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Bhutan: Notes* Concerning the Political Role of Kidu

*Brian C. Shaw***

Abstract

The original Tibetan concept of kidu (*skyid sdug*[1] or more informally kidu) has been variously considered as welfare, self-help and assistance. In the context of Bhutan, the concept has closely linked the moral authority of the monarch with the economic needs of the public.

The paper considers both the politicisation of kidu (the competition for political space and authority by politicians of the First Parliament, against the received authority of the monarchs) and the de-politicisation of kidu (by the monarchs, notably through land-grant authority reaffirmed in the 2008 Constitution, the establishment of the Kidu Foundation and in other practical ways). Kidu rights and the authority of the monarch is reviewed, with especial attention to the future

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* I have styled this report "Notes", because much of the discussion which follows is inference, and the analysis is definitely incomplete (for which I crave the reader's indulgence). A thorough review of land policy from the Shabdrung's time is long overdue: although time-consuming, such an in-depth and objective analysis of land policy on a national scale would certainly throw much-needed light on a wide range of motivations and behaviours during the past decades and even centuries.

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[1] Variously defined, as e.g. in the Ramgjung Yeshe Wiki – Dharma Dictionary: 1) "joy and sorrow, good and bad fortune, ups and downs, happiness and grief / sadness / misery, please [sic] and pain. 2) livelihood, wealth and poverty. 3) membership, society, community. 4) conditions of life; welfare standards; gcig pa – family [RY]": *http://rywiki.tsadra.org/index.php?title=skyid_sdug&oldid=241929*.
Mathou, Thierry, The Politics of Bhutan: change in continuity, *Journal of Bhutan Studies*, vol. 2 no. 2 (Winter 2000), pp. 250-62, refers to kidu as a "welfare system" (p. 233 and 236).

prospects of either diminution or extension of these rights in the future, as the kingdom endeavours to establish "Democracy with Bhutan Characteristics."

The Tibetan usage

Various authorities see kidu as a form of self-help, usually as cooperative or mutual aid associations which typically administer a fund to assist the economic or spiritual welfare of members.[2] (A commentary on Bhutia death practices in Sikkim notes that kidu "plays a vital role in performing the social function of that community"[3]). A principal commentary appears to be Beatrice Miller[4]; elaborations[5] stress the welfare and communal grouping aspects of kidu and related institutions in neighbouring communities (notably Nepal)[6]. There is also a

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[2] See e.g. kidu as "monastic societies" (Jansen, Berthe, How to tame a wild monastic elephant: Drepung monastery according to the Great Fifth, p. 123), in Ramble, Charles, Schwieger, Peter, Travers, Alice (eds.),*Tibetans who escaped the historian's net: Studies in the social history of Tibetan societies* (Kathmandu: Vajra Books, 2013), pp. 111-29: but note the author's comment that "Not much appears to be known about the functions of these monastic societies" (ibid., fn. 30). Of course, not all kidu were related to monastic activity. (I thank Francois Pommaret for drawing my attention to this reference.)

[3] Mukherjee, Bandana, Some aspect [sic] of Bhutia culture in Sikkim, in *Bulletin of Tibetology*, Seminar Volume, 1995, p. 86. The author adds, but without elaboration: "A tendency of democratisation in formation of Kidu may also be deserved [sic = ?observed] in some cases."

[4] Miller, Beatrice, Ganye and kidu: two formalized systems of mutual aid among the Tibetans, in *Southwestern Journal of Anthropology*, 12 (2) (Summer, 1956), 157-70. The editor in Fisher, James F. (ed.), *Himalayan anthropology* (Berlin and Boston: De Gruyter, 1979), suggests that "the *kidu* [as cooperative organization] seems to be a basically urban Tibetan phenomenon" (p. 443).

[5] E.g. Muhlich, Michael, Credit relations in Nepal: A preliminary report on the Khatsara and Manange *kidu* systems, in *Contributions to Nepalese Studies* Vol 24 No.2 (July 1997), pp 201-15; Toffin, Gerard, *From Kin to Caste: the role of guthis in Newari society and culture* (the Mahesh Chandra Regmi Lecture 2005) (Lalitpur: Social Science Baha, 2005).

[6] I have not (yet) been able to consult Ronge, Veronika , *Das tibetische Handwekertum vor 1959* (Wiesbaden, Franz Steiner Verlag,1978), cited

news report[7] on a contemporary Tibetan village's "mutual aid institution".

