

Poverty and Social Analysis

Project Number: 50165-002
May 2018

Bhutan: Phuentsholing Township Development
Project

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Abbreviations

ADB	-	Asian Development Bank
CSOs	-	civil society organizations
GPI	-	Gender Parity Index
LAP	-	local area plan
PSA	-	poverty and social analysis
PUA	-	Phuentsholing urban areas
REAP	-	Rural Economy Advancement Programs
SDG	-	SAARC Development Goals
SPS	-	Safeguard Policy Statement, 2009
MoH	-	Ministry of Health
MoLHR	-	Ministry of Labor and Human Resources
NFE	-	non-formal education
NHDCL	-	National Housing Development Corporation Ltd.
NRP	-	National Rehabilitation Program
PTDP	-	Phuentsholing Township Development Project

Glossary

<i>dzongkhags</i>	-	district
<i>gewog</i>		county

I. INTRODUCTION

A. Project Background

1. Phuentsholing Town is situated on the banks of Amochhu River, which is a quiet river during the winter season but can become volatile and change its course during other seasons. It has been flooding every alternate year during summer or monsoon season when the water flow increases as the snow melts. This has been causing damage to the town and its people in terms of material loss due to sedimentation and erosion resulting directly from uncontrolled flows of the Amochhu River, which have been major contributors to the loss of valuable flat land along the western edge of the Phuentsholing Town. Frequent flooding causes damage to the property as well as gives rise to psychological issues like fear among people.

2. Besides floods, space is a major concern for Phuentsholing Town. Owing to increasing population and limited area, Phuentsholing Town is facing a serious shortage of land for development and expansion. The city is facing housing scarcity, pressure on basic infrastructure like water, drainage, roads, etc. and this has led to the problems like high cost of housing, traffic congestion, poor drainage, etc. Around 6,000 Bhutanese are currently living in the border town of India, Jaigaon as they cannot afford the housing in Phuentsholing Town.

3. The proposed project is the first phase and will develop about 66 hectares (ha) immediately adjacent to existing Phuentsholing Town along the left-bank of the Amochhu River. The project will construct about 4 kilometers (km) of robust river walls to provide protection from floods and erosion to the existing municipality and new urban areas. Behind the new river walls it will raise ground levels to above the 100-year flood levels, and install common urban infrastructure comprising water supply, sewerage and roads to the new plots of land. The plots will be leased to residential and commercial investors in accordance with the Amochhu Development Master Plan.¹ The project will also install an early flood warning system and community-based flood management plan, and support the government with preparing the subsequent phases of development.

4. The project is expected to provide opportunities for investment, job creation, and relieve existing housing pressures. Integrated planning and infrastructure, and institutional strengthening of Druk Holding and Investments Limited (DHI) will ensure environmental sustainability and climate and disaster resilience. The project's commercial approach, support for investor outreach, and a strong focus on operation and maintenance, will ensure the financial and operational sustainability of the new township, with the added benefit of increasing the tax base of the Phuentsholing Thromde (Municipality) for its own investments and operations. The new urban area will create opportunities for the services and industrial sectors, and will diversify the economy from its heavy reliance on hydropower.

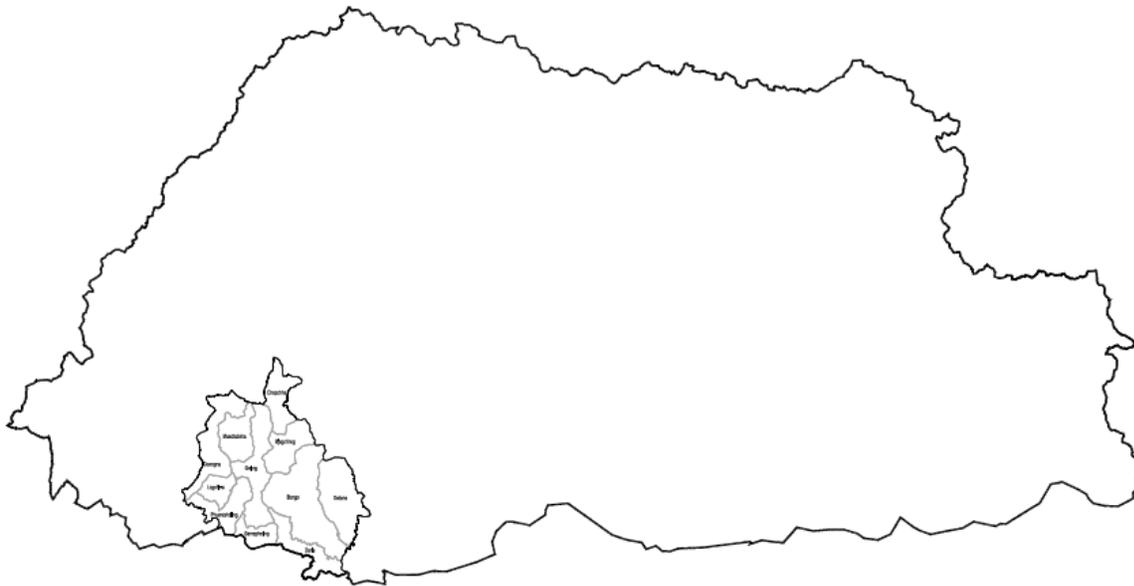
5. This poverty and social analysis (PSA) report is prepared by using: (i) secondary data from published report and information, and (ii) results and findings from social impact assessment prepared as part of the environmental impact assessment study for the Phuentsholing Township Development Project (PTDP)

¹ DHI. 2017. *Amochhu Development Master Plan*. Thimphu. Bhutan.

