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Vigorously
Advancing Science,
Technology, and
Innovation

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The intensification of technology adoption and innovation in the region is expected to play a key role in enhancement of the region's overall competitiveness. This was achieved through the development and promotion of indigenous technology and the adaptation and innovation of suitable imported technology, as well as, undertaking technology development up to commercial stages.

Science, Technology and Innovation (STI) plays an important role in economic and social progress. It is a key driver of the long-term growth of an economy. Technology adoption allows the country's firms and people to benefit from innovations created in other countries, and allows it to keep up and even leap frog obsolete technologies. This can lead to significant improvements in the productivity of firms in agriculture, industry, and services.

On the other hand, long-term investments in building the local capacity for technology generation can lead to innovations that will give firms a competitive advantage. This can result in the creation of new firms and even entirely new industries that can provide high-quality jobs. Due to the long gestation period for developing this capacity, it is important to start planting the seeds early.

Just as important, STI can lead to the creation of new public goods and services (or new methods of delivering public goods and services) that will help address the needs of society, especially of the disadvantaged, including in the areas of health, education, energy, disaster resiliency, and climate change adaptation, among others. This chapter discusses the priority strategies and outcomes needed to increase the country's potential growth through innovation, which will build the foundation for a globally competitive knowledge economy.

Assessment

The implementation of advocacies such as the Science and Technology (S&T) Program on Halal, rollout of DOST-developed technologies, along with the diffusion and transfer of appropriate technologies region-wide through the DOST-Small Enterprises Technology Upgrading Program (DOST-SETUP), assisted in developing solutions to pressing problems. The development of appropriate technologies aims to empower countryside growth, improve industry

competitiveness, and enhance delivery of government and social services. These innovations would include health-related research and development (R&D) through the Health Research and Development Consortium (HRDC) XII, disaster preparedness technologies, and harnessing of new and emerging technologies to boost regional competitiveness to bolster the region's technological potentials and advantages.

Table 42: Science and Technology Development Indicators, 2011-2016

STRATEGIC INTERVENTION/ OUTPUT INDICATOR	ACTUAL					
	2011	2012	2013	2014	2015	2016 (3RD QUARTER)
Technology Transfer and Commercialization						
technology interventions	1,346	1,490	1,315	2,665	1,978	1,960
No. of firms assisted (existing and start-up)	826	838	595	3,132	1,198	703
Gross Sales (PhP '000)	80,536.9	75,756.1	115,167.4	260,462.0	467,579.0	101,547.0
No. of employment generated (man- months)	12,500	13,873	5732*	15,100	7733*	11,256
Science and Technology Services						
No. of firms assisted	412	381	414	77	330	264
Technology Trainings						
No. of firms assisted	984	467	600	446	668	462
Testing and Calibration						
No. of services rendered	1,377	1,751	1,513	2,155	2,650	1,599
No. of firms assisted	714	279	305	1,044	665	261
Packaging and Labeling						
No. of firms assisted	224	200	113	116	300	204

