

HARNESSING SCIENCE AND TECHNOLOGY FOR POVERTY REDUCTION AND SUSTAINABLE DEVELOPMENT

Looking Back and Looking Forward
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RESOLUTIONS

The United Nations has adopted 19 Social Development Goals (SDGs) with specific targets. Science, technology, and innovation (STI) provide the critical knowledge and capabilities that are needed to ensure that these SDGs will be achieved. The Philippines faces multiple global and local challenges which require STI. These include:

- persistent poverty and increasing inequality;
- intensifying competition from globalization and regional integration; and
- natural disasters, environmental degradation, and climate change.

However, the Philippines is at present ill-prepared to cope with these challenges. We have not invested enough in S&T human resources, research and development (R&D), and physical infrastructure. Today we lack the minimum number of scientists and technologists needed for innovation-driven development. As a result, we suffer from low industrial and agricultural productivity, overall inefficiency, and a meager output of knowledge products, such as patents, innovations, and scientific publications. Where there are highly-trained scientists and technologists, there is not enough local investment to absorb them. Thus, we are engaged in an unwinnable effort to stem the exodus of our highly-trained professionals to countries that are able to provide them the material reward, productive working conditions, and social recognition that are denied them in own country. They are productive overseas, but sadly not at home.

Our region includes many of the world's highest-performing countries, such as Singapore, Taiwan, Malaysia, and Thailand. All of them have prioritized S&T in their development strategies. China, our giant neighbor, recently announced that it will further increase its investment in S&T over the next 5 years from 2.0% to 2.5% of GDP and cut red tape, which hampers S&T activities.

In addition to budgetary constraints, our S&T activities are burdened by archaic legal, financial, and administrative rules and practices, which stifle innovation, productivity, and competitiveness. The Philippines has among the lowest support for S&T and has one of the least efficient R&D systems.

Consistent with our mandate to provide guidance to the national leadership, NAST PHL adopts resolutions covering policies and programs in the following areas:

- A. Human Resources
- B. Environment and Natural Resources
- C. Livelihood
- D. S&T Infrastructure and Governance

A. Human Resources

Strategy 1: *Primary Health Care as the Fundamental Format for Universal Health Care / Kalusugang Pangkalahatan (UHC/KP)*

Resolutions:

1. For the President of Philippines to declare that all Filipinos are covered by UHC/KP effective immediately.
2. Establish a global UHC/KP fund derived from the pooling/co-mingling of at least 3 major sources of health funds namely, Philhealth, Sin Taxes, and PAGCOR and possibly from local government funds. Expenditure and allocation of the fund is based on a regular assessment of the services needed as determined by the DOH.
3. Promote better health and nutrition by actively campaigning for diversified and balanced diets, requiring more open spaces and parks in communities and schools, strengthening the anti-smoking and liquor campaigns, and intensifying the war on prohibited drugs.

Strategy 2: *Talent Development and Retention*

Resolutions:

1. Strengthen the provisions and support for mathematics and science education at the basic education level (K to 12), adapting to local schools the standards and best practices in more technologically advanced or progressive countries in the region.
2. Adopt measures to attract the best and the brightest to pursue undergraduate, graduate and post-graduate programs in S&T by strengthening selected universities as discovery-innovation institutes.
3. Adopt more flexible hiring rules and compensation levels for highly-trained scientists and technologists; providing additional incentives not only to retain Filipino scientists and technologists but to attract back some of those who have left for abroad.
4. Improve the work environment of Filipino scientists and technologists to ensure that policies, procedures, and institutions' practices are conducive to scientific knowledge production comparable to the more technologically advanced countries in the region.
5. Develop regional and global academic linkages.
6. Invest in Health Human Resources (HHR) for the purpose of providing health professionals at all levels up to the barangay level to include education, training, placement, and retention programs (e.g., doctors, nurses, public health practitioners, midwives and pharmacists, etc.)

7. Train human resources to gain national capacity to evaluate, build, repair, and maintain infrastructure (e.g., ICT, roads, bridges, airports, seaports, etc.) according to global standards.

B. Natural Resources and Environment

Strategy 1: Integrated Resource Utilization and Management

Resolutions:

1. Manage land, water, and energy resources to ensure food security and the protection of the environment.
2. Facilitate the issuance of land titles to agrarian reform beneficiaries with provisions to sell only to government for lease only to tillers.
3. Provide reliable and inexpensive power to industry and MSMSEs.
 - Connect Mindanao to the national grid via the Negros-Zamboanga submarine cable for stable power.

