeting, the Committee adopted draft resolution [A/C.2/68/L.49](#) (see para. 14, draft resolution I).

6. Following the adoption of the draft resolution, a statement was made by the representative of Fiji (on behalf of the Group of 77 and China) (see [A/C.2/68/SR.39](#)).

7. In the light of the adoption of draft resolution [A/C.2/68/L.49](#), draft resolution [A/C.2/68/L.11](#) was withdrawn by its sponsors.

B. Draft resolution [A/C.2/68/L.13](#) and Rev.1

8. At the 32nd meeting, on 6 November, the representative of Mexico, on behalf of Chile, Israel, Mexico, New Zealand, the Russian Federation, Sri Lanka and the United States of America, joined by China, Cuba and Ukraine, introduced a draft resolution entitled “International Year of Light and Light-based Technologies, 2015” ([A/C.2/68/L.13](#)), which read:

“The General Assembly,

“Recognizing the importance of light and light-based technologies in the lives of the citizens of the world and for the future development of global society on many levels,

“Stressing that enhanced global awareness of and increased education in the science and technologies of light are vital for addressing challenges such as sustainable development, energy and community health, as well as for improving the quality of life in both developed and developing countries,

“Considering that the applications of light science and technology are vital for existing and future advances in medicine, energy, information and communications, fibre optics, astronomy, architecture, archaeology, entertainment and culture, and that light-based technologies directly respond to the needs of humankind, in the context of ongoing discussions related to the definition of the post-2015 development agenda, by providing access to information and increasing societal health and well-being,

“Considering also that technology and design can play an important role in the achievement of greater energy efficiency and the preservation of dark skies, as well as in the reduction of light pollution and energy waste,

“Noting that the year 2015 coincides with the anniversaries of a series of important milestones in the history of the science of light, including the works on optics by Ibn Al-Haytham in 1015, the notion of light as a wave proposed by Fresnel in 1815, the electromagnetic theory of light propagation proposed by Maxwell in 1865, Einstein’s theory of the photoelectric effect in 1905 and of the embedding of light in cosmology through general relativity in 1915, and the discovery of the cosmic microwave background by Penzias and Wilson in 1965,

“Considering that the celebration of the anniversaries of these discoveries in 2015 would provide an important opportunity to highlight the continuous nature of scientific discovery in different contexts, with particular emphasis on promoting science education among young people and women, especially in developing countries,

“Noting that at its 2013 substantive session, the Economic and Social Council organized its work for the annual ministerial review under the theme ‘Science, technology and innovation, and the potential of culture, for promoting sustainable development and achieving the Millennium Development Goals’,

“Reaffirming Economic and Social Council resolution 1980/67 of 25 July 1980 on international years and anniversaries and General Assembly resolutions 53/199 of 15 December 1998 and 61/185 of 20 December 2006 on the proclamation of international years,

“Reaffirming also the outcome document, entitled ‘The future we want’, of the United Nations Conference on Sustainable Development, held in Rio de Janeiro, Brazil, from 20 to 22 June 2012,

“1. *Welcomes* the endorsement of the present initiative by the Executive Board of the United Nations Educational, Scientific and Cultural Organization at its 190th session;

“2. *Decides* to declare 2015 the International Year of Light and Light-based Technologies;

“3. *Invites* the Secretary-General, in cooperation with the United Nations Educational, Scientific and Cultural Organization, and mindful of the provisions of the annex to Economic and Social Council resolution 1980/67, to take appropriate steps to organize the activities of the International Year and to develop necessary proposals on activities at all levels to support Member States in the implementation of the Year;

“4. *Invites* the United Nations Educational, Scientific and Cultural Organization, mindful of the provisions of the annex to Economic and Social Council resolution 1980/67, to facilitate implementation of the International Year, in collaboration with Governments, relevant organizations of the United Nations system, the International Council for Science and other relevant non-governmental organizations, and also invites the United Nations Educational, Scientific and Cultural Organization to keep the General Assembly informed of progress made in this regard;

“5. *Stresses* that the costs of all activities that may arise from the implementation of the present resolution should be met from voluntary contributions, subject to the availability and provision of voluntary contributions for this specific purpose;

“6. *Encourages* all States, the United Nations system and all other actors to take advantage of the International Year to promote actions at all levels, including through international cooperation, and to increase awareness among the public of the importance of light science, optics and light-based technologies and of promoting widespread access to new knowledge and related activities;

“7. *Requests* the Secretary-General to report to the General Assembly at its seventy-first session on the implementation of the present resolution.”

