COUNTRY PROFILE: PHILIPPINES

Overview of Philippines' health system

PREPARED BY: *The Bertha Centre for Social Innovation and Entrepreneurship, Graduate School of Business, University of Cape Town*

AUTHORS: *Joseph Lim, Eldi van Loggerenberg, and Rachel Chater*

World Health Organization

TDR For research on diseases of poverty
UNICEF • UNDP • World Bank • WHO

SOCIAL INNOVATION IN HEALTH INITIATIVE

SKOLL CENTRE FOR SOCIAL ENTREPRENEURSHIP
SAID BUSINESS SCHOOL
UNIVERSITY OF OXFORD

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

GRADUATE SCHOOL OF BUSINESS
UNIVERSITY OF CAPE TOWN
BERTHA CENTRE

CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
DOH	Department of Health
HIV	Human immunodeficiency virus
LGU	Local government unit
MILF	Moro Islamic Liberation Front
NGO	Non-governmental organisation
NOH	National Objective for Health
OOP	Out-of-pocket
RHU	Rural health unit
US$	United States dollar
WHO	World Health Organization

EXECUTIVE SUMMARY

The Philippines is an archipelago in South-East Asia, with a population of just under 100 million inhabitants and the capital at Manila. English and Filipino are the official languages, but the ethnically diverse population also speaks several other languages. Most of the population is Catholic, though a significant Muslim minority exists in the south. The government is a republic and is largely modelled after the United States of America due to its history as an American territory, with Benigno “Noynoy” Aquino currently serving as president. The Philippines has maintained a steady growth rate of 5% in the past decade and, despite recent declines, has positive prospects for continued growth. The health sector faces a triple burden of disease in the form of communicable and non-communicable diseases as well as illness and injury that results from natural disasters such as typhoons. Due to the dominance of the private sector and difficulties in the implementation of the national insurance scheme PhilHealth, the Philippines has struggled to achieve universal health coverage and has seen mixed results in achieving Millennium Development Goal MDG targets. Recent reforms to PhilHealth have shown promising results in extending coverage to poor families.

1. COUNTRY AT A GLANCE

Component	Details/indicator/year	Data
Population	Total population (2014)	99 138 690[a]
	Percentage of urban vs. rural (2014)	Urban: 44, rural: 56[a]
Geography	The Philippines is an archipelago in South-East Asia, with extensive coastlines, narrow coastal plains, and extensive mountain ranges. The climate is tropical and there are frequent monsoons, with a wet season that runs from May to October and a dry season that runs from November to February. Natural hazards include landslides, active volcanoes, destructive earthquakes, tsunamis, and the Philippines' location in the typhoon belt.[b]	
Ethnic composition	Tagalog, Cebuano, Ilocano, Hiligaynon, Waray-Waray, Bicol, mestizos, Kapampangans, Negritos.[b]	
Government	The Filipino government is closely modelled after that of the United States. The president serves as head of state and is elected to a six-year term. Members of the Senate also serve six-year terms, while members of the House of Representatives serve three-year terms. The Supreme Court is the highest court of the judiciary system.[b]	
Economic and infrastructure data	GDP per capita (purchasing power parity) (2014)	US$ 6 969.0 (current international dollars)[a]
	Economic growth percentage in GDP (2014)	6.1[a]
	Gini-index (2013)	43.0[c]
	HDI (2014)	0.668 (ranked 115)[d]
	Percentage of people below national poverty line (2012)	25.2[a]
	Unemployment (2014)	7.1[a]
	Adult literacy (2008)	95[a]
	Education gender parity index (2013)	1.00[a]
	Percentage of population with access to sanitation (2015)	Access to improved drinking water: 92 (urban: 94, rural: 90)[a] Access to improved sanitation facilities: 74 (urban: 78, rural: 71)[a]
	Percentage of population with access to electricity (2012)	87.5[a]
Health system	Health expenditure as percentage of GDP (2014)	4.7[a]
	Annual public expenditure on health as percentage of total health expenditure (2014)	34.3[a]
	Percentage of health expenditure per person (2014)	US$ 135 (current US$)[a]

