Statement of the Science and Technology Constituency of the Asia Pacific Regional CSO Mechanism (AP-RCEM) on Science, Technology and Innovation for Sustainable Development

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This statement sets the framework for science, technology and innovation (STI) for sustainable development and spells out our vision of developing an STI that is responsive to and addresses the problems of social and economic inequality faced by the peoples of Asia Pacific and the world.

1.1. Our Collective Vision of Science, Technology and Innovation (STI) for Sustainable Development

We, in our collective vision of an STI for sustainable development:

1.1.1. Recognize that science and technology is a product of humankind's collective effort through millenia to understand the world around and inside of ourselves. Thus it is a common civilizational heritage and a part of the global commons.

1.1.2. Recognize that science, technology and innovation (STI) is a vital component to an integrated and balanced economic, social and cultural development. Advances in economic production and consequently, ways of learning, living, and communicating are all made possible through STI. That is why we welcome the push for strengthening the STI capabilities and capacities of countries under the 2030 development agenda.

1.1.3. Also note that globalization and the neoliberal development agenda has caused deep and entrenched inequalities of wealth, power and resources between and within countries, between rich and poor, and between men and women and other social groups.

1.1.4. Recognize that while STI can be used as a tool for progress, it can also be used to deepen social and economic inequalities and as an instrument of social and political control. Advances in STI can be used to restrict freedoms and liberties, cause adverse health, environmental, socio-economic, and cultural impacts, and deprive future generations of a livable world.

1.1.5. Wish to assert that STI is not an end in itself but a tool to meet an end. Thus, democratic governance and informed regulation of STI is an issue of vital importance not only to peoples and populations who directly feel the impacts of STI, but also those who will, in an increasingly globalised world, be assimilated into a technological paradigm.

The Science, Technology and Innovation that we want must support sustainable development and address people's economic, social, and environmental concerns. It should be centered around meeting the most basic needs of all people and oriented towards serving the interests of the most marginalized sectors of society. The STI that we want is inclusive, accessible, participatory, and

democratically governed by the people and should benefit communities and marginalized communities.

1.2. Key Principles

1.2.1. Science, technology and innovation should not be treated as a mere means of implementation or an entity outside of the development framework. It is an element that is present in all the sustainable development goals.

1.2.2. STI is largely influenced by dominant power relations in society and in turn creates impacts felt at the economic, social, cultural and environmental spheres, across global and local scales. These implications, however, are not understood as widely. Therefore, a significant thrust on scientific literacy and public understanding of science and its role in society is imperative.

1.2.3. Through the years, STI has largely become a private, proprietary, and exclusive endeavor outside the sphere of public participation and with little public influence. It has been placed outside the reach of majority of the population, most especially the poor. It has also sidelined the critical contributions of ordinary peoples and communities. Science, or for that matter technology, is too important - and pervasive as well as invasive - to be left just in the hands of scientists and corporate interests.

The people should have a central role in science, technology and innovation. It should not be the domain of academicians, technocrats, and private enterprise alone. Instead of being mere users and buyers of the products of science and technology, people should have a direct say on the direction, use, and priorities for S&T. Thus governance over STI should be placed back into the hands of the people. This can be achieved through such means as promoting national level people's S&T forums , and engagement with them while developing general and specific S&T frameworks and policies. S&T institutions and personnel need to be open and communicative about their work and engage with the public constantly. Auditing of science & technology performance in relation to public interest must be promoted to underscore and assess people's control over S&T and its orientation. Patricipatory evaluation of new technologies must be a prerequisite to the development, transfer and deployment of technologies.

1.2.4. There exist different national realities, capacities and levels of development in terms of science, technology and innovation. These differences should be recognized in promoting STI for sustainable development, and due consideration must be given to national policies and priorities. STI policies should be nationally driven at the country level, and general guidelines of STI for sustainable development must be propagated at the global scale.

1.2.5. The development of science, technology and innovation should not impinge on peoples' freedoms, peace and security, and basic human rights. It should respect, protect and fulfill the peoples' right to development, right to an adequate standard of living, right to

food, gender equality and women's rights, sexual and reproductive health and rights, right to self-determination,communication rights, right to privacy and equal access to knowledge.

1.3. Thematic Issues and Concerns of STI for Sustainable Development

In pushing for science, technology and innovation for sustainable development, due attention should be given to the following thematic issues and concerns:

1.3.1. Corporate control over science, technology and innovation

While private enterprises have helped foster the deployment of technologies from laboratories to consumers, there is a big push around the SDG framework for science, technology and innovation to become market- rather than needs-driven. Under this framework, marketability (and concurrently, profitability) becomes a benchmark for STI development. At the same time, there is also an increasing trend for the privarization of STI research and development. From 2006 to 2011, the share of private sector investments on STI has risen from 16.9% to 35.2% in the entire region[1].