* Number of persons

MPEX - Manufacturing Productivity Extension Program

CAPE - Consultancy for Agricultural Productivity Enhancement Program

CPT - Cleaner Production Technology

Source: DOST XII

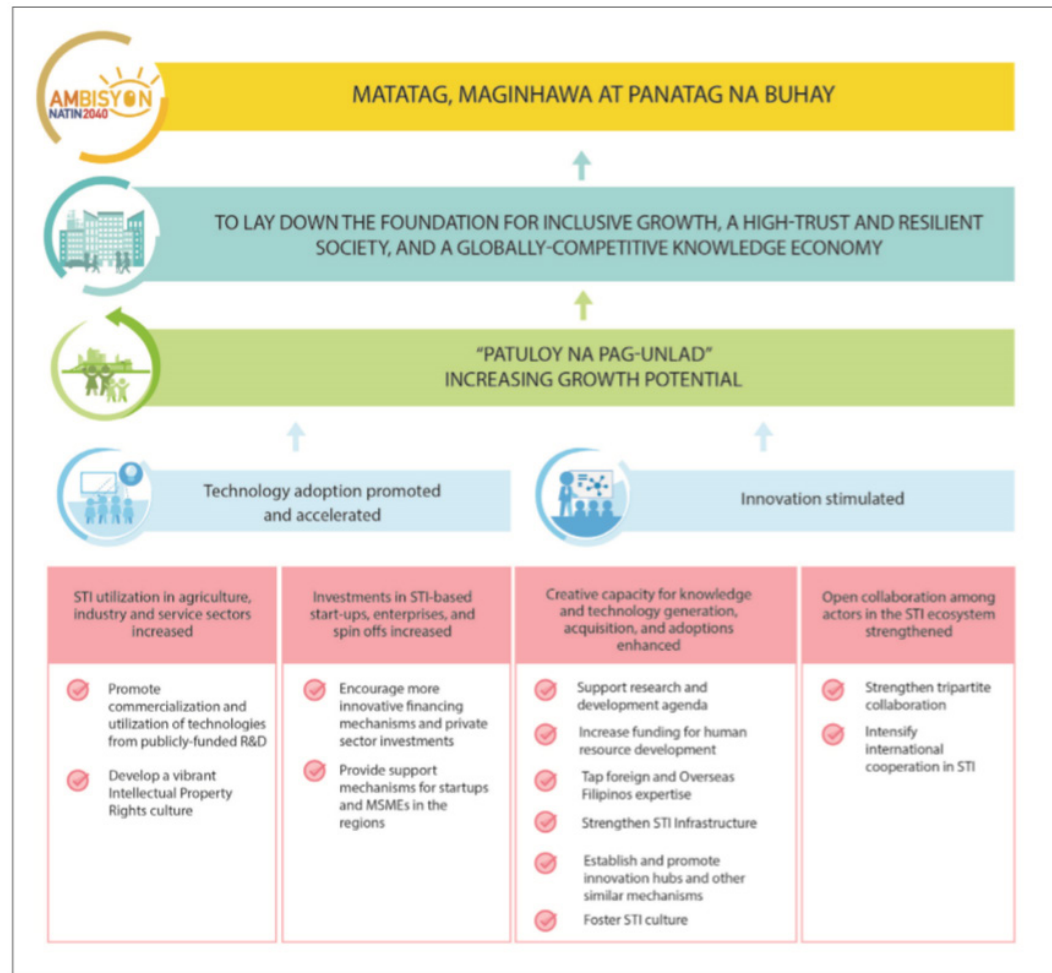
Challenges

- Need to fast track the completion of the Philippine National Halal Laboratory and Science Development Center in Koronadal City.
- Need for complementation of efforts with other government agencies in providing technical and financial assistance to SMEs.

Priority Strategy

- Strategic Clustering of industries to identify core projects where an S&T intervention can have wider spill-over effect to the entire value chain.
- Value addition by converting a raw material or its by-product to an end/finished product thru S&T application.
- Product/market niching by providing strategic interventions in the development and/or improvement of a product unique to the region and is able to cater to a specific market segment.
- Institutionalizing science-based information on weather, climate change and geological hazards to ensure the country's survival and future in an era of extreme and rapidly changing climate.
- Developing highly skilled and globally competitive S&T human resources in support of the national S&T programs.
- Promotion of science-based know-how and tools that enable the agriculture

Figure 19: Strategic Framework to Leverage Science, Technology, and Innovation, 2017-2022



- sector to raise productivity to world-class standards.
- Application of innovative, cost-effective and appropriate technologies that enable MSMEs to develop and produce competitive products that meet world-class standards.
- Set-up state-of-the-art facilities and capabilities that enable local industries to move up the value chain and attain global competitiveness.
- Implement ICT-based transformation of governance broadening access to government services (i.e. health and education) for those in the countryside (PH in the top 50 global ranking of e-government by 2016).
- Improvement of quality healthcare and quality of life thru science, technology and innovation

Legislative Agenda

- Institutionalization of the Philippine National Halal Laboratory and Science Development Center and Authorizing Implementation of Halal Technical Regulations

Results Matrix

This sector aims to promote state-of-the-art facilities and capabilities that enable local industries to move up the value chain and attain global competitiveness, promote tools that enable the agriculture sector to raise productivity to world-class standards and develop innovative, cost-effective and appropriate technologies that enable MSMEs to produce globally competitive products.

Among other targeted outcomes of this sector is to Improve quality healthcare and quality of life thru science, highly skilled and globally competitive science and technology (S&T) human resources in support of the national S&T programs, and the adoption of science-based information on weather, climate change and geological hazards to ensure the country’s preparedness in an era of extreme and rapidly changing climates

Table 43: Results Matrix to Leverage Science, Technology, and Innovation, 2017-2022

INDICATOR	BASELINE		ANNUAL PLAN TARGETS					
	YEAR	VALUE	2017	2018	2019	2020	2021	2022
Societal Goal: To lay down the foundation for inclusive growth, a high trust and resilient society, and a globally-competitive knowledge economy								
Intermediate Goal: Vigorously advancing science, technology and innovation								
Sector or Chapter Outcome 1: Technology adoption promoted and accelerated and innovation stimulated								
TECHNOLOGY TRANSFER								
Quantity Indicator								
No. of firms provided with S&T assistance increased	2015	1,198	485	490	495	500	505	510
No. of jobs created increased (No. of persons)	2015	7733	2,650	2,700	2,725	2,750	2,760	2,775
REGIONAL S&T SERVICES								
Quality Indicator								
Customer satisfaction rating sustained (%)	2015	95(VS)	95 (VS)	95 (VS)	95 (VS)	95 (VS)	95 (VS)	95 (VS)
Timeliness indicator								
% S&T assistance delivered within agreed time sustained	2015	95	95	95	95	95	95	95
S&T SERVICES								
Quantity Indicator								
Increased No. of firms/ other entities served	2015	668	690	695	700	705	710	715
Quality Indicator								
Customer satisfaction rating (%) sustained	2015	95(VS)	95 (VS)	95 (VS)	95 (VS)	95 (VS)	95 (VS)	95 (VS)
Timeliness Indicator								
% S&T assistance delivered within agreed time sustained	2015	95	95	95	95	95	95	95

Source of data: DOST XII