B. An Overview of Bhutan

6. Bhutan is administratively divided into 20 *dzongkhags*. The actual resident population of Bhutan as per the definition of the Population and Housing Census of Bhutan 2005, enumerated on the census day is 634,982 persons, out of which 333,595 persons (52.5%) are males and 301,387 persons (47.5%) are females. The sex ratio of the resident population is 111 males per 100 females. The urban population consists of 196,111 persons (30.9%) of the total population, while 438,871 (69.1%) are in the rural areas. During the 12 months prior to the census, there were a total of 12,538 live births and 4,498 deaths. This works out to the natural growth rate of 1.3%.

Map 1. Bhutan Country Map



Source: HCP

7. As per the Population and Housing Census of Bhutan 2005, the most populated dzongkhag is Thimphu with 98,676 persons accounting for 15.5 percent of the total population followed by Chukha with 74,387 persons (11.7%) and Samtse with 60,100 persons (9.5%). These three most populous dzongkhags together, account for 36.7% of the total population. The least populated dzongkhag is Gasa with 3,116 persons (0.5%) followed by Haa with 11,648 persons (1.8%) and Pemagatshel with 13,864 persons (2.2%).

8. With a total national population of 558,522 persons of age 6 years and above, 332,194 are literate resulting to a national literacy rate of 59.5%. Among the male population, 69.1% are literate while the female literate population is 48.7%.

Table 1: Socio-economic Indicators of Bhutan

Indicator	Status*
Population	634,982
Area in square km	38,394
Density of population (per sq km)	16.54
Average Family size	4.6
Number and percentage of Male	333,595 (52.5%)
Number of percentage of Female	301,387 (47.5%)
Population in the age group of (0-6yrs)	89,347
Population in the age group of (0-14yrs)	209,959
Sex ratio (Number of Male per 100 Female)	111
Literacy rate	59.5 %
Rural population	438,871
Urban Population	196,111
Economically active population (above age of 15yrs)	256,895 (60.44%)
Growth rate	1.3

Source: Population and Housing Census of Bhutan 2005

C. Overview of Chuka District

9. Chukha Dzongkhag is one of the 20 dzongkhags of Bhutan. The major town is Phuentsholing, where the PTDP site is located. Phuentsholing Town is the gateway city along the sole road which connects India to Western Bhutan. Chukha is the commercial and the financial capital of Bhutan. With Bhutan's oldest hydropower plant, Chukha Hydel (completed in 1986-88), and Tala Hydroelectricity Project, the largest power plant of the country, Chukha is the dzongkhag which contributes the most to the GDP of the country.

10. The Chukha Dzongkhag is the second most populated dzongkhag of Bhutan. The total population of Chukha as per 2005 census was 74,387 with density of 41.28 persons per sq.km.

Map 3. Chukha Dzongkhag Map



Source: HCP

Table 2: Socio-economic Indicators of Chukha Dzongkhag

Indicator	Status*
Total Population	74,387
Area in Sq.km.	1,802
Density of population (per sq.km.)	41.28
Average Family size	4.5
Number and percentage of Male	42,298 (56.86%)
Number of percentage of Female	32,089 (43.14%)
Population in the age group of 0-6yrs	9,952
Population in the age group of 0-14yrs	22,732
Sex ratio (Number of Male Per 100 Female)	131.8
Literacy rate	63 %
Rural population	41,461 (55.7%)
Urban Population	32,926 (44.3%)
Economically active population (above age of 15yrs)	31,660 (61.3%)
Growth rate excluding floating population	1.3

Source: Population and Housing Census of Bhutan 2005

11. The male population is 56.86% of the total and the female population is 43.14% of the total. The sex ratio is 131.8 i.e. per 100 females there are 131.8 males. This shows that percentage of females is less in comparison to the national scenario. The literacy rate in Chukha is 63% which is higher than the national literacy rate of 59.5%. Only 61.3% population of above age of 15 years are economically active in Chukha.

12. The following table shows the gender distribution in Gewogs and Thromde of Chukha Dzongkhag.

Table 3: Gewog/Thromde Wise Male-Female Distribution

Gewog or Town	Persons			Sex Ratio (males per 100 females)
	Male	Female	Total	
Bhalujhora	4,380	2,930	7,310	149.5
Bjachho	2,550	1,033	3,583	246.9
Bongo	4,258	2,612	6,870	163
Chapcha	1,762	1,486	3,248	118.6
Dala	5,755	2,811	8,566	204.7
Dungna	375	356	731	105.3
Geling	957	899	1,856	106.5
Getna	456	447	903	102
Logchina	1,389	1,283	2,672	108.3
Metakha	246	293	539	84
Phuntsholing	2,593	2,590	5,183	100.1
Dala Town	862	790	1,652	109.1
Gedu Town	2,262	2,026	4,288	111.6

Gewog or Town	Persons			Sex Ratio (males per 100 females)
	Male	Female	Total	
Phuentsholing Town	11,169	9,368	20,537	119.2
Tsimalakha Town	1,179	1,182	2,361	99.7
Tsimasham Town	715	518	1,233	138
Chukha Town	1,390	1,465	2,855	94.9
Chukha	42,298	32,089	74,387	131.8

Source: Population and Housing Census of Bhutan 2005 & Annual Dzongkhag Statistic 2010

13. The above table shows that about 28% of the total population of Chukha Dzongkhag is residing in Phuentsholing Town followed by Dalagewog where 11.5% population of Chukha Dzongkhag reside. The table also shows that Bjachhogewog has the highest sex ratio i. e. per 100 female there are 247 male in Bjachho. In Metakha there are 84 males per 100 female.