9. At its 39th meeting, on 3 December, the Committee had before it a revised draft resolution ([A/C.2/68/L.13/Rev.1](#)), submitted by Argentina, Australia, Azerbaijan, Chile, China, Cuba, the Dominican Republic, France, Ghana, Haiti, Honduras, Israel, Italy, Japan, Mexico, New Zealand, Nicaragua, the Republic of Korea, the Russian Federation, Somalia, Spain, Sri Lanka, Turkey, Ukraine and the United States of America.

10. At the same meeting, the representative of Mexico made a statement and announced that Colombia, Mauritius, Nepal and Palau had joined in sponsoring the revised draft resolution. Subsequently, Bosnia and Herzegovina, Ecuador, Guinea, Montenegro, Morocco and Tunisia also joined in sponsoring the draft resolution.

11. Also at the same meeting, on the proposal of the Chair, the Committee agreed to waive the relevant provision of rule 120 of the rules of procedure of the General Assembly and to proceed to take action on the draft resolution.

12. Also at its 39th meeting, the Committee was informed that the draft resolution had no programme budget implications.

13. At the same meeting, the Committee adopted draft resolution [A/C.2/68/L.13/Rev.1](#) (see para. 14, draft resolution II).

III. Recommendations of the Second Committee

14. The Second Committee recommends to the General Assembly the adoption of the following draft resolutions:

Draft resolution I Science, technology and innovation for development

The General Assembly,

Recalling its resolutions [58/200](#) of 23 December 2003, [59/220](#) of 22 December 2004, [60/205](#) of 22 December 2005, [61/207](#) of 20 December 2006, [62/201](#) of 19 December 2007, [64/212](#) of 21 December 2009 and [66/211](#) of 22 December 2011,

Taking note of Economic and Social Council resolutions 2006/46 of 28 July 2006, 2009/8 of 24 July 2009, 2010/3 of 19 July 2010, 2011/17 of 26 July 2011 and 2012/6 of 24 July 2012,

Recalling the 2005 World Summit Outcome,¹

Recalling also the outcomes of the World Summit on the Information Society,²

Recalling further the outcome document of the United Nations Conference on Sustainable Development, entitled “The future we want”,³

Recognizing the importance of technology as one of the key means of implementation in the pursuit of sustainable development, along with finance, capacity-building and trade,

Taking note of the reports of the Commission on Science and Technology for Development on its fourteenth, fifteenth and sixteenth sessions,⁴

Recalling its resolutions [64/208](#) of 21 December 2009 and [65/280](#) of 17 June 2011,

Recalling also the agreed conclusions of the Commission on the Status of Women on access and participation of women and girls in education, training and science and technology, adopted at its fifty-fifth session,⁵

Recognizing the vital role that science, technology and innovation, including environmentally sound technologies, can play in development and in facilitating efforts to address global challenges, such as efforts to eradicate poverty, achieve food security, enhance access to energy and increase energy efficiency, fight diseases, improve education, protect the environment, accelerate the pace of economic diversification and transformation, improve productivity and competitiveness and ultimately support sustainable development,

¹ Resolution 60/1.

² See A/60/687 and A/C.2/59/3, annex, chap. I.

³ Resolution 66/288, annex.

⁴ *Official Records of the Economic and Social Council, 2011, Supplement No. 11* (E/2011/31); *Official Records of the Economic and Social Council, 2012, Supplement No. 12* and corrigendum (E/2012/31 and Corr.1); *Official Records of the Economic and Social Council, 2013, Supplement No. 13* (E/2013/31).

⁵ *Official Records of the Economic and Social Council, 2011, Supplement No. 7* (E/2011/27), chap. I, sect. A.

Recognizing also that science, technology and innovation cooperation and collaboration with, as well as foreign direct investment in and trade with and among developing countries is fundamental to enhancing their ability to produce, access, comprehend, select, adapt and use science, technology and innovation knowledge,

Concerned that many developing countries lack affordable access to information and communications technologies and that for the majority of the poor the promise of science, technology and innovation remains unfulfilled, and emphasizing the need to effectively harness technology to bridge the digital divide,

Recognizing that international support can help developing countries to benefit from technological advances and enhance their productive capacity to build, support and nurture innovation capacity to enable the development, adoption and dissemination of technology,

Recognizing also the importance of the creation of a conducive environment that attracts and supports private investment, entrepreneurship and corporate social responsibility, including an efficient and effective intellectual property framework,