Kidu in early Bhutan – speculation

I broadly speculate that in the 17th century, when Shabdrung and his followers travelled to Bhutan and began to establish their communities, they brought with them certain Tibetan concepts relating to local coordination and provision for security. These may or may not have included explicit notions of kidu. But as the size of the communities grew, and the need for protection became manifest, taxes were applied to the general population by those with political, religious and economic power, to sustain the granaries that were constructed in the great dzongs, to provide both for the daily needs of increasing populations within the dzongs in normal times, and for weapons and sustenance to conscripted local fighting men in times of war. The detailed article by Karma Ura on fresh harvest "offering [tax] for blessing" of 1679 in Wangdi district[8] gives a clear basis for the subsequent development of a tax system[9] based on initial offerings although "[i]t seems size of offering was dependent on motivation and not land size."[10], with no apparent sense of formal reciprocal official obligation to the tax-payers. Kidu as

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by Muhlich as giving (at pp.112-16 and 131-36) "an outline of the organization of kidus that were formerly operating in Tibet, and point[ing] to their possibly higher involvement in political affairs" (Muhlich op.cit., p. 201).

[7] Tenzin Tsondre, Kidu: A Tibetan village's mutual aid institution, in e.g. http://www.chinahumanrights.org/CSHRS/Magazine/Text/t20110324_724335.htm, drawing on Chen Bo, *Reproducing Shambala: half a century of village life in Central Tibet* (?Chengdu: Social Science Academic Press, 2009)

[8] (Dasho) Karma Ura, Massive rice offering in Wangdiphodrang in Zhabdrung Rinpoche's time, *Journal of Bhutan Studies*, 27,1 (Winter 2012), pp 3-17.

[9] See the valuable and cogent analysis presented by Pain, Adam, and Deki Pema, Continuing customs of negotiation and contestation in Bhutan, *Journal of Bhutan Studies*, vol. 2 no. 2 (Winter 2000), pp 219-27.

[10] Karma Ura, op. cit., p 9.

welfare was not yet explicit, but it may already have been implicit since those who give often expect something in return.

Adam Pain and Deki Pema have thrown valuable light on many related aspects:

> The issuing of kashos is linked to a traditional right[8] [see endnote 12 below] to seek protection, assistance and relief (kidu) whereby individual households could seek help from both government officials and the King. Indeed the Home Minister was until 1998 known as the Kidu Lyonpo. The seeking of kidu from the King is an established and commonly exercised right and in the matter of land allocation alone, substantial areas of land was given to individual households by the present king between [sic] during his reign (Land Records Office, Ministry of Home Affairs,) *a tradition and exercise of right that can be traced back to the civil rulers (Desi) that predate the establishment of the monarch*y [my italics-bs]. Kidu is also sought for assistance in matters of debt, particularly with formal institutions, and domestic disaster.[11]

The desis also extended kidu in kind, and the second king was especially concerned that the already "rich and powerful" should not become more so, especially in land holdings[12].

Kidu in Bhutan under Monarchy

Before the process of development in Bhutan beginning in the early 1960s,

> land administration and management in Bhutan … was not entrusted to any government agency. In those days,

[11] Pain, Adam, and Deki Pema, op. cit., extract at p.212. Their footnote 8 explains: "`Right' not as a legal claim but an entitlement claimed on moral grounds of a shared relationship, which can be vertical (as between sovereign and subject, authority and subordinate) or horizontal (kith and kin, same village etc.)."

[12] Anecdotal comments from older citizens in Thimphu to the author during 2010-2013.

> the main source of government revenue was by land taxation. People didn't want to own land as the taxation of land was high.[13]

The third monarch accepted the social utility of kidu as part of his forward-thinking reforms (including the freeing of several hundred bonded labourers). When the National Assembly was established in 1953, land issues occupied much of the deliberations. When the Council of Ministers was formally established by the National Assembly at its 28th session in 1968, the Home Minister was styled "Kidu Lyonpo".[14] A Land Act was established in 1971, "but no agencies followed it[15]". By 1976 it was necessary to write a new Land Act. The Land Act 1979 was adopted by the 58th Assembly in 1978[16], but detailed implementation was not easy as discussions in the National Assembly sessions reflect.

In the period 1984 to 1997, the 4th king issued many kashos[17] admonishing officials and Royal Family members for ignoring the spirit and letter of that law, as the following show.