D. Overview of Phuentsholing Town

14. The proposed project is assumed to affect the existing Phuentsholing Town and surrounding rural areas and also the entire country in many aspects. Phuentsholing, meaning the land of prosperity, is conveniently and strategically located on the Indo-Bhutan border, has gained national recognition as the nerve center of economic activities or as the Economic Capital of the Kingdom of Bhutan. It has a crucial role in the socio-economic development of the country. It is also the gateway to the Capital City, Thimphu, and to the western region. Due to its economic vitality and various economic activities, it also attracts traders and people from all parts of the country. Phuentsholing Town has been experiencing tremendous pressure on development due to rapid commercialization and industrialization, which has led to extended development up to Damdara, Pipaldara and Kabreytar in the east and up to Rinchending in the west. Also, Pasakha industrial area has seen a tremendous growth during the last few years.

Table 4: Socio-economic Indicators of Phuentsholing Town

Indicator	Status*
Total Population	20,537
Area in Sq. km.	428
Density of population (per sq.km.)	48
Average Family size	4.2
Number and percentage of Male	11,169 (54.38%)
Number of percentage of Female	9,368 (45.62%)
Population in the age group of (0-6yrs)	Data Not available
Population in the age group of (0-14yrs)	7,580
Sex ratio (Number of Male per 100 Female)	119
Literacy rate	68%
Rural population (In addition to total Population)	5,183
Urban Population	20,537
Economically active population (above age of 15yrs)	Data not available
Growth rate including floating population	3%

Source: Population and Housing Census of Bhutan 2005

15. The above table shows that as compared to the national population density of 16.5 per square kilometer (m²). The Phuentsholing Town area is highly dense having population density of 48 persons per sq.km. The sex ratio shows the gender balance as there are 119 males per 100 females which are quite comparable.

16. The literacy rate 68% is higher than the national literacy rate 59% and Chukha's 63%.

17. The population growth rate of Phuentsholing Town and surrounding areas is 3%, which is very high if compared to the national rate of 1.3%

18. Known as the gateway to Bhutan, Phuentsholing Town is the largest commercial hub in Bhutan. Phuentsholing town also shares its border with Jaigaon, India, making it attractive to investors, industrialists, retailers, vendors and people from within and outside Bhutan. Being the second largest town in Bhutan (after the capital city, Thimphu), Phuentsholing Town has witnessed rapid urbanization over the past three decades, putting immense pressure on the housing demands, especially within the periphery of Phuentsholing Town.

II. POVERTY ISSUES

A. Poverty Issues in the Project Area

19. Like many other developing countries, poverty is a great concern in Bhutan. According to the Royal Government of Bhutan and various studies by National Statistics Bureau and the various donor agencies, the poverty in Bhutan has decreased over the past decade. Through various efforts, Bhutan has been able to achieve remarkable poverty reduction from 23.2% in 2007 to 12% in 2012 (Table 5). According to the Eleventh Five-Year Plan, reduction in poverty has been mainly attributed to the provision of infrastructure facilities such as roads, electricity, telecommunications, water and sanitation and the success of targeted poverty reduction programs such as the Rural Economy Advancement Programs (REAP) and the National Rehabilitation Program (NRP).

Table 5: Poverty Indicators 2003, 2007 and 2012

	2003	2007	2012
Total Poverty line	Nu740.36 person/month	Nu1,096.94 person/month	Nu1,704.84 person/month
Food Poverty line	Nu403.79 person/month	Nu688.96 person/month	Nu1,154.74 person/month
Non-food allowance	Nu336.57 person/month	Nu407.98 person/month	Nu550.10 person/month
Poverty rate	31.7%	23.2%	12%
Rural	38.3%	30.9%	16.7%
Urban	4.2%	1.7%	1.8%

Source: Poverty Analysis Report, 2003, 2007 and 2012, National Statistical Bureau, Thimphu

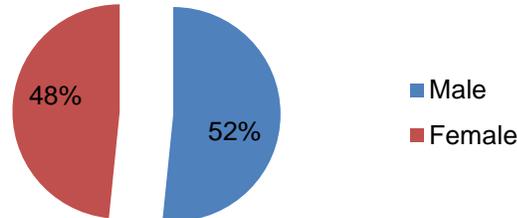
20. However, much of the poverty reduction in Bhutan have taken place in rural areas. According to the Poverty Analysis Report 2014, poverty was reduced by more than half in rural areas between 2007 and 2012. In contrast, poverty increased by all measures in urban areas. Rural-urban migration has playing an important part in the slight increase in urban poverty since a bulk of the migrants occurs amongst the poor rural people and the youth.

21. According to the Urban Development Plan Phuentsholing (2002–2017), the number of urban poor, who may be provisionally defined as a person living with monthly income of Nu3,000.00 and below in squatter settlements in Phuentsholing urban areas (PUA) is not very large despite of all efforts made, the survey done as part of Urban Development Plan Phuentsholing (2002–2017), indicates that squatters' units in the city will continue to grow in future.

22. Aside from low monthly income, the Phuentsholing's populations experience a lack of sufficient urban services. For example, the water supply in Phuentsholing town has been improved through earlier development partner-supported projects. According to the ADB sector assessment under the urban infrastructure project, the level of water services in district towns is less than 2 hours per day, and the water quality does not meet World Health Organization standards in most areas. Residents of Phuentsholing Town have been struggling to manage the high cost of housing, leaving them with limited housing choices. According to a Housing Needs Assessment survey conducted by the National Housing Development Corporation Ltd. (NHDCL) in 2015, nearly 6,000 Bhutanese live in Jaigaon with the majority being in the low-income strata and nearly 50 percent females. The survey for preparing social impact assessment for this

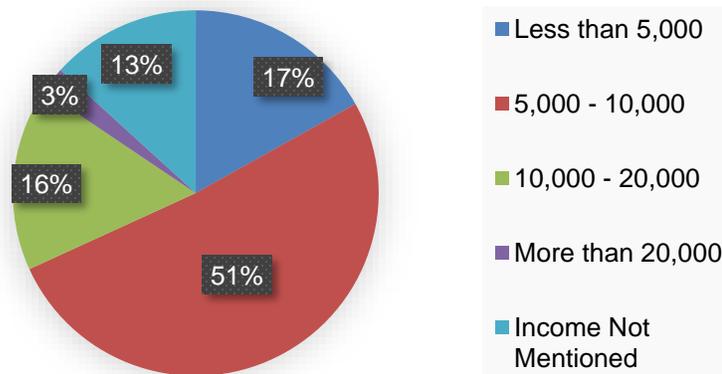
project also found that 93% of respondents moves to Jaigon, the border Indian city, are due to housing availability, and only 3% due to their jobs and another 3% due to their business.