	Number of physicians per 1 000 population (2004)	1.2[a]
	Number of nurses and midwives per 1 000 population (2004)	6[a]
	Percentage of births with skilled attendants (2011)	72[e]
	Average life expectancy in years (2014)	68[a]
Disease burden	HIV prevalence as percentage among adults aged 15–49 (2014)	< 0.1[f]
	Deaths due to AIDS (2014)	< 500[f]
	Deaths due to non-communicable diseases (2012)	383 500[g]
	Deaths due to homicide (2012)	12 029[g]
	Maternal mortality rate per 100 000 births (2015)	114[a]
	Infant mortality rate per 100 000 births (2015)	22[a]
	Under-five mortality rate per 1000 births (2015)	28[a]
Top five causes of mortality as percentage of deaths (2012)[h]	1. Ischaemic heart disease	15.4
	2. Stroke	11.1
	3. Lower respiratory infections	9.1
	4. Diabetes mellitus	5.9
	5. Tuberculosis	4.6
Top five causes of DALYs (2012)[h]	1. Cardiovascular diseases and diabetes	ND
	2. Other non-communicable diseases	ND
	3. Maternal/neonatal/nutritional	ND
	4. Neuro-psychiatric conditions	ND
	5. Other infectious diseases	ND

GDP: gross domestic product; gini-index: measures the extent to which the distribution of income (or consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution; HDI: human development index; DALYs: disability-adjusted life years; ND: not determined.
Sources: [a] World Bank (2015b); [b] Cullinane (2015); [c] UNDP (2013); [d] UNDP (2015); [e] UNICEF (2014); [f] Joint United Nations Programme on HIV and AIDS (2014); [g] WHO (2015b); [h] WHO (2015c).

2. COUNTRY CONTEXT

2.1 COUNTRY HISTORY AND POLITICAL SYSTEM

The Philippines was a Spanish colony until 1898 when the United States defeated Spain in the Spanish-American War. Emilio Aguinaldo led a resistance movement until he was captured and executed in 1901 after which the United States civil government replaced military rule. In 1935, the Philippines became a commonwealth, with Manuel Quezon as the first president. After Japanese occupation during World War II, the islands were granted full independence in 1946 (BBC, 2015a).

Ferdinand Marcos became president in 1965 and was re-elected in 1969 despite accusations of election rigging. In 1972, he declared martial law, suspending parliament, arresting opposition politicians and imposing censorship. A year later, the new constitution granted Marcos absolute powers. Principal opposition leader, Benigno Aquino, was sentenced to death in 1977 but allowed to travel to the United States for medical treatment in 1980. Marcos lifted martial law in 1981 and won presidential elections and remained in power. In 1983, Aquino was assassinated moments after disembarking from his plane upon return to the country; an attack that was largely blamed on the military. Elections in 1986 saw Marcos win against Aquino's widow Corazon, amidst accusations of fraud and money laundering. Mass protests in Manila—termed "people power"—led to widespread loss of support for Marcos, who fled to Hawaii, officially ending his tenure (BBC, 2015a).

Defence minister, Fidel Ramos, won the next presidency in 1992 and brokered a peace agreement in 1996 with the Muslim separatist group, the Moro National Liberation Front (MILF), though the MILF continued its campaign for Moro autonomy. Ramos' successor, Joseph Estrada, came to power in 1998. Two years into his administration, Estrada was accused of corruption, betrayal of public trust and violation of the constitution. This led to the initiation of impeachment proceedings, but these were suspended in 2001, leading to mass street protests. Estrada stood down, succeeded by vice-president Gloria Arroyo. Although Estrada was eventually found guilty of charges, he was later pardoned (BBC, 2015a).

Arroyo's government arranged a ceasefire with MILF in 2003, but heavy fighting between government troops and MILF fighters in 2005 broke the ceasefire. Arroyo was re-elected in 2004, but faced accusations of vote rigging, leading to an unsuccessful impeachment attempt. In 2010, Benigno "Noynoy" Aquino III, son of assassinated Benigno Aquino, Jr., won presidential elections. The government signed a peace deal with MILF in 2014, followed by voter registration of hundreds of Muslim rebels a year later. However, insurgencies in the south still persist. Recent territorial disputes with other countries, such as the People's Republic of China and Taiwan, have also occurred (BBC, 2015a).