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[13] National Land Commission Secretary Dasho Sangay Khandu, *Bhutan Today*, vol. 6 issue 74 (22 September 2013), p. 1 and 11.

[14] http://www.nab.gov.bt/downloads/6428th%20Session.pdf, Item 2 (p.1).

[15] Sangay Khandu, op. cit.

[16]http://www.nab.gov.bt/downloads/3358th%20Session.pdf

[17] Nishimizu, Mieko, *Portrait of a Leader: through the Looking-glass of His Majesty's Decrees* (Thimphu: The Centre for Bhutan Studies, 2008). The compiler observes (at p. 71): "Among the collection are five decrees about "land kidu" (royal welfare land grant), addressed mostly to the Home Minister during 1984 to 1991. Compassionate concerns about fair and just distribution of kidu are apparent throughout these decrees. But, what distinguishes these decrees is a palpable sense of frustration – even some anger perhaps – in discovering that land kidu continued to be granted by the Home Minister and others with no authority to do so (a 1980 decree, not included in this collection, established that it is an exclusive authority of the King)."

36. To the Home Minister[18]
With regard to the grant of land kidu, it was decreed that neither you nor any others except me can grant land as kidu, and you have also informed different dzongkhags in the same manner. But you have given away many government lands in contravention of my decree. Therefore, the government should confiscate all the land given either by you or by any royal family member after the date of my decree. You must also conduct a thorough investigation at the time of confiscation to find out if the land is cultivated. If it is the case, then the wages for cultivation and the expenditure for such land should be paid from the national budget. Henceforth, no other person except me can give land as kidu. I will not appreciate anyone granting land in contravention of my decree, and you must once more convey this message to different dzongkhags and departments.
Issued on this 17th Day of the 9th Month of the Wood-Rat Year (10 November 1984).

37. To the Deputy Minister of Finance [19]
Despite my decree dated 29 August 1980 to the Home Minister stating that I alone and no other person can grant land kidu, the Home Minister and some royal family members have granted land in contravention of my decree. It is hereby decreed that you should investigate as to who have given the land without my order, with effect from the above-mentioned date and cancel such lands even if they are registered in someone's name and declare them as government land within December 1985.
Issued on this 15th Day of the 5th Month of the Wood-Ox Year (2 July 1985).

[18] Ibid., p. 75.
[19] Ibid., p. 76.

New Land Policy

The document "New approach to the kidu land policy" was published in July 1988[20] and republished in January 1989[21].

The royal government has for the past 15 years [i.e. from 1973] been distributing land to the landless and poor as and when such requests were received. The primary consideration was [...] that the less fortunate subjects [...] should be provided with a source of material security and opportunity for income generation.

But the policy - "implemented on an adhoc [sic] and highly dispersed basis" - had not achieved these objectives. Almost all productive land in easily accessible areas was already cultivated or privately registered, while the remote areas lacked infrastructure. Rural labour shortages had been intensified by the programmes of the newly-created national workforce (needing a minimum of 30,000 workers) and enrolments in schools, monastic bodies and the armed forces.

Therefore, henceforth there would be "a comprehensive and planned resettlement programme for landless families applying for land" while there would be "opportunities for landless people to join the national workforce". It was "hoped that the new resettlement areas will eventually develop into self sustaining communities and emerge as future growth points."

But problems of implementation of an equitable land policy remained:

> 41. To the Home Minister[22]
> It was decreed that I alone can grant land kidu and the Home Minister too notified about this on 25th day of the 7th month of the Iron Monkey year. Thereafter, a decree was passed to the Home Minister on the 17th

[20] *Kuensel*, vol. 3 no. 29 (23 July 1988), p 1.
[21] *Kuensel,* vol. 4 no. 1 (21 January 1989), supplement on 67th National Assembly resolutions, p. 6.
[22] Nishimizu, Mieko, op. cit., p. 81.

day of the 9th month of the Wood-Rat year, supporting and explaining the previous decree. However, it was found after the regularization of land that some lands in some dzongkhags were given in contravention of the above decree. Such lands will be dealt as per the decrees given after 25th day of 7th month of the Iron-Monkey year. Henceforth, except the land for which I have granted kashos, *others given by anyone whether royal family members or any dignitary shall be cancelled and forfeited to the government* [emphas is added – bs]. The Home Ministry should act according to this order.
Issued on this 22nd Day of the 6th Month of the Iron-Sheep Year (2 August 1991).