Reaffirming the need to enhance the science, technology and innovation programmes of the relevant entities of the United Nations system,

Noting with appreciation the collaboration between the Commission on Science and Technology for Development and the United Nations Conference on Trade and Development in establishing a network of centres of excellence in science, technology and innovation for developing countries and in designing and carrying out science, technology and innovation policy reviews,

Noting the ongoing efforts by the World Intellectual Property Organization, under its existing mandate, to establish technology and innovation support centres in over 65 countries providing access to technological information through patent databases, and access to scientific literature through the Access to Research for Development and Innovation project,

Cognizant of the establishment of the inter-agency cooperation network on biotechnology, UN-Biotech, in 2004,

Taking note of the reports of the Secretary-General,⁶

Encouraging the development of initiatives to promote private sector engagement in technology transfer, on mutually agreed terms, and technological and scientific cooperation,

1. *Reaffirms its commitment:*

(a) To strengthen and enhance existing mechanisms and to support initiatives for research and development, including through voluntary partnerships between the public and private sectors, to address the special needs of developing countries in the areas of health, agriculture, conservation, sustainable use of natural resources and environmental management, energy, forestry and the impact of climate change;

(b) To promote and facilitate, as appropriate, access to, and development, transfer and diffusion of, technologies, including environmentally sound technologies and the corresponding know-how, to developing countries, and in this

⁶ A/66/208 and A/68/227.

regard takes note of paragraph 273 of the outcome document of the United Nations Conference on Sustainable Development, entitled “The future we want”,³ in which relevant United Nations agencies were requested to identify options for a facilitation mechanism that promotes the development, transfer and dissemination of clean and environmentally sound technologies by, inter alia, assessing the technology needs of developing countries, options to address those needs and capacity-building, on the basis of which the Secretary-General, taking into account existing models, submitted to the General Assembly at its sixty-seventh session a report on options for a facilitation mechanism that promotes the development, transfer and dissemination of clean and environmentally sound technologies,⁷ also takes note of the decision to hold a series of workshops on, inter alia, the technology needs of developing countries, options to address those needs, including capacity-building, and a technology facilitation mechanism, taking into account existing mechanisms and the need to avoid duplication and promote synergies and coherence, as well as for the Secretary-General to report at its sixty-eighth session on the discussions, options and recommendations arising from the workshops, including on the way forward, as well as on additional input from Member States and the United Nations system, and further takes note of the report of the Secretary-General on options for facilitating the development, transfer and dissemination of clean and environmentally sound technologies, submitted to the Assembly at its sixty-eighth session;⁸

(c) To assist developing countries in their efforts to promote and develop national strategies for human resources in science, technology and innovation through, inter alia, education, basic science and engineering, which are primary drivers of national capacity-building for development;

(d) To the actions agreed upon by the least developed countries and development partners on science, technology and innovation, as outlined in paragraphs 52 and 53 of the Programme of Action for the Least Developed Countries for the Decade 2011-2020, adopted at the Fourth United Nations Conference on the Least Developed Countries;⁹

(e) To promote and support greater efforts to develop renewable sources of energy, including appropriate technology;

(f) To implement policies at the national and international levels to attract both public and private investment, domestic and foreign, including through public and private partnerships, that enhances knowledge, transfers technology on mutually agreed terms and raises productivity;

(g) To support the efforts of developing countries, individually and collectively, to harness new agricultural technologies in order to increase agricultural productivity through environmentally sustainable means;

(h) To encourage the engagement of the private sector to support, through voluntary partnerships, including the transfer of technology and related know-how, developing countries on mutually agreed terms, through mechanisms such as the Climate Technology Centre and Network of the United Nations Framework Convention on Climate Change, the climate innovation centres of the World Bank

⁷ A/67/348.

⁸ A/68/310.