2.2 POPULATION

The Philippines' population of just over 99 million (World Bank, 2015b) is comprised of a number of different ethnic groups mostly of Malay descent including the: Tagalog, Cebuano, Ilocano, Hiligaynon, Waray-Waray, Bikol and Kapampangans. Other groups, such as mestizos and negritos, constitute a small proportion of the population (Cullinane, 2015). About 44% live in urban areas (World Bank, 2015b). The official languages are English and Filipino, which is largely based on Tagalog. Other significant languages include Cebuano, Ilocano, Hiligaynon, Waray-Waray, Tausug, Kapampangan, Pangasinan, Maguindanao and Maranao. About four-fifths of the population practise Roman Catholicism, while another tenth practise other denominations of Christianity. A significant Muslim minority, Moros, resides in the south and accounts for 5% of the population (Cullinane, 2015). Life expectancy is 68 years (World Bank, 2015b) with a median age of just under 23 years (United Nations, 2015). The Philippines has a notable expatriate workforce in service industries such as tourism. Citizens send remittances from abroad which amount to billions of dollars. Furthermore, the birth rate is one of the highest in Asia with estimates that the population may double within three decades (BBC, 2015b).

2.3 ECONOMY

Table 1. Economic measures of the Philippines

Indicator/year	Data
GDP per capita (purchasing power parity) (2014)	US$ 6 969.0 (current international dollars)[a]
Economic growth as percentage of GDP (2014)	6.1[a]
Debt as percentage of GDP (2015)	37.1[b]
Gini-index (2013)	43.0[c]
HDI (2014)	0.668 (ranked 115)[d]
Percentage of people below national poverty line (2012)	25.2[a]
Percentage of unemployment (2014)	7.1[a]

GDP: gross domestic product; gini-index: measures the extent to which the distribution of income (or consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution; HDI: human development index.
Sources: [a] World Bank (2015b); [b] IMF (2015); [c] UNDP (2013); [d] UNDP (2015).

The Philippines has been able to sustain an average growth rate of over 5% in the past decade and has been described as "one of the most dynamic economies in the East Asia region, with sound economic fundamentals and a globally recognized competitive workforce" (World Bank, 2015b). However, recent declines in growth have been attributed to slow public spending, decreases in demand for exports and a stagnant agricultural sector. Growth is projected to rebound to 6.4% in 2016. Despite inclusive growth, stable inflation and a budget surplus, maintaining current long-term prospects will require increased investment in infrastructure and a focus on structural reforms. Through the Philippine Development Plan, the government seeks to use the principles of good governance and anti-corruption strategies to continue inclusive growth, provide employment, promote equal access to social services and infrastructure, reduce the cost of doing business and establish effective social safety nets (World Bank, 2015a).

2.4 ENVIRONMENT

The Philippines is an archipelago in South-East Asia. Notable physical features include the irregular shape of the archipelago, extensive coastlines, mountainous terrain and narrow coastal plains. The climate is tropical and there are frequent monsoons, with a wet season that runs from May to October and a dry season that runs from November to February. Temperatures remain relatively constant, with the amount and frequency of precipitation varying across regions (Cullinane, 2015). Natural hazards include landslides, active volcanoes, destructive earthquakes, tsunamis and the Philippines' location in the typhoon belt. In 2013, Typhoon Haiyan left thousands dead, prompting a major international aid effort, exposing the country's vulnerability to natural disasters and illustrating the potential impact of such climatic events on health (Hall, 2015). Moreover, the Philippines Health Secretary recently noted that higher temperatures, attributed to the effects of global warming, are likely to increase the incidence of cholera, dengue, typhoid and malaria (ABS-CBN News, 2015).