23. The survey also indicates that among the people who migrated to the border city in Indian, are poor and vulnerable, who could not afford to pay high rents in Phuentsholing Town or other areas of Bhutan. This finding is supported by data from Review Report Social Housing Survey – 2015.



Graph -1. Gender distribution of Bhutanese people living in Jaigaon

24. As illustrated in above graph, the total number of people living across the border in Jaigaon is 5,681 out of which 2,932 are male and 2,749 are female.



Graph 2. Household Income distribution of Bhutanese people living in Jaigaon

25. As illustrated in the above graph the income level of people living across the border in Jaigoan is comparatively low. Around 68% of the families have monthly income below Nu10,000 per month.

26. As per the survey, 16.89% of 1,754 households have income less than Nu5,000; 51.28% have income between Nu5,000 to Nu10,000; 16.26% between Nu10,000 to Nu20,000; 2.34% have income more than Nu20,000. 13.2% of the total 1,754 families have not mentioned their income.

27. Phuentsholing Town has over the years developed into a clustered town with buildings very close to each other, narrow vehicular roads and insufficient walkways. The closeness of the buildings had created almost inhabitable interstitial spaces that have become prone to

garbage dumping, criminal and other inappropriate activities. Narrow roads have resulted in traffic congestion and parking issues.

B. Poverty Alleviation Program

28. Bhutan's development plan seeks to improve the overall quality of life and ensure equitable development benefits among varying income groups and regions. The Tenth Five-Year Plan (2008–2013) overall goal was to reduce poverty to less than 15%, making poverty one of the main criteria for the annual grant allocations. The Eleventh Five-Year Plan (2013–2018) also emphasizes on reducing overall poverty to less than 5% with particular focus on districts with poverty levels above the national average. Poverty alleviation has been reiterated again with Bhutan's commitment to the SAARC Development Goals (SDG).

29. In line with the Eleventh Five-Year Plan, the Phuentsholing Development Plan will aim to develop an economically vibrant, ecologically sustainable and energy efficient town, with the objective to make Phuentsholing Town a 'Clean, Green and Livable Town.' The strategies towards this are:

- (i) Phuentsholing *Thromde* will prepare and finalize local area plans for Pekarshing, Malbasy and Gurugdara to ensure planned and sustainable development of these areas.
- (ii) The shortage of drinking water will be addressed by exploring and constructing bore wells, groundwater, and reservoir schemes. Sewerage and waste management system will be constructed and improved.
- (iii) Thromde will construct Thromde office, and construct new urban roads in Kabreytar, Pasakha, Pekarshing, Damdara, Core area, implement local area plan (LAP), and motor able bridge over Omchhu.
- (iv) To enhance safety, promote community vitality and make Phuentsholing a highly livable town, street lights, CCTVs, bicycle paths, footpaths, recreational parks and sports facilities will be constructed.
- (v) To address the issues of housing shortage, National Housing Development Corporation is in close collaboration with the Dzongkhag and Thromde will construct an additional 250-300 housing units over the next five years.
- (vi) To improve quality, adequacy and effectiveness of education and learning and improve students' intake, existing school infrastructures, facilities and capacity will be improved and new infrastructures and additional capacity will be built and strengthened.

30. At the country level, all sector plans are geared towards the reduction of poverty and the main health indicators contributing to these strategies are:

- (i) Sustaining access to safe drinking water;
- (ii) Access to safe sanitation;
- (iii) Life expectancy;
- (iv) Infant mortality rate (per 1,000);
- (v) Under five mortality rate (per 1,000);
- (vi) Maternal mortality ratio (per 1,000); and
- (vii) Population growth rate.

III. GENDER DIMENSIONS

A. Statistical Gender in Bhutan

31. Compared to its neighboring countries, Bhutanese women enjoy better status and legal rights and the law protects the right of women in many ways. Families are mostly matrilineal and the land is inherited through the mother. However, this traditional inheritance pattern has binding many women to the land and also limits their socio-economic choices (Gender Equality Diagnostic of Selected Sectors (2014, p. 6). Opportunities for women outside their homes are hampered due to household responsibilities and their lack of proper education. These situations have led to country with low equality in HDI achievement between women and man. According to the UN Human Development Report 2016, Bhutan's gender development index (GDI) falls in group 5 that considered country with low equality in HDI achievements between women and men, especially in average year in school. With regards to the gender inequality index (GII) as reported in the UN Human Development Report 2016, Bhutan has a GII value of 0,477 and has ranking it 110 out of 159 countries in 2015 index, in which, only 8.3% female seat in parliament and only 5.8% female with at least some secondary education and lower labour participation compare to men.

32. The government statistic also show labour force participation for women is significantly lower in comparison to men, especially in the urban areas where many women work in the informal sector, often working from their homes. Urban unemployment rates have consistently been higher among women than men. In 2012, the unemployment rate was 5.6% for women but only 2.0% for men, and it was higher for women in each age category (Table 6).