⁹ *Report of the Fourth United Nations Conference on the Least Developed Countries, Istanbul, Turkey, 9-13 May 2011 (A/CONF.219/7)*, chap. II.

infoDev programme and the Re:Search and GREEN programmes of the World Intellectual Property Organization, and in this regard emphasizes the importance of applying best practices in coordination and sharing of lessons learned within and between partners to avoid duplication and increase impact;

(i) To support better coordination and coherence, including the application of best practices in coordination and the sharing of lessons learned among United Nations agencies and international organizations providing technical assistance and capacity-building in the field of science, technology and innovation directed towards development priorities and needs;

2. *Reaffirms* the central role of Governments, with active contributions from stakeholders from the public and private sectors, civil society and research institutions, in creating and supporting an enabling environment for innovation and entrepreneurship and the advancement of science, technology and engineering, in accordance with national priorities;

3. *Recognizes* the current role of the United Nations Conference on Trade and Development and other relevant United Nations agencies, as well as other relevant organizations, in helping Governments, upon request, to ensure that science, technology and innovation policies are integrated into and are supportive of national development strategies and sustainable development in their countries and that their science, technology and innovation policies and programmes support national development agendas;

4. *Also recognizes* that science, technology and innovation, including information and communications technologies, are vital for the achievement of the internationally agreed development goals, including the Millennium Development Goals, and for the full participation of developing countries in the global economy;

5. *Affirms* that science, technology and innovation are essential enablers and drivers for the achievement of the Millennium Development Goals and the promotion of the economic, social and environmental components of sustainable development and should be given due consideration in the elaboration of the post-2015 development agenda;

6. *Recognizes* that full and equal access to and participation in science, technology and innovation for women of all ages is imperative for achieving gender equality and the empowerment of women, and underlines that addressing barriers to equal access for women and girls to science, technology and innovation requires a systematic, comprehensive, integrated, sustainable, multidisciplinary and multisectoral approach, and in this regard urges Governments to mainstream a gender perspective in legislation, policies and programmes;

7. *Notes* the importance of facilitating access to and sharing accessible and assistive technologies, through the transfer of technology on mutually agreed terms and other actions, to advance disability-inclusive development, ensure accessibility for persons with disabilities and promote their empowerment, recognizing that persons with disabilities make up an estimated 15 per cent of the world's population;

8. *Requests* the Commission on Science and Technology for Development to provide a forum within which to continue to assist the Economic and Social Council as the focal point in the system-wide follow-up to the outcomes of the

World Summit on the Information Society² and to address within its mandate, in accordance with Council resolution 2006/46, the special needs of developing countries in areas such as agriculture, rural development, information and communications technologies and environmental management;

9. *Encourages* the United Nations Conference on Trade and Development, in collaboration with relevant partners, such as the World Intellectual Property Organization, the International Telecommunication Union, the United Nations Educational, Scientific and Cultural Organization and the United Nations University, to continue to undertake science, technology and innovation policy reviews, with a view to assisting developing countries and countries with economies in transition in identifying the measures that are needed to integrate science, technology and innovation policies into their national development strategies;

10. *Encourages* Governments to strengthen and foster investment in research and development for environmentally sound technologies and to promote the involvement of the business and financial sectors in the development of those technologies, and invites the international community to support those efforts;

11. *Encourages* efforts to increase the availability of data to support the measurement of national innovation systems (such as the existing global innovation indices) and empirical research on innovation and development to assist policymakers in designing and implementing innovation strategies;

12. *Encourages* existing arrangements and the further promotion of regional, subregional and interregional joint research and development projects, where feasible, by mobilizing existing scientific and research and development resources and by networking sophisticated scientific facilities and research equipment;

13. *Emphasizes* that science, technology and innovation are critical in meeting development goals, including sustainable development objectives, and that many developing countries are facing serious challenges in building their national science, technology and innovation base;

14. *Encourages* scientific organizations and research institutions dealing with science, technology and innovation to develop dynamic strategic alliances with Governments, the public and private sectors, universities, laboratories and civil society to further expand their fellowship and training programmes, including through North-South, South-South and triangular cooperation;

15. *Calls upon* Member States and the United Nations development system, and encourages other stakeholders as appropriate, to continue to initiate, implement and support measures to improve the level of participation of scientists and engineers from developing countries in international collaborative research, science, technology and innovation projects and to promote investments in order to enhance public knowledge and to achieve sustainable development;

16. *Also calls upon* Member States and the United Nations development system, and encourages other stakeholders as appropriate, to continue to strengthen their support for the different science, technology and innovation partnerships with developing countries, in primary, secondary and higher education, vocational education and continuing education, business opportunities for the private sector, science, technology and innovation infrastructure and science, technology and innovation advice for developing countries;

17. *Encourages* the international community to continue to facilitate, in view of the differences in levels of development between countries, an adequate diffusion of scientific and technical knowledge and transfer of, access to and acquisition of technology for developing countries, under fair, transparent and mutually agreed terms, in a manner conducive to social and economic welfare for the benefit of society;

18. *Reiterates its call* for continued collaboration between United Nations entities and other international organizations, civil society and the private sector in implementing the outcomes of the World Summit on the Information Society, with a view to putting the potential of information and communications technologies at the service of development through policy research on the digital divide and on new challenges of the information society, as well as technical assistance activities, involving multi-stakeholder partnerships;

19. *Requests* the Secretary-General to submit to the General Assembly at its seventieth session a report on the implementation of the present resolution and recommendations for future follow-up, including lessons learned in integrating science, technology and innovation policies into national development strategies.

