PHILIPPINE DEVELOPMENT PLAN RESULTS MATRICES 2017-2022

CHAPTER 14: VIGOROUSLY ADVANCING SCIENCE, TECHNOLOGY, AND INNOVATION

Objectives/Results	Indicator	Baseline[a]		Annual Plan Targets						Plan Target[b]	Means of Verification	Responsible Agency[c]	Reporting Entity[d]	Assumptions and Risk
		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														
Increasing growth potential														
Chapter Outcome 1														
Technology adoption promoted and accelerated														
Sub-Chapter Outcome 1.1														
STI (science, technology and innovation) utilization in agriculture, industry and services sectors increased	Proportion of high-tech agriculture, industry and services value added to sectoral value added increased (in percent)[e]	None	None	N/A	TBD	TBD	TBD	TBD	TBD	TBD	Proposed to Philippine Statistics Authority (PSA)	Department of Science and Technology (DOST)	DOST	
	Proportion of private Agricultural Forestry and Fisheries (AFF), and Industry and Services Research and Development (R&D) to sectoral Gross Value Added (GVA) increased (in percent)[f]	2009	0.07	N/A	TBD	TBD	TBD	TBD	TBD	TBD	PSA and DOST reports	DOST	DOST	
	AFF	2009	0.03	N/A	TBD	TBD	TBD	TBD	TBD	TBD				
	Industry	2009	0.15	N/A	TBD	TBD	TBD	TBD	TBD	TBD				
	Services	2009	0.04	N/A	TBD	TBD	TBD	TBD	TBD	TBD				
	Proportion of public AFF, and Industry and Services R&D to sectoral GVA increased (in percent)[g]	2013	0.08	N/A	TBD	TBD	TBD	TBD	TBD	TBD	PSA and DOST reports	DOST	DOST	
	AFF	2013	0.23	N/A	TBD	TBD	TBD	TBD	TBD	TBD				
	Industry	2013	0.02	N/A	TBD	TBD	TBD	TBD	TBD	TBD				
	Services	2013	0.09	N/A	TBD	TBD	TBD	TBD	TBD	TBD				
Aggregate Outputs														
	Number of technology adoptors increased (incremental)	2,015	2,700	3,000	3,300	3,700	4,000	4,500	5,000	5,000	Commission on Higher Education (CHED) reports	CHED	CHED	
	Number of Filipino patents granted increased (cumulative)	2016	31	33	34	36	38	40	42	42	Intellectual Property Office of the Philippines (IPOPHIL) reports	IPOPHIL	IPOPHIL	
	Number of Filipino utility models registered increased (cumulative)	2016	555	594	635	680	727	778	833	833	IPOPHIL reports	IPOPHIL	IPOPHIL	
	Number of Filipino industrial designs registered increased (cumulative)	2016	516	542	569	597	627	659	691	691	IPOPHIL reports	IPOPHIL	IPOPHIL	

[a] Actual data as of December 2015, or most recent available data. May not necessarily be year-end values

[b] May either be the cumulative or incremental target value at the end of the Plan period

[c] Agency accountable for delivering the outputs/outcome

[d] Lead Agency responsible for reporting progress on indicator targets

[e] The PSA is requested to produce the data annually for this indicator to better track the STI progress.

[f] Based on current prices. The PSA is requested to produce data for this indicator annually to better track the STI progress.

[g] Based on current prices. The PSA is requested to produce data for this indicator annually to better track the STI progress.

Objectives/Results	Indicator	Baseline[a] Year	Baseline[a] Value	Annual Plan Targets 2017	2018	2019	2020	2021	2022	Plan Target[b]	Means of Verification	Responsible Agency[c]	Reporting Entity[d]	Assumptions and Risk
Sub-Chapter Outcome 1.2														
Investments in STI-based start-ups, enterprises, and spin-offs increased	World Intellectual Property Organization (WIPO) - Investment Index percentile rank improved[h]	2016	17	18	19	20	22	24	25	25	WIPO Investment Index reports	DOST	DOST	
Aggregate Outputs														
	Number of technology business incubators (TBI) graduates increased (i.e. enterprises and spin-offs)	2016	41	N/A	TBD	TBD	TBD	TBD	TBD	TBD	DOST reports	DOST	DOST	
	Number of innovation hubs increased (e.g. TBIs, innovation centers, niche centers, etc.) (cumulative)[i]	2016	23	33	43	53	63	73	83	83	DOST reports	DOST	DOST	
	R&D expenditure of business enterprises increased (in PHP Billion)[j]	2013	8.24	N/A	TBD	TBD	TBD	TBD	TBD	TBD	DOST and PSA reports	DOST	DOST	
Chapter Outcome 2														
Innovation stimulated														
Sub-Chapter Outcome 2.1														
Creative capacity for knowledge and technology generation, acquisition, and adoptions enhanced	World Intellectual Property Organization (WIPO) - Knowledge and Technology Outputs percentile rank improved[k]	2016	66	Top 34%	Top 34%	Top 33%	Top 33%	Top 33%	Top 33%	Top 33%	WIPO-Knowledge and Technology Outputs Index reports	DOST/IPOPHIL	DOST	
Aggregate Outputs														
	R&D expenditure as a proportion of GDP increased (in percent, cumulative)[l]	2013	0.14	0.20	0.25	0.30	0.35	0.40	0.50	0.50	DOST and PSA reports	DOST	DOST	
	Number of Researchers, Scientists and Engineers (RSEs) per million population increased (cumulative)[m]	2013	270	275	280	285	290	295	300	300	DOST and PSA reports	DOST	DOST	
	Number of Science, Technology, Engineering, and Mathematics (STEM) enrollees in higher education institutes (HEIs) increased (in million, cumulative)[n]	AY 2015/2016	1.3	1	1.15	1.35	1.7	1.8	1.8	1.8	CHED reports	CHED	CHED	
	Number of STEM graduates in HEIs increased[o]	AY 2014/2015	250,000	270,000	285,000	300,000	50,000	100,000	200,000	200,000	CHED reports	CHED	CHED	

