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Contents

Bhutan’s pre-eligibility for graduation from LDC status in the 2015 review of the list of LDCs

	PER CAPITA INCOME	**HUMAN ASSETS**	**ECONOMIC VULNERABILITY**
To pre-qualify for graduation in the 2015 review of the list, an LDC had to meet at least two of the following three graduation thresholds…	…to have a gross national income per capita of at least **US $1,242** (2011-2013 three-year average)	…to have a score >66 under the Human Assets Index (HAI), extreme values of which, among LDCs, were 7.8 (lowest human assets) and 87.6 (highest human assets)	…to have a score <32 under the Economic Vulnerability Index (EVI), extreme values of whih, among LDCs, were 71.5 (highest vulnerability) and 24.9 (lowest vulnerability)
Bhutan's score under the relevant criterion	$2,277 (GNI per capita, 3-year average)	66.8 (Human Assets Index score)	39.9 (Economic Vulnerability Index score)
Bhutan's score in % of the graduation threshold	at **183.3%** of the graduation threshold	at **101.2%** of the graduation threshold	at **80.3%** of the graduation threshold *(see footnote 4)*

Source: UNCTAD, based on CDP data

Graphs 1, 2 and 3 illustrate Bhutan's evolution, since 1991, under or above the graduation thresholds relevant to the per capita income criterion, the human assets criterion, and the economic vulnerability criterion, respectively. The data indicate the country's distance to the graduation threshold, as well as the distance to the admission threshold (the level for admitting new countries into the list). All data through the nine triennial reviews of the list of LDCs since 1991 (1991, 1994, 1997, 2000, 2003, 2006, 2009, 2012, 2015) have been standardized in index form, with the graduation threshold standing out as the 100 basis. For

Gross National Income (GNI) per capita is used as the preferred income aggregate for the purposes of identifying LDCs. GNI includes the income which has been generated by national factors –persons or entities– within and outside the domestic economic territory, including the income accruing to nationals who were abroad for less than a year, whose income would not be counted as part of the gross domestic product (GDP).

Table 2 indicates World Bank data on Bhutan's GNI per capita for the 2007-2016 period.

Table 2
Bhutan: Gross National Income per capita (in US dollars), 2007-2016

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1,620	1,730	1,810	1,970	2,150	2,290	2,300	2,340	2,350	2,510

Source: World Bank, World Development Indicators (Atlas method, on-line database), Nov. 2017

Graph 1
BHUTAN: distance from the graduation threshold
under the per capita income criterion (based on GNI per capita)

NB: *data up to 2015 are based on actual CDP findings; the 2018 projection is provisional*

Source: UNCTAD, based on CDP data up to 2015

With a spectacular rise from 19% of the graduation threshold in 2000 to 183% in 2015 and an expected 194% in 2018, Bhutan has demonstrated the fastest progress, under this criterion, among non-oil-exporting LDCs. Between 2007 and 2010, the annual income of the country (based on the gross domestic product/GDP) grew at the average rate of 10%, thereby reflecting a diversification pace which remains unique in the economic history of LDCs with a population under one million. The average growth rate since 2011 has been 5.6%. In 2015, electricity, the leading export sector, accounted for 35.2% of total merchandise exports, ahead of metal products (34.7%), mineral products (12.2%), fruits, vegetables and cereals (6.8%),

and chemical and pharmaceutical products (5.9%). In the same year, international tourism was the source of 75% of Bhutan's service export receipts, a contribution 3.5 times greater than that of the passenger transport sector, the second largest service export activity in the country. Electricity production and international tourism now stand out as the first two pillars of the economy in monetary terms (explaining 42% of total goods and services export earnings, and 20% of GDP). However, the contribution of these two sectors to the country's labour force still does not exceed 7.5%, a share considerably smaller than that of agriculture and forestry.

The depicted projection to 2018 in Graph 1 prefigures the expected scenario of full eligibility for graduation.

The gross national income has been consistently smaller than the gross domestic product in Bhutan, by 7% on average over the past decade. This is explained by a substantial net outflow of factor income equivalent to 26% of the country's total exports of goods and services. In 2015, the total factor income outflow from Bhutan was predominantly (for 70%) in the form of interest payments (largely to Indian creditors), while remittances abroad by foreign workers accounted for 17%, and repatriated profit (reinvested earnings) from direct investment in Bhutan represented 13% of the same total outflow (counterpart figures in 2010 were 64%, 31% and 5%, respectively).