3. HEALTH SYSTEM

3.1 OVERVIEW

Most of the Philippines's burden of disease is non-communicable, although communicable diseases exacerbated by natural disasters, such as typhoons, are significant (WHO, 2014). The Philippines has achieved varied progress in meeting Millennium Development Goals (MDGs). Child mortality and the incidence of communicable diseases has decreased, but there has been slow progress in reducing maternal mortality rates (Government of the Philippines, 2010). The private sector currently dominates the provision of health care, encompassing 70% of health care expenditure, but serves only 30% of the population. Most health care expenditure is funded through out-of-pocket (OOP) payments. The national insurance scheme PhilHealth provides coverage for only 38% of the population. Furthermore, the migration of health professionals seeking employment opportunities abroad is characteristic of the Filipino health care system. The government has recently made reforms to increase PhilHealth coverage, particularly for the poor and is currently implementing labour agreements with countries that are common destinations for migrant health care workers in an effort to manage migration and the flow of human resources (Romualdez Jr. et al., 2011).

3.2 ORGANIZATION

The health system is decentralised, with the Department of Health (DOH) providing national policy direction, technical standards, health guidelines and technical assistance; and autonomous national offices and local government units (LGUs) delivering health services. LGUs receive guidance from the DOH through centres for health development. Provincial governments provide secondary hospital care, while city and municipal administrations are responsible for primary care. Rural health units (RHUs) were established for every municipality in the 1950s to improve health care access. The Autonomous Region of Muslim Mindanao in the south has retained its centralised health structure. Health care services are delivered through a three-tiered system (Romualdez Jr. et al., 2011):

1. **Primary care**: provided by barangay (village) health centres and RHUs.
2. **Secondary care**: provided at provincial and district hospitals and city and municipal health centres.
3. **Tertiary care**: provided by hospitals at national and regional levels.

All health facilities are classified as general or special. General health facilities provide services for all types of illness or injury, while specialist facilities render specific clinical care and management as well as ancillary and support services. In addition, hospitals are also organised according to level. All hospitals provide basic clinical, administrative, ancillary and nursing services, depending on the level of the hospital. The different levels are set out below (Romualdez Jr. et al., 2011).

1. **Level 1** hospitals provide emergency care and treatment, general administrative and ancillary services, primary care for prevalent diseases in their respective areas and clinical services, such as general medicine, paediatrics, obstetrics and non-surgical gynaecology and minor surgery.
2. **Level 2** hospitals are non-departmentalised and cater to patients who require intermediate, moderate and partially supervised care by nurses for 24 hours or longer. These hospitals provide the same services as Level 1 hospitals, but with the addition of surgery and anaesthesia, pharmacy, first level radiology and secondary clinical laboratory.
3. **Level 3** hospitals are organised into clinical departments and offer intensive care, clinical services in primary care and specialty clinical care.

4. **Level 4** hospitals are teaching and training hospitals, rendering clinical care and management as well as specialised and sub-specialised forms of treatment, surgical procedures and intensive care. They are required to have undertaken at least one programme of accredited residency training for physicians.

Apart from hospitals, other health facilities exist, such as birthing homes and psychiatric-care facilities.

The traditional health system operates alongside western medicine and traditional practitioners are often used as affordable and culturally appropriate sources of medical care. Traditional birth attendants, for example, provide more personal and affordable services than midwives trained in western medicine, which may result in low utilisation of western birthing facilities. A division of traditional medicine was established in the DOH in 1993 and the Traditional and Alternative Medicine Act of 1997 created the Philippine Institute of Traditional and Complementary/Alternative Health Care as an autonomous agency to support traditional providers (Romualdez Jr. et al., 2011).

3.3 CAPACITY

Table 2. Number of facilities and health workers per population, the Philippines

Indicator	Data
Public sector (2007)[a,b]	701
Level 1 hospitals	333
Level 2 hospitals	282
Level 3 hospitals	32
Level 4 hospitals	54
Beds per 1 000 population	0.5
Private sector (2007)[a,b]	1 080
Level 1 hospitals	439
Level 2 hospitals	405
Level 3 hospitals	169
Level 4 hospitals	67
Beds per 1 000 population	0.5
Number of physicians per 1 000 population (2004)	1.2[b]
Number of nurses and midwives per 1 000 population (2004)	6[b]
Number of community health workers per 1 000 population (2005)	0.2[b]

Sources: [a] Romualdez Jr. et al. (2011); [b] World Bank (2015b).