46. To the Finance Minister[23]
The development plans and programmes are meant for the common people and I have been looking into the welfare of various individuals. However, with the increase in the number of people asking for kidu, it has become very difficult for the government, despite the rules being very strict. […]
A Committee has been established to look after the kidu fund, with the following persons as members: Gyalpoi Zimpon, Secretary of Finance, and Auditor General
It is the responsibility of the Committee to check which bank or industry is profitable and invest the fund and stabilize the foundation of the kidu fund. Further, the orders for kidu, which were given to the Ministry of Finance, will now be issued to the Committee. *You should grant the kidu from the interest and study the results after the grant of kidu. You must maintain an account and should be audited as per financial rules. Finally, it is decreed that you must discharge the above functions properly and submit an annual report.* [emphasis added – bs].
Issued on this 30th Day of the 4th Month of the Fire-Female-Ox Year (15 June 1997)

[23] Ibid., pp. 92-93.

In 2003, addressing chairmen and deputy chairmen of local administrations, the 4th King re-affirmed the broad boundaries of political authority in the post-1998 administration:

> while the responsibility of the prime minister and lhengye zhungtsho [cabinet] ministers was to provide good governance to the country,it was His Majesty's responsibility, as the Druk Gyalpo, to safeguard the security and sovereignty of the country and to look after the kidu of the Bhutanese people.[24]

Kidu in that context seems to mean an over-arching sense of welfare.

In late 2006, the 4th King abdicated in favour of the Crown prince. Addressing an augmented cabinet meeting on 14th December 2006, he said:

> Bhutan could not hope for a better time for such an important transition. Today, the country enjoyed peace and stability, and its security and sovereignty was ensured. After phenomenal development and progress the country was closer than ever to the goal of economic self reliance. Bhutan's relations with its closest neighbor and friend, India, had reached new heights. International organisations and bilateral development partners were ready to support Bhutan's development efforts and political transformation[25].

Kidu Democracy - I

The new Constitution for parliamentary Bhutan was widely publicized over several drafts before being formally adopted by

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[24] *Kuensel*, vol. XVIII no. 19 (17 May 2003), p. 5.

[25] *Kuensel*, 16 December 2006, p.1 and 14. Notably, at the same meeting, the Chief Justice, Lyonpo Sonam Tobgye, "expressed the deep gratitude of the Bhutanese people to His Majesty the King for giving them the identity that they were so proud of. The Bhutanese populace had been poor and down-trodden in the past but now looked into the future with confidence and pride." (p. 14).

the Parliament in May 2008[26]. Under Article 2, The Institution of Monarchy, the Druk Gyalpo "may" "[g]rant citizenship, land kidu and other kidus"[27].

A revision of the 1979 Land Act commanded by the 4th king to take account of the new administrative and legal circumstances, had been deliberated and agreed[28] by the 87th (and last pre-parliamentary) session of the Assembly in June 2007. In 2012, after four years in office, the government party proposed a further set of amendments as the Land Act Amendment Bill 2012.

Land Amendment Bill, June 2012[29]

Introducing the Bill to the National Assembly, the Agriculture Minister said that "the review was carried out mainly because of the inconveniences caused during the implementation of the Act". He added the Act needs to be reviewed in order to maintain consistency with other related Acts and in keeping with developments taking place[30].

There was a dramatic and widespread negative response in the media to the Bill[31]. A National Council MP was quoted as saying:

> This directly contradicts the provision of the Constitution which states that the prerogative to give

[26] See http://www.bhutanaudit.gov.bt/About%20Us/Mandates/Constitution%20of%20Bhutan%202008.pdf (the formal website of the Constitution, www.constitution,bt, has not been on line for a long time).

[27] Article 2, clause 16(b) of the Constitution. The term "kidu" is defined in Annex to the Constitution as: "Benefits granted by the King or Government of Bhutan".

[28] http://www.nab.gov.bt/Actpsession/61Land-Act-of-Bhutan-2007_English.pdf

[29] www.nab.gov.bt/downloadbill/Eng67.pdf

[30] http://www.bbs.bt/news/?p=14823

[31] E.g.: "National Council, Political Parties and Local Leaders all against Land Bill 2012", *The Bhutanese*, 21 June 2012 (vol. 1 issue 35), p1, 12: "Most of the above including ordinary citizens are against clauses … that give politicians vast powers over land and the National Land Commission" (sub-head).