[h] A percentile rank of 18 in 2017 means that 18% of the countries in the WIPO ranking scored equal to or lower than the Philippines. It also indicates that 82% of the countries in the WIPO ranking scored higher than the Philippines.

[i] The targets are based on these assumptions: 1) there will be seven (7) niche R&D centers to be established in each region per year; 2) there will be three (3) TBIs established per year; and 3) existing innovation hubs will be sustained. This, however, will depend on the budget to be provided by the DBM.

[j] The PSA and DOST are requested to produce this data annually instead of every two (2) years. Data from 2016 to 2022 may be needed to better monitor the indicator.

[k] A percentile rank of top 34% in 2017 means that the Philippines is targetted to be at 66 percentile rank or even higher.

[l] The PSA and DOST are requested to produce this data annually instead of every two (2) years. Data from 2016 to 2022 may be needed to better monitor the indicator.

[m] The PSA and DOST are requested to produce this data annually instead of every two (2) years. Data from 2016 to 2022 may be needed to better monitor the indicator.

[n] The implementation of K-12 has resulted in the decline of freshmen higher education enrollment in 2016 and is seen to continue in 2017. In anticipation of this, the 2017 target is made lower than the actual number of STEM enrollees in 2016. On the other hand, the first batch of the K-12 enrollees will start to increase in 2018.

[o] The number of STEM graduates are expected to decline in 2020. This is because of the implementation of K-12 which led to the decrease in the number of freshmen higher education enrollment in 2016. Hence, the target for 2020 was lowered. Meanwhile, the 2022 target is smaller than that of 2017 and 2018 since the number of graduates will only start to pick up in 2022 when the first batch of K-12 graduates in 2018 (senior high school) will have completed the 4-year STEM courses and in 2023 when the remaining first batch of K-12 graduates will have completed the 5-year STEM (engineering) courses in addition to the 2nd batch (K-12) STEM non-engineering graduates.

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		Year	Value	2017	2018	2019	2020	2021	2022					
	Number of STEM enrollees in high school increased[p]	TBD	TBD	N/A	N/A	N/A	TBD	TBD	TBD	TBD	Department of Education (DepEd) reports	DepEd	DepEd	
	Number of STEM graduates in high school increased[q]	TBD	TBD	N/A	N/A	N/A	TBD	TBD	TBD	TBD	DepEd reports	DepEd	DepEd	
	Number of scientific articles published in International Scientific Indexing (ISI)/Scopus Index Journal by Filipino authors increased[r]	TBD	TBD	N/A	N/A	N/A	TBD	TBD	TBD	TBD	DOST reports	DOST	DOST	
	Number of Innovation Hubs Established	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	DOST/CHED		DOST/CHED	
	Number of Balik Scientists Engaged increased (cumulative)	2016	26	39	41	44	46	49	51	51	DOST reports	DOST	DOST	
Sub-Chapter Outcome 2.2														
Open collaboration among actors in the STI ecosystem strengthened	World Economic Forum (WEF) University-Industry Collaboration percentile rank improved	2016	52.5	Top 50%	Top 50%	Top 50%	Top 49%	Top 49%	Top 49%	Top 49%	WEF - University-Industry Collaboration in R&D Index reports	DOST/CHED/IPOP HIL	DOST/CHED/IPOP HIL	
Aggregate Outputs														
	Number of collaborations between HEIs and industries increased (cumulative)	2014	70	80	90	100	120	130	150	150	CHED reports	CHED	CHED	
	Number of collaborations between HEIs and government increased (NGAs and LGUs) (cumulative)	2015	300	340	380	420	450	480	500	500	CHED reports	CHED	CHED	
	Number of STI-related international cooperations of HEIs increased (cumulative)	2015	40	50	60	70	80	90	100	100	CHED reports	CHED	CHED	
	Number of new STI-related international cooperations of NGAs increased[s]	None	None	N/A	N/A	N/A	TBD	TBD	TBD	TBD	National Government Agencies (NGAs) and Department of Foreign Affairs (DFA) reports	NGAs and DFA	NGAs and DFA	

[p] Data for this indicator is deemed important and can be made available. Hence, the DepEd will be requested to produce data and provide targets annually.

[q] Data for this indicator is deemed important and can be made available. Hence, the DepEd will be requested to produce data and provide targets annually.

[r] Data for this indicator exists but access is restricted to only those who subscribed. Nevertheless, the DOST will consider the possibility of producing the data in the future.

[s] Data for this indicator may be existing. The DOST and DFA will be asked to consider the possibility of producing the data and annual plan targets in the future.