The private sector serves 30% of the population, yet employs 70% of health professionals. Private hospitals tend to be clustered in urban areas, while government hospitals tend to be more strategically placed. Consumers perceive government hospitals to be of lower quality than their private counterparts and addressing this perception is a challenge, especially in underserved areas where a lack of financial and human resources often compromises the quality of care. Furthermore, the distribution of health services is often inequitable, particularly in difficult-to-reach island provinces, mountainous areas and areas of armed conflict (Romualdez Jr. et al., 2011).

Clinics, non-governmental organisations (NGOs) and the private sector have increased the provision of palliative care and actively coordinate with local governments and the DOH to integrate community

health services and primary care. The DOH has attempted to increase the capacity of NGOs as well as other partners through a "health in the hands of the people" agenda (Romualdez Jr. et al., 2011).

Training of human health resources largely mirrors the American medical education system. Physicians complete a four-year pre-medical course and a four-year medical education programme, followed by a one-year internship and possible specialisation. Level 4 hospitals serve as teaching institutions. Nurses, pharmacists and medical technologists also have four-year programmes, while dentists complete six-year programmes. Physical and occupational therapists complete five-year programmes.

As mentioned, the departments of foreign affairs, labour and employment and health are currently pursuing bilateral labour agreements with common destination countries to manage the flow of migration (Romualdez Jr. et al., 2011). Most health care professionals migrate on a temporary basis to Singapore, the United Kingdom and countries in the Middle East. A significant number migrate permanently to destinations such as Australia, Canada, New Zealand and the United States.

3.4 POLICY ENVIRONMENT

The World Health Organization (WHO) (2014) states:

> The current administration is pro-poor and pro-universal health coverage. Economic growth has created fiscal space for health, and significant additional financing is now available to support health reform and universal health coverage. The current plan, National Objectives for Health (NOHs), will run to 2016, coinciding with the presidential mandate of 5 years. NOHs reflect the broad priorities set out in the government-wide Philippine Development Plan 2011-2016, which includes the Aquino Universal Health Care Agenda. Three key pieces of legislation have recently been passed that provide opportunities for health improvement. (1) 'Sin Tax' Act 2012: taxation on tobacco and alcohol has risen significantly, generating proceeds that will be spent on enrolling the poorer half of the population in PhilHealth (the national health insurance scheme). (2) Responsible Parenthood and Reproductive Health (RH) Law 2012: this will allow, for the first time, sex education in schools; and allow the government to procure contraceptives for the poor. (3) National Health Insurance Act 2013: this allows the government to pay for enrolment of the poor in PhilHealth, as well as allow point of care enrolment and a number of other provisions that greatly expand universal health coverage and care and reduce financial risk to patients. Current focus is on extending coverage to include the poorest quintiles through government subsidies, as well as expanding benefit packages and eliminating co-payments.

WHO (2014) lists the following strategic priorities for the Philippines:

1. Strengthening the health care system to provide equitable access to quality health care with a special focus on health-related MDGs and priority non-communicable diseases.
2. Enabling individuals, families and communities to manage their health and its determinants.
3. Improving the resiliency of national and local institutions against health security risks and threats.

3.5 HEALTH FINANCING

Table 3. Health financing data for the Philippines, 2014

Indicator	Data
Total health expenditure (current US$)	US$ 13 403 772 000
Public expenditure on health as percentage of total expenditure	34.3
Public expenditure on health as percentage of general government expenditure	10.0
OOP expenditure on health as percentage of total private expenditure	81.7
Private insurance expenditure on health as percentage of total private expenditure	13.1
Expenditure of non-profit institutions serving households as percentage of total private expenditure	-
External funding (current US$)	US$ 181 709 000
Health expenditure as percentage of GDP	4.7

OOP: out of pocket; GDP: growth domestic product.
Source: WHO (2015a).

The public and private sectors have different financial incentives: while public facilities are generally autonomous and perform based on resources provided to them, private facilities are largely market-driven. Although the private sector serves only 30% of the population, it comprises approximately 70% of total health expenditure. The private sector also charges point-of-service user fees, although services may be subsidised by official aid agencies or philanthropy (Romualdez Jr. et al., 2011).