Table 3 shows Bhutan's current account and key components of it over a period of eight years, and the relative weight of these recurrent flows on the economy in proportion to the gross national income. Bhutan's merchandise exports diversified significantly over the past two decades, notably with acceleration in the country's exports of metal products and chemical products, and in electricity, fruits and nuts, and copper, inter alia. However, exports did not increase at current prices, over the eight-year period covered by the table, while service exports more than doubled (+126%, principally air transport and international tourism).

Net remittance outflows, which have been dominated by the transfers made by some 50,000 to 70,000 Indian labourers working on hydropower projects, nearly tripled at current prices between 2008 and 2015, a period during which the ratio of net remittance outflows to GNI doubled. Interest payments to foreign creditors abroad, the dominant component of Bhutan's investment income outflows, increased considerably in recent years. At US $143 million in 2015, it accounted for an amount exceeding the country's exports of services by 16%, and exceeding the total aid inflows to Bhutan by 69%. The ratio of net investment income outflows to GNI , which was 1.6% in 2009, had risen to 8.1% in 2015.

In this context, the current account deficit of Bhutan increased significantly between 2010 and 2015 (by 79% at current prices, and by 9 percentage points in proportion of GNI). This overview of Bhutan's external economy reveals the weight of interest payments to foreign creditors, in an amount that was equivalent to 7.8% in 2015. If other outflows such as profit repatriated and remittances are taken into account, factor income outflows were equivalent to 11% of GNI in the same year. Six years earlier, the counterpart ratio was 4%. These figures indicate a growing level of external economic dependence on foreign sources of funding and foreign workers.

Whether this economic landscape can be considered as depicting the structural progress which graduation from LDC status normally implies is questionable. The quest for further productive capacity-building and diversification into sectors with higher productivity is of critical importance if Bhutan is to demonstrate that its reclassification is justified and timely.

Table 3

Bhutan's balance of payments: current account, primary income, secondary income

Current account aggregates and relevant ratios	2008	2009	2010	2011	2012	2013	2014	2015
Exports of goods	598.9	518.0	521.6	663.7	626.9	544.5	534.7	580.3
Imports of g								

Graph 2). The country's performance is expected to rise to 110% of the graduation line in the 2018 review of the list, thereby confirming the steady progress demonstrated over time.

Graph 2
BHUTAN: distance from the graduation threshold
under the human assets criterion
(based on the *Human Assets Index*)

NB: *data up to 2015 are based on actual CDP findings; the 2018 projection is provisional*

Source: UNCTAD, based on CDP data up to 2015

The rate of undernourishment (20% of the population over the past decade) has been 23% lower than the average rate of other Asian LDCs, and 22% lower than the average for all other LDCs. The child mortality rate decreased substantially between 2005 and 2015 (by an estimated 49%, to 32.4%). Bhutan, in this regard, fares better than the comparative regional group (by 26%). Secondary school enrolment is an

Under six of the eight components of the *Economic Vulnerability Index (EVI)*, Bhutan is statistically consideieiticaaatiseis s5.8(e 3-4..3(of)-8ther LDCs.3(t)5.9(i)5.a)2tttco1his se.eog(si)-8a.8(th)h6(e.i6(

Some 18 earthquakes hit Bhutan over the past 120 years, with an average magnitude of