Draft resolution II

International Year of Light and Light-based Technologies, 2015

The General Assembly,

Reaffirming its resolutions 53/199 of 15 December 1998 and 61/185 of 20 December 2006 on the proclamation of international years and Economic and Social Council resolution 1980/67 of 25 July 1980 on international years and anniversaries, particularly paragraphs 1 to 10 of the annex thereto, on the agreed criteria for the proclamation of international years, as well as paragraphs 13 and 14, which state that an international year should not be proclaimed before the basic arrangements for its organization and financing have been made,

Recognizing the importance of light and light-based technologies in the lives of the citizens of the world and for the future development of global society on many levels,

Stressing that enhanced global awareness of and increased education in the science and technologies of light are vital for addressing challenges such as sustainable development, energy and community health, as well as for improving the quality of life in both developed and developing countries,

Considering that the applications of light science and technology are vital for existing and future advances in, inter alia, medicine, energy, information and communications, fibre optics, agriculture, mining, astronomy, architecture, archaeology, entertainment, art and culture, as well as many other industries and services, and that light-based technologies contribute to the fulfilment of internationally agreed development goals, including by providing access to information and increasing societal health and well-being,

Considering also that technology and design can play an important role in the achievement of greater energy efficiency, in particular by limiting energy waste, and in the reduction of light pollution, which is key to the preservation of dark skies,

Noting that the year 2015 coincides with the anniversaries of a series of important milestones in the history of the science of light, including the works on optics by Ibn Al-Haytham in 1015; the notion of light as a wave proposed by Fresnel in 1815; the electromagnetic theory of light propagation proposed by Maxwell in 1865; Einstein's theory of the photoelectric effect in 1905 and of the embedding of light in cosmology through general relativity in 1915; and the discovery of the cosmic microwave background by Penzias and Wilson, and Kao's achievements concerning the transmission of light in fibres for optical communication, in 1965,

Considering that the celebration of the anniversaries of these discoveries in 2015 would provide an important opportunity to highlight the continuous nature of scientific discovery in different contexts, with particular emphasis on women's empowerment in the science sector and on promoting science education among young people, especially in developing countries,

Noting that at its 2013 substantive session, the Economic and Social Council organized its work for the annual ministerial review under the theme "Science, technology and innovation, and the potential of culture, for promoting sustainable development and achieving the Millennium Development Goals",

Reaffirming the outcome document of the United Nations Conference on Sustainable Development, held in Rio de Janeiro, Brazil, from 20 to 22 June 2012, entitled “The future we want”,

Noting the endorsement by the Executive Board of the United Nations Educational, Scientific and Cultural Organization at its 190th session of the initiative to proclaim 2015 the International Year of Light and the adoption of that initiative by the General Conference at its thirty-seventh session, on 19 November 2013,

1. *Decides* to proclaim 2015 the International Year of Light and Light-based Technologies;

2. *Invites* the United Nations Educational, Scientific and Cultural Organization, mindful of the provisions of the annex to Economic and Social Council resolution 1980/67, to facilitate the organization and implementation of the International Year, in collaboration with Governments, relevant organizations of the United Nations system, the International Council for Science and other relevant academic and non-governmental organizations;

3. *Stresses* that the costs of all activities that may arise from the implementation of the present resolution above and beyond activities currently within the mandate of the lead agency should be met from voluntary contributions, including from the private sector;

4. *Encourages* all States, the United Nations system and all other actors to take advantage of the International Year to promote actions at all levels, including through international cooperation, and to increase awareness among the public of the importance of light science, optics and light-based technologies and of promoting widespread access to new knowledge and related activities;

5. *Requests* the United Nations Educational, Scientific and Cultural Organization, mindful of the provisions of paragraphs 23 to 27 of the annex to Economic and Social Council resolution 1980/67, to inform the General Assembly at its seventy-first session on the implementation of the present resolution, elaborating, inter alia, on the evaluation of the Year.