Table 6: Unemployment Rate (Urban)

Age groups	Unemployment rate 2012	
	Urban Male	Urban Female
15-19	18.1	20.8
20-24	11.2	13.4
25-29	2.6	6.2
30+	0.4	2.0

Source: Labour force survey 2012, Ministry of Labour and Human Resources

33. The median age for female in civil service is 30-34 years and male is 35-39 years, indicating younger female civil servant. In workplaces, women hold lower paid and lower skilled jobs (Table 7) and women are under-represented in the Government jobs where they make up only one third of the civil service and also in public decision-making (Table 6). Although most of this has been attributed to the late start of education in Bhutan, studies have shown that leadership and politics tend to be seen as masculine activities - a belief held strongly by men and also shared by women.

Table 7: Gender profile for Executives/Specialists by Position Level

Position Level	Gender		Total
	Female	Male	
ES1		1	1
ES2	1	23	24
ES3	12	65	77
EX1	1	29	30
EX2	3	46	49
EX3	5	63	68

Position Level	Gender		Total
	Female	Male	
Constitutional Office	4	6	10
TOTAL	26	233	259

Table 8: Civil Servants by Age and Gender Groups

Age group	2008			2015		
	Female	Male	Total	Female	Male	Total
19 yrs and below	2	-	2	1	1	2
20-24 yrs	584	496	1080	740	678	1,418
25-29 yrs	2,383	3,514	5,897	2,694	3,767	6,461
30-34 yrs	1,407	3,020	4,427	2,679	4,178	6,857
35-39 yrs	664	2,343	3,007	1,715	3,294	5,009
40-44 yrs	420	1,872	2,292	670	2,062	2,732
45-49 yrs	196	1,219	1,415	430	1,713	2,143
50-54 yrs	77	956	1,033	217	1,713	1,930
55-59 yrs	27	315	342	60	1,121	1,181
60+ yrs	3	18	21	4	76	80
Total	5,763	13,753	19,517	9,210	17,489	27,813

Source: Annual Report, State of the Royal Civil Service (April 2014 to June 2015)

34. The Labour Force Study estimated 8,660 persons as unemployed in 2015, of which 72 percent were traced to urban areas. Although the overall unemployment rate dropped to 2.5 percent in 2015, the overall female unemployment rate estimated at 3.1 percent was higher than male unemployment at 1.8 percent.

Table 9: Percentage of Unemployed by Gender and Area of Residence

	Urban	Rural	Total
Female	42.9 %	17 %	59.9 %
Male	29.1 %	11 %	40.1 %

Source: Labour force survey 2012, Ministry of Labour and Human Resources

35. However, Bhutanese women have made progress and many of the girls have now set sights on professional careers. The number of women in the civil service has increased gradually and there has also been a tremendous increase in female school enrolment rates. The Government conscientiously works to ensure that equal opportunities are provided for men and women alike to participate and share in the benefits of development. Numerous measures to reduce gender inequalities have been adopted including equal job opportunity for both men and women in all sectors with equal pay for equal work. Mothers are given paid maternity leave for six months with the opportunity to return to the same job and position prior to the maternity leave and fathers are given a five-day paid paternity leave to help.

36. Programs like the non-formal education (NFE) and the continuing education program have been introduced by the Ministry of Education targeted to mostly people who have not been able to avail any general or monastic education. This form of education which is offered all over the country is especially popular amongst the females, providing them with the basic literacy courses in Dzongkha. As of 2015, there were a total of 721 centers and 7,618 learners with nearly 75 percent comprising of female learners (Annual Education Statistics, 2015). The success of this program can be seen today in the increased number of women who have gone to participate in politics at the *gewog* (county) and *dzongkhag* level. However, representation of women in both local and national politics is still low due to the lack of support from the local

communities. According to the Gender Equality Diagnostic Study, women account for only 8.2 percent of all members at the local development committee and only one of the 205 counties elected a woman gup (local leader). Bhutan needs to develop a systematic approach to encourage women's participation or ensure that women's views are taken into account in decisions related to infrastructure development and services.

37. Bhutan has continuously made efforts to improve gender disparity especially in the education sector and in 2015, the Gender Parity Index (GPI) stood at 1.06, which indicates that for every 100 boys, there are 106 girls in the primary level (Table 10). However, gender gaps are evident in education outcomes (Table 11) and unemployment as household and community factors affect a girl's participation and performance including incidences of early pregnancies. Adult literacy rate remains high and there is a large gender gap, especially in urban areas. According to the Population and Housing Census of Bhutan (2005), 80.4% of men (above 15 years) were literate compared to only 59.6% of women in urban towns.

Table 10: Enrolment Rates since 2008

Year	Gross Primary Enrolment	Net Primary Enrolment		
		Male	Female	Total
2015	112.0 %	92.4 %	98.1 %	95.2 %
2014	113.0 %	96.0 %	94.0 %	95.0 %
2013	116.0 %	95.0 %	96.0 %	96.0 %
2012	118.0 %	95.0 %	96.0 %	96.0 %
2011	120.0 %	94.0 %	96.0 %	95.0 %
2010	118.0 %	93.0 %	95.0 %	94.0 %
2009	116.0 %	91.0 %	93.0 %	92.0 %
2008	112.0 %	87.0 %	89.0 %	88.0 %

Source: Annual Education Statistics, 2015, Ministry of Education, Thimphu

Table 11: Transition Rate

Transition Rate	Male	Female	Total	GPI
Primary to Lower Secondary	90.6 %	94.1 %	92.4 %	1.04
Lower Secondary to Middle Secondary	87.5 %	87.9 %	87.7 %	1.00
Middle Secondary to High Secondary	73.9 %	69.3 %	71.4 %	0.94

Source: Annual Education Statistics, 2015, Ministry of Education

38. Maternal mortality ratio has improved from 255 numbers in 2000 to just 186 in 2014. Infant mortality has also halved from 60.5 in 2000 to 30.0 in 2014. Sex ratio at birth is 104 males per 100 females and the overall sex ratio of the population is 96 males to 100 females. Nearly 98 percent of the population have access to improved drinking water and over 66 percent are using improved sanitation facilities.