Year	Epicentre	Magnitude on the Richter scale and impact on Bhutan
1897	Shillong Plateau, India	Magnitude: 8.7 (re-evaluated 8.0) Impact: Destroyed Punakha and Lingzhi *Dzongs*, and damaged Wangdi, Trongsa, Jakar *Dzongs* and Tashichhodzongs in Thimphu
1906	Bhutan-China-India border	Magnitude: 6.5 Impact: n/a
1910	North of Punakha, Bhutan	Magnitude: 5.7 Impact: n/a
1934	Bihar, India-Nepal border	Magnitude: 8.3 Impact: n/a
1941	West of Trashigang, Bhutan	Magnitude:6.75 Impact: n/a
1947	Bhutan	Magnitude: 7.9 Impact: n/a
1980	Gangtok area, Sikkim, India	Magnitude: 6.1 Impact: a few human casualties in some parts of Bhutan. Cracks were reported in Thimphu, Phuentsholing, Gelephu, Samdrup Jonkhar, and Trashigang. The national highway Phuentsholing-Thimphu was blocked by landslides induced by the earthquake.
1988	Udaypur Gahri, Nepal and Bihar, India	Magnitude: 6.4 Impact: several landslides on the highways
2003	Gunitsawa, Paro, Bhutan	Magnitude: 5.5 Impact: several landslides on the highways. Minor cracks in some buildings in Thimphu
2006	Arunachal Pradesh, India	Magnitude: 5.0 Impact: felt in Trashigang and the neighbouring region
2006	East Sikkim, India (130 kilometers west of Thimphu)	Magnitude: 5.7 Impact: no damage to houses or property was recorded in Bhutan, but damage to buildings was recorded in Gangtok, Sikkim.
2006	The epicenter near Dewathang in Samdrup Jongkhar struck twice between 2:04 am and 2:07 am, local time.	Magnitude: 2 earthquakes, 5.8 and 5.5 Impact: a total of 126 houses in nine *Gewog*s under Trashigang *Dzongkhag* suffered damage. Trashigang *Dzong* also suffered minor damage with numerous new cracks on the *Dzong*'s wall.
21 Sep. 2009	Narang, Mongar District, Bhutan	Magnitude: 6.1 Impact: 12 people were killed, and the earthquake damaged or destroyed large numbers of houses, public buildings, and cultural and religious monuments. Approximately 7,290 people were left without adequate shelter.
31 Dec 2009	Border of Sakten *Gewog*, Trashigang *Dzongkhag*, Bhutan	Magnitude: 5.5 Impact: 2 persons from Dramtse, Mongar were reported to have suffered minor injuries. There was damage to homes and property: partially damaged buildings from the 21st September earthquake either suffered more damage or collapsed.
18 Sep. 2011	Greater Sikkim Area, mostly affecting Haa, Paro, Samtse and Chhukha *Dzongkhags* in Bhutan	Magnitude: 6.9 Impact: loss of one life due to landslides. The earthquake also injured 14 and caused structural damage to 6,977 rural houses, 36 schools, 22 hospitals, 286 heritage sites, monasteries, 27 RNR centers and administrative offices worth of Nu 1,197.63 million.
28 June 2015	Assam, India	Magnitude: 5.5 Impact: 4 Dzongkhags (Chukha, Paro, Thimphu, Wangdue) were affected, with minor cracks on houses.

Year	Epicentre	Magnitude on the Richter scale and impact on Bhutan
4 Jan. 2016	Imphal, Manipur, India	Magnitude: 6.7 Impact: 13 Dzongkhags (Dagana, Gasa, Mongar, Pemagatshel, Punakha, Samdrup Jongkhar, Sarpang, Thimphu, Trashigang, Tashi Yangtse, Wangdue, Zhemgang) were affected, with minor cracks on houses.

Source: Department of Disaster Management, Ministry of Home and Cultural Affairs, Royal Government of Bhutan

Table 5
History of landslides in Bhutan

Year	Affected areas	Causes and impact
2000	Thimphu, Chukha, Trashigang, Samdrupjongkhar, Mongar, Lhuentse, Pemagatshel, Samtse, Tsirang, Sarpang, Zhemgang, Wangduephodrang *Dzongkhags*	Causes: Seasonal Monsoon Impact: • The main highway between Phuentsholing and Thimphu, the lifeline of the country, was severely disrupted by numerous major landslides (Sorchen, Jumja, Chhukha); • The highways between Wamrong and Trashigang, Wangdue, Sarpang and Gelephu, Zhemgang and Gelephu and the roads between Sunkosh and Daga, Tshelingore and Pemagatshel, Mongar and Lhuentse, Deothang and Bhangtar and Samtse and Sibsoo., • Most of the feeder roads were reported to be damaged • At least seven villages destroyed.
21 Aug. 2002	Thimphu-Tsirang highway	Causes: The sudden burst of sliding mud and debris Impact: 2 pre-primary school children were killed, when the vehicle they were traveling to school in was buried in a sudden landslide in Tsirang.
Sep. 2003	Lhuentse *Dzongkhag*	Causes: n/a Impact: Tsatichu landslide (Lhuentse *Dzongkhag*) formed a lake behind the slide mass that threatens the Kurichu hydro power project downstream.
25 Apr. 2005	Palamgphu, Mongar-Lhuentse highway (mudslide)	Causes: Believed to have been triggered by heavy rain Impact: 2 buried alive, 1 injured
2 July 2006	Bemsisi, Thimphu	Causes: n/a Impact: A total of 7,150.9 square meters of wetland was affected by the landslide.
17 Oct. 2006	Guenshari *chewog*, Punakha (hailstorm)	Causes: n/a Impact: More than 26 acres of paddy field belonging to 13 households were destroyed.
18 Sep. 2011	Haa	Causes: September 2011 Sikkim earthquake Impact: Loss of one life due to landslides triggered by the earthquake.