Strategy 2: Resilient Disaster Risk Reduction and Management (DRRM)

Resolutions:

1. Continue investments in R&D to develop a highly reliable early warning system and appropriate adaptation measures to address the effects of climate change and the increasing frequency of highly-damaging natural disasters.
2. Institute measures that balance development and environmental concerns and harness technological advances to deal with climate change, disaster risk reduction/management, biodiversity conservation especially in the mapping of: (a) pollution sources and risks; (b) vulnerable communities and ecosystems; and (c) land use and cover change.
3. Review, and if necessary revise, the elementary and high school curricula to include courses and modules on the environment, biodiversity and climate change, with emphasis on understanding the need for balancing these global concerns with national development goals.

C. Livelihood

Strategy 1: Increase per Capita Income

Resolutions:

1. Redirect agricultural production and R&D programs from single commodity (e.g., rice, livestock, and fisheries) to a farming systems-oriented program. Replace rice sufficiency with food security as the primary national goal. Scale up diversified home (backyard) farming to aim not only for household food security but more importantly, for income generation.

2. Provide incentives to private sector-led investments in the local production of agricultural inputs such as high value animal care products and machinery.
3. Establish an industrial extension network to assist and train MSMEs in using advanced technologies and accessing financing to produce higher valued products that can be marketed globally.

Strategy 2: Infrastructure Development

Resolutions:

1. Improve the national information infrastructure by installing a reliable and secure high-speed wide bandwidth internet system and provide IT access to remote communities.
2. Adopt measures and the appropriate technology to ensure a reliable and safe transportation system on land, sea and air; rehabilitate and expand the railway system.

Strategy 3: Product Diversification

Resolutions:

1. Actively promote diversification in agricultural and aquaculture production to ensure food security, achieve better nutrition, and contribute to economic development.
2. Manufacture higher-value products from agricultural raw materials and mineral resources.

Strategy 4: Increased Efficiency and Productivity

Resolutions:

1. Adopt a whole-of-industry approach for the agriculture sector, which includes production, integrated processing, research and technology innovation, marketing, and distribution.
2. Formulate innovative policies that promote coupling of mechanization with energy self-reliance in all steps of the value chain, using renewables and indigenous sources of energy.
3. Provide the national quality infrastructure to MSMEs in order for them to be internationally competitive.
4. Improve product quality, efficiency, and productivity of the manufacturing sector by facilitating access to new developments in emerging technologies, such as biotechnology, information technology, materials science, and nanotechnology.

D. S&T Infrastructure and Governance

Strategy 1: Whole-of-Government Approach

Resolutions:

1. Increase R&D to GDP ratio, first to 1% and later to 2%, with government and private sector support being focused on technologies with the highest impact such as science-

based alternative and complementary medicines, information and communications technology, clean and renewable energy, among others.

2. Revise rules and regulations on the procurement of scientific equipment and the auditing of S&T expenditures that hinder R&D and innovation to conform to the needs of R&D.
3. Institute an industrial policy that promotes broad technologies rather than specific industries.
4. Review highly restrictive regulations involving bioprospecting, biotechnology, information technology and other components of modern technology.
5. Redefine the roles of DOH, Philhealth, and LGU in the implementation of UHC/KP as follows:
 - DOH – designer of health services to include preventive and public health, generator of standards for health services, monitoring and evaluation of on-going programs, selector of health services provider including health human resource needed.
 - Philhealth – payor of services
 - LGU – implementation of health services in close collaboration with DOH
6. Immediately reunify the Department of Agriculture (DA) by returning supervision over the National Irrigation Administration (NIA), National Food Authority (NFA), Philippine Coconut Authority (PCA), and Fertilizer and Pesticide Authority (FPA).
7. Revitalize and expand the functions of the National Water Resources Board.
8. Creation of the Department of Fisheries and Aquatic Resources to give more emphasis on sustainable fishery, particularly mariculture, which is the cheapest source of high-quality protein and is our comparative advantage with potential for value added export products.

To closely coordinate and monitor the above initiatives, we recommend the reactivation and strengthening of the Science and Technology Coordinating Council (STCC) with representation from all departments and with the President of the Philippines presiding over its meetings.

These proposed policies, programs and projects support and reinforce the current administration's Ten-Point Economic Agenda. Individually and collectively, they promote inclusive and distributed growth, and sustainable development. They are also, in our view, doable within the six-year term of the Duterte Administration.

Citation:

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