Emphasis on marketable STI will worsen an already worrisome situation where most funding and attention is given to the commercializable if not profitable applications of STI, rather than responding to the needs of the marginalized populations. The privatization and commodification of STI also translates to its products becoming more unaffordable and inaccessible to majority of peoples and communities, and neglect of technologies that are deemed unprofitable. In the Philippines, for example, where the telecommunications industry is monopolized by a few big players, consumers have to pay 2.5 times more for internet that is 85% slower than the global average.

At the same time, there is a need to recognize that the development of basic science capabilities are central and critical to the development of science & technology and indirectly feed into the applied science capabilities. Basic science research and development, especially in developing countries, need to be strengthened and not further curtailed. Creation of international centers of excellence in select areas of science and technology in developing regions is of great significance.

We should break the myth of private enterprise as the driver of scientific and technological innovation, which serves to legitimize and strengthen corporate control over STI. The history of countries like Japan and Korea, even emerging economies like Brazil, India and South Africa, have shown that strong government management and support, coupled with increased public spending for STI infrastructure development , can effectively propel STI forward. The basic science foundation of almost every lucractive innovation promoted by the private sector is funded by public taxpayers, even in industrialized countries. The push for private-public partnerships and the

[1] UNESCO. (2015). *UNESCO Science Report: Towards 2030*. p.82

commercialization of science and technology outputs are similar moves to strengthen corporate capture over STI, undermine public accountability, and bypass democratic processes that have to be thoroughly analyzed and resisted.

1.3.2. Over-emphasis on technological solutions to poverty and inequality instead of addressing its root causes

The 2030 development agenda gives emphasis to technological innovations to solve the problems of social and economic inequality, injustice and prejudice, while it stays silent on addressing their root causes, namely the unjust and inequitable economic system that concentrates political and economic power in the hands of a few. Transfer of technologies and increased funding for STI - howsoever welcome and even necessary- will not solve the poverty experienced by farmers and workers, nor ameliorate the condition of majority of the world's women whose labour is not counted. Landlessness, starvation wages, flexibilization of labour and contractualization,and the gendered burdens of unwaged work in reproducing everyday life need to be acknowledged as deeply rooted systemic barriers to development.

1.3.3. Recognition of and development of indigenous and local technologies

With the development of science, technology and innovation, the traditional knowledge and practices of indigenous peoples (IPs) and other local communities should be given due recognition. Indigenous and local technologies should be recognized and developed not only as a cost-effective solution but as valuable contributions to sustainable development, being largely needs-based, adaptive and nuanced to local culture and environment. Their contributions especially to the sustainable use of land and natural resources and in the daily lives of communities across the world should be acknowledged, and scientists, technologists and engineers respect, learn from, and work together with communities in the development of these practices as well. Respect for these knowledge systems also calls for ethical frameworks and regulation at the global level of the predatory greed of corporations and the mindless proprietization of nature through bio-property regimes. Recognition of diverse sources of STI is a requirement to move forward in promoting STI for the attainment of SDGs.

1.3.4. Regressive patent regimes that hinder access to basic resources and enhance the corporate capture of what should be national, regional and global commons

Efforts to develop science, technology and innovation should be given due credit. However, current regimes on patenting and licensing that equates intellectual property rights (IPR) with private property rights have a regressive effect of hampering the creation of new ideas, processes and technologies by increasing the costs of tools for S&T research. It also encourages vicious competition in what should be a collaborative field geared towards the upliftment of the general knowledge and living of mankind.

Furthermore, ideas, information, processes and technologies that have a strong social aspect should belong to the commons. This includes the genetic resources of all flora and fauna, plant and agricultural resources, software, medicines and medical technologies. Global and regional agreements and frameworks like the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the IPR sections of the Trans-Pacific Partnership (TPP) Agreement perpetuate and legitimize the appropriation of what should be common and shared tools and resources for development for private and profitable use by corporate interests. It creates costly and unnecessary barriers to access to life-saving drugs, precious seeds for farmers, cheap technology, and other socially beneficial products of STI. These agreements also give more technologially advanced countries an unfair advantage over other countries whose industries and technologies are still developing, and thus pose a big obstacle to the nationally determined development of local S&T and industry.

1.3.5. Corporatisation of ICTs, Internet and big data; and reclaiming them as a global commons

Internet, as its name suggests, is nothing but people inter-connected, without the hierarchies of technical and institutional mediation. As a platform that connects people, the Internet should be governed democratically and appropriated by countries and communities as a powerful force for equality and social justice. The Internet today is however greatly commodified, with corporations mediating people's relationships, surveilling them, and predicting and controlling their behaviour, in pursuit of profits. Instead of bringing people to new frontiers of self determination, digital innovation is captured within the walled gardens of software applications that serve the interests of their corporate owners. Though derived from public laboratories, Internet technologies are today almost entirely privatised. In fact, even their governance is privatised, in the hands of the Internet industry itself.

The Internet must be freed. It should be governed democratically, towards egalitarian outcomes. Internet platforms must be collaborative spaces, controlled by their users. Big data should be owned by and employed for the best interests of the people, to whom such data originally belongs.