Source: Department of Disaster Management, Ministry of Home and Cultural Affairs, Royal Government of Bhutan

Table 6
History of glacial lake outburst floods (GLOF) in Bhutan

Year	Affected areas	Origin and impact
1957	Punakha-Wangdue valley	Origin: Western Lunana region Impact: Part of Punakha *Dzong* was destroyed.
1960	Punakha	Origin: Eastern Lunana area (burst of Tarina Tsho) Impact: Parts of Punakha *Dzong* was destroyed.
1968	Punakha, Thimphu and Paro valleys	Origin: no Information available Impact: In Punakha valley, several houses were washed away, and the old traditional bridge of Wangdue Phodrang and a house with 12 people were washed away. In Thimphu, a few houses, slopes and bridges were swept away. In Paro, there was great damage to both human and aquatic life (e.g. major areas of paddy fields in Dophu areas were completely laden with silt, sand and debris).
1994	Punakha-Wangdi valley	Origin: Eastern Lunana (burst of Luge Tsho) Impact: 17 lives were lost, 91 households were affected, 12 houses were damaged, 5 water mills to grind barley were washed away, 816 acres of dry land and 965 acres of pasture land were damaged (washed away or partially covered with sand and silt), 16 yaks were carried away, 36 cowsheds and a full year's manure were washed away. About 6 tonnes of food grain were lost, 2,838 pieces of roof shingles and 68 "champs"/beam were washed away, 4 bridges were washed away, 2 *chortens* were destroyed, 1 temple in Tsojug was badly damaged.
28 Jun 2015	Punakha-Wangdi valley	Origin: Lemethang Tsho (Head water of Mochhu) Impact: No damage

Source: Department of Disaster Management, Ministry of Home and Cultural Affairs, Royal Government of Bhutan

Table 7
History of flash floods in Bhutan

Year	Affected areas	Natural causes and impact
2000	Phuentsholing, Pasakha and other southern cities	Natural causes: heavy rains (floods) Impact: 49 lives were lost, and damage was endured in Phuentsholing: 17 huts were washed away, and damage was incurred by the BOD fuel station, the market, and a saw

Year	Affected areas	Natural causes and impact
4 Jun 2013		

Year	Affected areas	Natural causes and impact

14 indicators of performance under 3 LDC criteria	Why is the indicator considered suitable, in theory, for capturing progress toward graduation?	Does the indicator effectively measure Bhutan's structural economic progress?
GNI per capita	A rising per capita income will indicate higher living standards. It will also feed the impression of a growing capacity of the country to pursue development efforts with less external support.	Bhutan's GNI per capita casts no light on income distribution or structural economic transformation. Arguably, lessons could be drawn from the gross national happiness index, a holistic measurement of structural progress and a potential substitute for GNI per capita and the HAI altogether. *(Indicator partially suited for measuring progress or non-progress)*
Percentage of under-nourished people (component of the HAI)	An improving nutrition status will be seen as the pathway to better health, the avenue for durable progress in the human assets of the country.	Though revealing an unchanged performance in recent years (20% of the population is deemed undernourished), this indicator is meaningful. The relatively high incidence of undernourishment by Asian standards remains a suitable measurement of what remains an obstacle to structural progress in Bhutan's human assets. *(Indicator suited for measuring progress or non-progress)*
Child mortality rate (component of the HAI)	Success in the fight against child mortality will be interpreted as the result of meaningful public health achievements, and will indicate structural progress in the human assets of the country.	The steady decrease in Bhutan's child mortality over the past decade (-10% to 32 deaths per 1,000 live births today) indicates genuine progress in public health over time. This progress prefigures durable improvement in human assets. *(Indicator suited for measuring progress or non-progress)*
Maternal mortality ratio (component of the HAI from 2018)	A decreasing maternal mortality ratio will indicate meaningful progress in public health and human capital, thereby echoing the progress in infant mortality and child mortality.	Though correlated with the lowering of child mortality and therefore somewhat redundant, the diminishing maternal mortality ratio (latest estimate: 148 maternal deaths per 100,000 live births) reinforces the perception of structural improvement in Bhutan's human assets. *(Indicator suited for measuring progress or non-progress)*
Secondary school enrolment ratio (component of the HAI)	A rising secondary school enrolment	