39. Despite some progress, women are still poorly represented in the decision making both in formal institution such as parliament, civil service as well as in informal institution such as civil society organizations (CSOs) at the village level development. For example, during project preparation, out of 12 gewogs located in the nearby project areas, only 1 woman participated in the meetings. The focus group discussion to prepare social impacts study for the project has put significant efforts to ensure participation of women. However, the social impact study team was only able to have 36% female respondent.

40. In urban sector, the observation and informal consultations with women living nearby project areas found similar situations as indicated in the 2014 study on Gender Equality

Diagnostic by ADB where women unemployment rate are higher and opportunities fewer for women, limited child care options that hinder the women's employment opportunities, less considerations to the needs of women for public facilities, and almost no women participate to development decision although there are several women CSOs in Phuentsholing Town.

B. Women and Flood Early Warning System (FEWS)

41. The study carried out by ICIMOD in 2015 and published in 2016 shows that Bhutan frequently experiences a hydro meteorological disaster. In terms of flood risks to its population, Bhutan ranks fourth highest for the Asia-Pacific region with 1.7% of its population exposed to the flood risk. Although the study was using focus group discussion only in Punakha-Wangdue Valley, it is still significantly useful for Phuentsholing areas. The study revealed that early warning system is gender neutral as it does not consider different needs and requirement between women and men. While most community members are aware of the hazard zonation maps, majority of women surveyed by the study were not aware of the safety routes and evacuation sites. The study also found that the methods used to disseminate warning system needs to consider different options to enable to reach different segment of communities. Based on the study, it is necessary to develop early warning system with gender sensitivity.

IV. CIVIL SOCIETY PARTICIPATION

42. As a social capital, a CSO, in the form of formal community associations have existed in Bhutan for many years as integral part of the traditional Bhutanese society. The cultural institution, in which communities participate in taking decisions related with wide range of government activities or other activities that bearing on their day-to-day lives, has known as "kidu." Historically, this form of participation was driven by difficult living conditions as a small mountainous country with rough terrain, and therefore, Bhutanese society depended very much on helping each other, particularly in the most vulnerable sections of society.

43. New and more modern types of association and organizations have also come into existence in various group of communities. Nowadays, most of the CSOs have been formed by educated people, and unlike the traditional associations that operate on the basis of unwritten customary rules and norms, these new organizations or associations are governed by written rules. Understanding this dynamic in the communities, the Government in 2007 adopted the CSO Act, and established the CSO authority in 2009 to facilitate the civil society institutions that are outside the government to make their contributions more effective both directly and indirectly to Bhutan's development. Presently, around 35 CSOs are actively working with communities in wide range of development activities.

44. During the preparation of this PTDP, the CSOs participate in several meetings. They have been part of the outreach program to inform communities about the PTDP and they are, indirectly, have assisted the project to capture a public opinion about the proposed PTDP. Considering their potential, their participation will be important throughout project implementation especially to facilitate the involvement of vulnerable groups and to effectuate the benefit of the project to the vulnerable groups.

V. OTHER SOCIAL DIMENSIONS

A. Public Health

45. There are two important aspects affecting public health: pollution and epidemic disease. In Phuentsholing Town, water and air pollution show its increasing trend. For water pollution, domestic waste is the main source of water pollution. In addition, improper disposal of waste oil and other chemical effluents from workshop has also seriously contributing in increasing surface and ground water. Out of 133 automobile workshops in Bhutan, 67 are located in Thimphu and Phuentsholing. For air pollution, the two largest contributing factors in urban areas are vehicle emission and the use of solid fuel for cooking, and heating. The ambient air quality monitoring has been done only in Thimphu by National Environmental Commission Secretariat (NECS). The NECS recorded that average respirable particulate matters (PM₁₀) concentration is 24.5 microgram per cubic meter ($\mu\text{g}/\text{m}^3$), which is considerably low. However, based on the level concentration of PM₁₀ in Thimphu, the industrial towns such as Pasakha, and Phuentsholing will have higher concentration of PM₁₀. The air pollution is likely to increase acute respiratory infection among children and chronic respiratory diseases.

46. About 70% of the country's total population resides in malaria risk, dengue prone and chikungunya affected areas. Phuentsholing Town being the commercial hub and a bordering town, remains prone to dengue and malaria. There was an outbreak of chikungunya in 2012. Phuentsholing Town is prone to these epidemic diseases. The sexually transmitted diseases (STDs) are also important public health issues in Phuentsholing Town due to its location as trading hub, and cross-border migration. Although geographically isolated, Phuentsholing Town is not impervious to HIV. The World Bank study in 2012 found that around 200 people living with HIV in Bhutan come from diverse occupational background. They include farmers, housewives, armed forced, and female entertainment workers.

47. The other public health concern in Phuentsholing Town is diseases associated with flooding. Each year the flooding of the Amochhu River causes severe problems especially for the poor and vulnerable in Phuentsholing as houses and roads get swept away leaving them homeless or stranded. During and after flooding subsided, the diseases related with unclean water such as skin diseases, diarrhea cannot be avoided.

B. Labor

48. Bhutan's Labor and Employment Act (2007) states that the minimum age of employment is 18 years. The act does not permit employers or employment agencies to discriminate against employees or job applicants or with regards to wages and working conditions. The act secures all employees the right to equal pay for equal work. Occupational health and safety measures are promoted and enforced and employers are made liable for compensation to employees against death due to work accidents or occupational diseases, total permanent disablement and temporary partial disablement.