The government established the national health insurance scheme, PhilHealth, to provide universal health coverage, but it is underutilised with only 38% of the population covered. Most health care spending falls upon households through OOP payments. The government launched reforms in 2010 to increase the number of poor families enrolled in PhilHealth, provide more comprehensive benefits and reduce or eliminate co-payments. (Romualdez Jr. et al., 2011)

The health sector faces numerous other challenges. The decentralised health system, for instance, is unable to pool public sector resources. PhilHealth is also currently unable to negotiate prices with providers. Furthermore, budgeting for the public health sector has a history of political influence, making it difficult to introduce reforms for rational allocation of resources, such as performance-based financing (Romualdez Jr. et al., 2011).

3.6 COUNTRY DISEASE PROFILE

Table 4. Disease profile for the Philippines

Indicator/year	Data
Age-standardized DALYs per 100 000 for communicable diseases (2012)	10 384[a]
Age-standardized DALYs per 100 000 for non-communicable diseases (2012)	27 699[a]
Age-standardized DALYs per 100 000 for injuries (2012)	3363[a]
Under-five mortality rate per 1 000 live births (2015)	28[b]

Infant mortality rate per 1 000 live births (2015)	22[b]
Maternal mortality rate per 100 000 live births (2015)	114[b]
Estimated cases of malaria (2013)	16 000[a]
Estimated deaths to malaria (2013)	< 50[a]
Prevalence of TB per 100 000 (2014)	417[a]
Incidence of TB per 100 000 (2014)	288[a]
Deaths due to TB among HIV-negative people per 100 000 (2014)	10[a]
Prevalence of HIV as percentage among adults aged 15–49 (2014)	< 0.1[c]
Deaths due to AIDS (2014)	< 500[c]
Deaths due to non-communicable disease (2012)	383 500[a]
Deaths due to homicide (2012)	12 029[a]
Percentage of top five causes of mortality (2012)[d]	
1. Ischaemic heart disease	15.4
2. Stroke	11.1
3. Lower respiratory infections	9.1
4. Diabetes mellitus	5.9
5. TB	4.6
Top five causes of DALYs (2012)[d]	
1. Cardiovascular diseases and diabetes	ND
2. Other non-communicable diseases	ND
3. Maternal/neonatal/nutritional	ND
4. Neuro-psychiatric conditions	ND
5. Other infectious diseases	ND

DALYs: disability-affected life years; TB: tuberculosis; ND: not determined.
Sources: [a] WHO (2015b); [b] World Bank (2015b); [c] Joint United Nations Programme on HIV and AIDS (2014); [d] WHO (2015c).

WHO has described the Philippines as having a triple burden of disease, consisting of persistent communicable disease, increasing levels of non-communicable diseases and illness due to natural disasters, given its status as "the third highest disaster-prone country in the world" (WHO, 2014). The country has had some success in attaining MDG targets—child mortality and the incidence of communicable disease have decreased (with the exception of HIV and AIDS), but the same progress has not been achieved with maternal mortality (Government of the Philippines, 2010).

Social and environmental determinants of health remain significant challenges. In addition to the risk of natural disasters, increasing urbanisation is expected to increase the burden on the health system, as population growth, environmental degradation and urban lifestyles put the urban poor under higher risk (WHO, 2011). The Philippines has also been rated as "high-risk" in terms of food security, taking into account factors such as infrastructure, agricultural production and the risk of extreme weather events (Maplecroft, 2010). Total sanitation coverage remains difficult due to hygiene practices, the prohibitive cost of facilities and the lack of appropriate technology. Water pollution, air pollution, poor sanitation and unhygienic practices contribute to an estimated 22% of all disease cases and 6% of reported deaths (World Bank, 2006).

4. INNOVATION ECO-SYSTEM

The Department of Science and Technology, the Department of Trade and Industry, and the start-up accelerator IdeaSpace have recently set up a national innovation centre. The centre is considered crucial in boosting the Philippines' standing in the Digital Evolution Index, a measure of countries' readiness for a digital economy. Two hubs are to be set up near key academic institutions "to imbibe the spirit of innovative and entrepreneurial thinking among students, to tap into a wellspring of engineering and technology talent from these universities, as well as to address the growing interest of students in founding their own start-ups" (Balea, 2015).