Geographical distance to main markets (component of the EVI)	CDP takes the view that, the more

(iii) the Economic Vulnerability Index (EVI) appears to be the most disputable of the three aggregates in explaining Bhutan's structural handicaps and structural strengths: 3 of the 8 components of Bhutan's EVI score underplay the structural disadvantages of land-lockedness and the country's exposure to serious physical risks: (underestimated) geographical remoteness, (zero-) proportion of coastal inhabitants, (misleading, low) share of primary sectors in GDP.

In short, progress in the social status of Bhutan is appropriately reflected by the indicators under the human assets criterion, but the intrinsic economic vulnerability of the country is underplayed because of the relative inadequacy to the case of Bhutan of several components of the Economic Vulnerability Index. Bhutan is economically more vulnerable than it appears to be on the methodological and statistical grounds the United Nations presently leans on.

6. Conclusion

With an economic performance well above the first graduation line, and continued progress in human capital development above the second graduation threshold, Bhutan's forthcoming qualification for graduation from LDC status is an undoubted scenario. At the same time, the diversification of the economy, a relatively unique feature among small LDCs, and the steady improvements observed in the development of human capital, are recognizable

approach to vulnerability has brought the CDP to develop the EVI as a composite index based on an evenly weighted average of 8 components, 3 of which are shock indicators, while 5 are

support measures, irrespective of country status) may be seen by the Royal Government of Bhutan as a national priority if graduation is the chosen agenda; this would imply careful consideration of the question of the most desirable grace period before graduation, and a well organized national plan for government action during that pre-exit period.

Table 11
The cost of resilience-building action:
a challenge for Bhutan in the context of graduation from LDC status

A commonly accepted, two-pronged definition of vulnerability	The UN conceptualization of vulnerability	Components of the Economic Vulnerability Index (EVI)	Bhutan's disaggregated vulnerabilities and resilience-building action	Implications for Bhutan
	(a) Shocks caused by controllable factors		Fires	
SHOCKS			**Shocks endured by Bhutan:**	
	(b) Shocks caused by factors beyond domestic control	**(1)** Percentage of victims of natural disasters **(2)** Agricultural production instability **(3)** Export instability	. Earthquakes . Landslides . Flooding . Windstorms	

• at least two of the three graduation thresholds must normally be met for the relevant LDC to qualify for graduation, whereas a symmetrical application of the admission rule and graduation rule would imply that, ceasing to meet one of the three criteria under which the country was once identified as an LDC would be a sufficient reason for that country to qualify for graduation (see the "income only" exception to the graduation rule in the table below);

• a recommendation to graduate a country will not be made until the relevant graduation thresholds have been met by the country in at least two consecutive reviews of the list of LDCs. 0e.3(m)11.3().2(i6

in the 2015 review of the UN list of LDCs	
Per capita income criterion	**Gross national income (GNI) per capita:** * based on a 3-year average (2011-2013 in the 2015 review) * graduation threshold in 2015: US $1,242 * "income-only" graduation threshold: US $2,484
Human assets criterion	**Human Assets Index (HAI):** A composite index based on the following 4 indicators: * percentage of undernourished people in the population * under-five mortality rate * gross secondary school enrolment rate * adult literacy rate
Economic vulnerability criterion	**Economic Vulnerability Index (EVI):** A composite index based on the following 8 indicators: * population * remoteness (average distance from major markets) * share of population living in low-lying areas * share of agriculture, forestry and fisheries in GDP * merchandise export concentration index * share of victims of natural disasters in the population * index of instability of agricultural production * index of instability of exports of goods and services
Summary of the graduation rule	For all three criteria, different thresholds are used for identifying cases of addition to, and cases of graduation from, the list of LDCs. A country will qualify to be added to the list if it meets the addition thresholds on all three criteria and does not have a population greater than 75 million. Qualification for addition to the list will effectively lead to LDC status only if the government of the relevant country accepts this status. A country will normally qualify for graduation from LDC status if it has met graduation thresholds under at least two of the three criteria in at least two consecutive triennial reviews of the list. However, if the per capita GNI of an LDC has risen to a level at least double the graduation threshold and is deemed sustainable, the country will normally be found pre-eligible or eligible for graduation regardless of its performance under the other two criteria.