49. The Ministry of Labor and Human Resources (MoLHR) is the lead organization to for the recruitment and monitoring of all laborers at construction sites. Monitoring of labor laws are carried out by designated labor Inspectors or labor relations officers in all districts. The functions of labor inspectors include advising and informing employees and employers about their rights and obligations under the Labor and Employment Act of Bhutan. They are also given the authority to enter at any reasonable times any construction sites or workplace to inspect and investigate the conditions, structures, machines, apparatus devices, equipment and materials.

Most of these visits are adhoc. The MoLHR together with the Ministry of Health (MoH) also conducts periodic training to the management staff from industries and construction companies on first aid and basic treatment of occupational injuries.

50. In 2007, private labor recruitment agencies were given licenses to operate the recruitment and mobilization of laborers. Responsibilities of the agencies include registering the laborers and carrying out all the necessary medical and immigration documentation works. The entire process takes a minimum of two days. During these two days, the laborers are provided with accommodation and food by the contractors. The agencies are also expected to monitor the laborers at site and to ensure that the laborers are not being harassed at work, unpaid/not paid in time, and that proper accommodation and the necessary basic facilities are provided.

51. In 2012, the government allowed private diagnostic centers to operate in Thimphu. These centers were initially opened to cater to both locals and foreigners to carry out tests that would otherwise need time or travel to India. However, by 2013, the government approved for more private diagnostic clinics to open in bordering towns like Phuentsholing, Gelephu and Samdrup Jongkhar. These clinics were given the added responsibility to carry out medical tests for the large numbers of expatriate workers who enter Bhutan, especially construction or factory workers. It is mandatory for all non-national laborers to go through a health screening process before being issued a work permit, which would also include basic checkups for tuberculosis, syphilis and malaria. Costs for these tests are borne by the construction companies.

52. If there are no health issues with the laborer, the medical papers are signed and sent to the Immigration Office. Once all papers are in order, the approval is given and normally by day two, the laborer is given the permit to work in Bhutan. Work permits are approved by the Department of Labor and issued by the Department of Immigration. The permit is issued for a maximum period of 12 months at a time. A work permit comes in the form of a card which includes details of the worker such as his age, sex, address and a passport size picture. Only male non-national workers are given work permit to work in construction sites in Bhutan. Their family members are not permitted to accompany them.

C. Social Safeguards

53. The project which involves a construction of river wall, embankment and finally development land for construction of urban infrastructures is a “greenfield” project. All construction activities will be in the riverbed along the Amochhu, and these areas are under the government land. Therefore, the project will not involve any work affected private land. The project will not trigger the needs to comply with the involuntary resettlement safeguard, as described in ADB Safeguard Policy Statement (SPS), 2009.

54. There is no record of the present of the indigenous people in the project areas and affected areas. The survey for preparing the social impact assessment found that there is no indigenous people will be affected by the project. Therefore, the project will not trigger the needs to comply with the indigenous people safeguard, as described in ADB SPS 2009.

VI. ASSESSMENT OF IMPACTS AND RECOMMENDATIONS

55. The proposed PTDP will develop 460 hectares (ha) of riparian land near the city of Phuentsholing town that is located adjacent to the Amochhu River on Bhutan's south-western border with India. The project which will be implemented in two phases will be able to provide more land for expansion of Phuentsholing Town, and complementary urban infrastructures could be constructed to meet the increasing demand on urban facilities of the urban population of Phuentsholing Town.

56. Each year the flooding of the Amochhu River causes severe problems especially for the poor and vulnerable in Phuentsholing Town as their houses and roads get swept away leaving them homeless or stranded. The proposed river training works will help mitigate the regular flooding in this area which means that people can be assured of security for their homes and jobs.

57. The river training works will allow land to be developed which will create more usable space for economic activities and employment opportunities. Construction of roads and bridges means that communication facilities are enhanced. This will allow for easy transportation of goods and services, and vibrant growth of economic activities in and around Phuentsholing Town. As a result, the project can have a significant impact on poverty reduction and improve the quality of life for the residents in Phuentsholing Town, and neighboring villages.

A. Job Creation and Opportunities

58. The project have no direct component for poverty alleviation. However, during the construction stage, the project will be able to generate a number of job opportunities for both men and women. There will be around 800 construction workers involve in this project, therefore, it will be a trickling down economic opportunities from the construction activities, such as catering, and other services activities. The job opportunities during the construction stage are expected to attract young people as well as women. According to Bhutan's Labour Force Survey (2013) the population of economically actively population between the ages 15-24 years) constitutes for nearly 20% of the total population. Females unemployment rate is about 5.6% in urban areas, therefore women can also be encouraged to work in the construction activities or work in the services sector to support construction activities. This way, the project will be able to facilitate and contribute in income generation of local population either from Phuentsholing Town and its surrounding village and town.

59. The project will lead to significant developments in the new town as residential and commercial buildings, schools, hospitals, clinics, public parks, hotels, shops, markets that will come up. These will create jobs in all sectors and large numbers of Bhutanese can be absorbed. Young Bhutanese, male or female, the illiterate and the semi-illiterate, and even graduates can find work opportunities in the new town as numerous jobs will be created to take in technicians, cleaners, maids, cooks, guards, electricians, plumbers, maintenance workers. The work opportunities from post construction should also attract women to participate. The project can generate valuable employment and training opportunities for Bhutanese, especially the young people. These opportunities may in the long term will help to tackle unemployment and poverty problems in Phuentsholing Town and its neighboring villages and towns. In order to maximize the social benefits, there is a need to conduct continually public meeting to inform and to send a message to the local communities about the potential working opportunities for the project.