Additionally, the Philippines has partnered with the United States Agency for International Development to implement the Science, Technology, Research and Innovation for Development programme—a five-year partnership with funding of US$ 32 million to strengthen applied research activity in the Philippines, both in industry and academia. The project seeks to expose Filipino universities and industries to the United States' model of technology development and innovation. Furthermore, "the project aims to create a dynamic network of researchers in universities and private companies who continuously innovate, entrepreneurs and investors who turn discoveries into products and companies, and a government supportive of initiatives that enables these partnerships to flourish" (USAID, 2015).

REFERENCES

ABS-CBN News. 2015. "DOH: Climate Change May Have Caused Disease Outbreaks." *ABS-CBN News*. http://www.abs-cbnnews.com/nation/11/20/08/doh-climate-change-may-have-caused-disease-outbreaks.

Balea, Judith. 2015. "Philippines Sets up Innovation Center, Takes a Page from Singapore, Malaysia." *Tech in Asia*. https://www.techinasia.com/philippines-building-version-silicon-valley/.

British Broadcasting Corporation. 2015a. "Philippines Profile - Overview." http://www.bbc.com/news/world-asia-15578948.

———. 2015b. "Philippines Profile - Timeline." http://www.bbc.com/news/world-asia-15581450.

Cullinane, Michael, Gregorio C. Borlaza, and Carolina G. Hernandez. 2015. "Philippines." *Encyclopaedia Britannica*. Britannica. http://global.britannica.com/place/Philippines.

Government of the Philippines. 2010. "Philippines 2010: Progress Report on the Millennium Development Goals." Manila.

Hall, Julie. 2015. "Typhoon Haiyan: Lessons from the Response and How to Prepare for the Future." *Humanitarian Exchange Magazine*, January. http://www.odihpn.org/humanitarian-exchange-magazine/issue-63/typhoon-haiyan-lessons-from-the-response-and-how-to-prepare-for-the-future.

International Monetary Fund. 2015. "World Economic Outlook Database." Washington, DC.

Joint United Nations Programme on HIV and AIDS. 2014. "HIV and AIDS Estimate." Geneva: Joint United Nations Programme on HIV and AIDS. http://www.unaids.org/en/regionscountries/countries.

Romualdez Jr., Alberto G., Jennifer Frances E. dela Rosa, Jonathan David a. Flavier, Stella Luz a. Quimbo, Kenneth Y. Hartigan-Go, Liezel P. Lagrada, and Lilibeth C. David. 2011. "The Philippines Health System Review." *Health Systems in Transition* 1 (2): 1–114. http://www.wpro.who.int/asia_pacific_observatory/Philippines_Health_System_Review.pdf.

United Nations. 2015. "UNdata." http://data.un.org/.

United Nations Children's Fund. 2014. "UNICEF Data: Monitoring the Situation of Children and Women." New York: United Nations Children's Fund. http://data.unicef.org.

United Nations Development Programme. 2013. "Income Gini Coefficient." http://hdr.undp.org/en/content/income-gini-coefficient.

———. 2015. "Human Development Report 2015." New York.

United States Agency for International Development. 2015. "Science, Technology, Research and Innovation for Development (STRIDE) Project." https://www.usaid.gov/philippines/partnership-growth-pfg/stride.

Verisk Maplecroft. 2010. "Food Security Risk Index." Bath, United Kingdom.

World Bank. 2006. "Philippines Environment Monitor 2006." Washington, DC.

———. 2015a. "Philippines: Overview." http://www.worldbank.org/en/country/philippines/overview.

———. 2015b. "World Development Indicators." Washington, DC: World Bank. http://data.worldbank.org.

World Health Organization. 2011. "WHO Country Cooperation Strategy for the Philippines 2011-2016." Geneva.

———. 2014. "WHO Country Cooperation Strategy at a Glance: Philippines." Geneva. http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_phl_en.pdf?ua=1.

———. 2015a. "Global Health Expenditure Database." http://apps.who.int/nha/database.

———. 2015b. "Global Health Observatory Data Repository." Geneva: World Health Organization. http://apps.who.int/gho/data/node.main.

———. 2015c. "Philippines: WHO Statistical Profile." Geneva: World Health Organization. http://www.who.int/gho/countries/phl.pdf?ua=1.