Recent developments indicate that abuse of biometrics, DNA profiling and other invasive technologies combined with big data for profit, surveillance and invasion of privacy without any safeguards - such as unique identity platforms like Aadhar in India - are emerging as serious threats (in South Asia at least – encompassing India, Pakistan, Bangladesh and Nepal). This potential abuse of science and science based technologies – in the name of promoting development - needs to be questioned and resisted.

The SDGs document puts great emphasis on the use of big data, and on strengthening of national statistical agencies for better employment of data in the service of the SDGs. However, this requires that countries must put in place the necessary legislative

safeguards that guarantee people's rights with respect to their data. Data is not only a resource to be used for development. Data is a vital reality structuring people's lives, choices and opportunities today. Of deep concern is the fact that 'public data' is held by private corporations motivated purely by monopolistic control and unwilling to share the same to public agencies for public interest purposes. This undesirable situation requires that the basic issue of who owns social data generated over digital 'social' platforms be addressed. Such data should by default be publicly owned, with the collating private corporation licensed to make limited profit-motivated use of it within well-defined regulatory frameworks. The socialisation of all Internet-based big data that originates from people's digital social interactions over the Internet and its use in public interest is a precondition for reaching the SDGs.

In this regard, both the Internet as the people's inter-connectivity infrastructure, and big data as the people's digital footprints over the Internet, should be claimed and governed as a real commons.

1.3.6. Technology transfer to enable national development of S&T resources and manpower and Financing for STI development

While mechanisms have been created to build the technological capacity of countries in the region, among them the Asian and Pacific Centre for Transfer of Technology and more recently at the global level, the Climate Technology Center (CTCN) under the UNFCCC and the UN system’s Technology Facilitation Mechanism, there remains a disparity between a few leading centres in STI and other countries that are lagging behind in STI development. There is a gap not only between countries but between the private and the public sector in STI processes, technologies and breakthroughs.

We should be wary of the push for breaking trade and non-trade barriers such as tariffs, special subsidies and incentives, etc, as a means of achieving technology transfer and a precondition to financing for STI development. While the unhampered influx of technologies and STI products to less developed countries is welcome, the current restrictive intellectual property regime will only lead receiving countries to become mere users and captive consumers of such technologies. Without strong protections and priorities to enhance local STI for national development, using locally available materials and manpower at cheaper cost, technology transfer and STI financing will be another market-based mechanism to entrench and enrich more technologically advanced countries into developing economies, to the detriment of locally innovating and developing technologies.

A genuinely sustainable technology transfer policy should not be content with the transfer, sale, and/or loan of imported technology. Local scientists, technologists, engineers, students, workers, as well as communities should be developed, empowered, and taught to build their own innovative technologies. Similarly, national innovation policies should be oriented towards creating innovative and nationally relevant solutions

to basic problems of the people instead of being content with attracting FDI flows for technology transfer and imported innovation.

In terms of financing, increased public funding for STI should be encouraged to ensure that local STI is relevant to people's actual needs, is more democratic and participatory, and more accontable to the people. To help overcome the problem of inequality betweeen technologically advanced and less developed countries amid a highly restrictive IPR regime, public funds specifically for S&T education and research should be increased. At the same time, governments should ensure the transparency, efficiency, and quality of results from publicly funded STI programmes.

Of specific note is the Green Climate Fund (GCF) – mandated to providing funds and cutting edge technologies to developing countries to combat climate change and its ill-effects. The developed countries owe this to developing countries for appropriating the development space and damaging the environment decade after decade. The Fund approved projects worth $168 million before the Paris COP21 and has resolved to approve projects worth $2.5 billion this year. The GCF a significant and promising development to watch. It is essential that genuine needs of the people of developing countries get funded and people and communities are heard – not just governments and corporations. Genuine green technology needs of developing countries, unfettered by unfavorable patent regimes, must be respected. The GCF should not degenerate into a Fund for benefiting Western corporations and banks or for that matter corporations in developing countries through a back door.

1.3.7. CSO engagement with the UN on issues of STI

Peoples' and community voices and concerns over STI for sustainable development should be given ample space and importance. In order to bring back STI governance back in the hands of the people, there should be effective mechanisms and adequate resources for CSOs and social movements that are directly involved in technology development, transfer and deployment at the local and national levels to engage with the UN as well as regional and national bodies and agencies that set policies for STI. Space for CSOs and social movements should be given at fora and dialogues and consultations be regularly held to monitor how people and communities are being affected by the STI regime for sustainable development being implemented by the UN. We call for the non-regression of civil society participation, especially in the Asia Pacific Forum on Sustainable Development, the STI Review Forum, the Financing for Development Review Forum and the High Level Political Forum. Moreover, protections for the basic rights of NGO and CSO workers should be ensured, their freedoms ensured, and their movements not subject to surveillance, curtailment, and political exclusion and harassment.

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