B. Women Participations

60. In line with the country Eleventh Five-Year Development Plan, Phuentsholing *Thromde* aim to develop the city “clean, Green, and livable.” The new land development as part of the Amochhu project will be merged into Phuentsholing Town, and therefore, to establish livable city, the project will need to address the need of women not only as a vulnerable group but also as actor and agents to achieve the goal in developing Phountsholing Town. The following necessities need to be taken into account: (i) making the Phuentsholing Town safe for women, therefore road lighting system, location of public toilet, and other public facilities should take into account the needs of women; (ii) constructing a daycare to give a safe shelter for children while mother at works; and (iii) developing a city spatial planning that could facilitate easy movement of women to juggling between working and domestic activities.

61. To achieve the objective in developing sustainable clean, green and livable town, the project will need to directly seek the inputs from women. Therefore, a mechanism to involve women in all planning stage of new town development need to be formulated to ensure that the voice of women is taken into account in designing the new town.

C. Civil Society participations

62. The project will require the participation of civil society organizations (CSOs) in several important project activities. A wide range of the roles of CSOs is expected throughout project implementation, and the expected roles are briefly explained as follow:

- (i) Advocacy, the project will require an active participation of CSOs to raise public awareness on the important of the project and how the public can participate in the project. The project should work closely with CSO to inform public that there is ample of opportunities for men and women to work in the project.
- (ii) Service provider, the project will require a service from CSO to conduct training on understanding sexual transmitted diseases for construction workers and communities living adjacent to the project areas.
- (iii) Representative, the project will need to seek women’s perspective input in finalizing the design of the new town especially in developing common urban infrastructure. Therefore, the project will establish contact with women CSO and ensure their participation in the meetings.
- (iv) Expert and capacity builder, the project has potential environmental impacts that may affect individual as well as communities living in the affected project areas. Therefore, active participations of CSOs in assisting and companying affected peoples to file the complaint through the project grievance mechanism will be needed to ensure that fair solution provided by the project to the complainants.

D. Flood Early Warning System (FEWS)

63. As discussed in Chapter III, the FEWS is gender neutral that women and men will have the same needs and requirements. However, due to the ICIMOD findings that women are less aware on the safety route and evacuation sites. It is important to develop system that can make full awareness and understanding of the system for women and men. Therefore, the FEWS should also be developed with gender sensitive by involving women in all aspects of FEWS, increase participation of women as facilitator in disseminating FEWS to reach more women.

E. Other Social Aspects

64. The project will require around 800 skilled and unskilled workers. Although, the unskilled workers will be recruited locally and they can commute to the construction areas, worker camps will still need to be established. Therefore, it is important to ensure that the camps will have appropriate facilities for sleeping, cooking, and other sanitation facilities. The project will also involve the operation of heavy machineries, therefore, health and safety requirement should be strictly implemented. The health and safety program described in the environmental management plan (EMP) as part of environmental impact assessment report, will be monitored and enforced.

65. Considering the current situation of endemic diseases, it is important to increase awareness of the workers and people living in surrounding project areas on HIV and other STDs. The project is expected to work closely with local office of the Ministry of Health and CSOs to conduct routine training-workshops on HIV and STDs for construction workers and local communities. The awareness to avoid outbreak malaria, dengue and chikungunya should also be part of the training-workshops.

F. Continue Public Consultations

66. Considering the duration of project construction works, there are some potential social impacts from the project such as increase in dust, traffic, and social interaction between workers and local communities. It is important that the project routinely conduct public consultations with local communities as describe in the EMP. The consultations will not only inform about how the impacts associated with the construction works will be and have been handled but also the progress of project implementation. These consultations will also be used to inform the work opportunities with the project and to be used also as an avenue to gather any public complaint.

References

1. Public Benefit Organizations (PBOs).
<http://www.csoa.org.bt/csoa/content/pageContent.php?id=39>
2. ADB. 2014. *BHUTAN Gender Equality Diagnostic of Selected Sectors*. Manila.
3. ADB. 2013. *Civil Society Briefs Bhutan*. Manila, Philippines.
4. ADB. 2013. *Urban Operational Plan 2012–2020*. Manila, Philippines. 2013.
5. World Bank. 2012. HIV/AIDS in Bhutan.
<http://www.worldbank.org/en/news/feature/2012/07/10/hiv-aids-bhutan>
6. *Bhutan Observer Focus*. Civil Society Organizations. September 2015.
7. ICIMOD. *Working Paper 2016/13. Flood Early Warning Systems in Bhutan*.
8. Status of Women in Bhutan. <http://www.oocities.org/bhutanwomen/statuswomen.html>
9. Royal Government of Bhutan. Office of the Census Commissioner. 2005. *Results of Population and Housing Census of Bhutan 2005*. Bhutan.
10. Royal Government of Bhutan. Research & Evaluation Division, Gross National Happiness Commission. 2010. *Population and Development Situation Analysis*. Thimphu, Bhutan.
11. Royal Government of Bhutan. National Commission for Women and Children. 2013. *Bhutan Gender Policy Note*. Bhutan.
12. Royal Government of Bhutan. National Statistics Bureau. 2014. *Bhutan Poverty Assessment*. Bhutan.
13. Royal Government of Bhutan. Department of Labour. Ministry of Labour and Human Resources. *Handbook on Recruitment and Employment of Foreign Workers*.
14. World Health Organization. 2006. *National Tuberculosis Control Programme Bhutan. Report of the External Review*. New Delhi, India.
15. UNDP. 2016. *Human Development Report*.
16. UNICEF. 2010. *Bhutan Multiple Indicator Survey. Monitoring the Situation of Children and Women*. Bhutan.
17. UNODC. 2009. *A Rapid Assessment on the Drug Use Situation and Responses in Schools and Communities in Phuentsholing, Bhutan (2008)*. Manila, Philippines.