> away land lies only with His Majesty the King. Cabinet can propose to the Druk Gyalpo but cannot give it away. It appears like the Government is trying to get more power by bypassing the prerogative of the Druk Gyalpo. This is unconstitutional.
> He said Land is closest to people's heart as it is the main resource. "From what I have heard, the Gyalpoi Zimpon is not included as one of the Commission members. He has to be one of the members as he has to know what is going on in the Commission"[32].

It was the proposals to replace previous National Land Commission members (including secretary-level civil servants and the Gyalpoi Zimpon, answerable especially on land matters directly to the monarch) with ministers of the government of the day[33], which drew most negative response. The proposed grant of land resettlement powers to the cabinet[34] was seen by many as a grant of land kidu powers to politicians. The 5th king quickly issued a kasho to the Parliament, which was widely publicised, in which he said

> …as a matter of principle, I, the Druk Gyalpo, must state that in the modern time, in a small nation where land is scarce and the value of urban land continues to rise along with the possibility of ownership of land and wealth being concentrated in the hands of a few, *there is no justification for exempting particular persons, whether royal family members or wealthy individuals, from the land ceiling* [emphasis added]. Except for institutions of State, no individual should be exempt from the land ceiling and other provisions that apply to the general public of Bhutan.[35]

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[32] Ibid., p. 1.
[33] Land Act Amendment Bill 2012, Chapter II, clause 5.
[34] Ibid., Chapter VII, article 230.
[35] Kasho read at the National Council on 18 June, 2012; *Kuensel*, 19 June 2012, p. 1.

Druk Gyalpo Relief Fund

On the eve of the new Parliamentary system, with its grant of legislative power to politicians, the 4th king - in a wide-ranging talk to out-going ministers - had extended warnings about possible profligate spending by politicians:

> [He] recommended the establishment of a Trust Fund for employment related problems. In 1989, the government had decided to create a Future Generation Fund but it had not materialised because of the Ngolop problem in the 1990s. His Majesty suggested that the government should set aside US $ 100 million to create a trust fund for youth employment.
>
> His Majesty reminded the cabinet that it would be useful to create trust funds because the money invested in such funds would be more secure than money kept in the country's hard currency reserves. It was always possiblefor future governments to use up the hard currency reserves of US$ 513 million, which had been built up with much difficulty over the years.
>
> The money in a Trust Fund, on the other hand, would be utilised only for the purpose for which it was created and, if it was needed for any national emergency, only the parliament would have the authority to sanction its utilisation.[36]

While the first Parliamentary government (2008-2013) did become embroiled in an acute shortage of funds (despite an unprecedented grant of 100 billion Indian rupees announced by the Indian Prime Minister in May 2008[37]), the Druk Gyalpo Relief Fund Act 201238 was passed by the Parliament with little disagreement. It gave life to article 14 of section 12 of the Constitution, by mandating an initial grant of Nu 20m with annual increments of Nu 20m until the fund reached Nu 100m, for use by the Druk Gyalpo for "urgent and unforeseen

[36] *Kuensel*, 9 September 2006 (vol. XXI no. 70), p. 13.
[37] See e.g. *Kuensel*, vol. XXIII no. 39 (21 May 2008), p.1 and 6.
[38] http://www.nab.gov.bt/ActParliament/34Drukgyalpo_RFund_Act.pdf

humanitarian relief" for the people of Bhutan without political strings attached.

Gyalpoizhing Land Case

The Anti-Corruption Commission (ACC) charged the then Speaker and the Home Minister - both previously dzongdags of Mongar district - and other officials with corruption in allocating land against the express orders of the king. The Mongar district court, the Thimphu High Court, and ultimately the Supreme Court, found against[39] these officials, who were sentenced to terms in jail redeemable by cash payments according to the law[40].

The case was not without its twists and turns, and not all documentation was made public. For present purposes it is instructive to look at part of the arguments made by the Speaker[41] and the Home Minister and 13 committee members[42] to the High Court in Thimphu reviewing the district decisions.

The Speaker's jabmi said in part that "the ACC has not mandate [sic] to prosecute as it is beyond the purview of the ACC Act"[43], that allotments of plots were made not of his own volition "but under the procedures established in accordance with the Royal command and in keeping with the procedures in force at the time of the allotments over thirteen years ago"[44], and that "ACC has treated similar situation differently by selectively charge sheeting the Prime Minister and other Ministries in the present

[39] The Supreme Court's final decision was announced on 17 July 2013; see *Kuensel*, 18 July 2013 pp. 1 and 2.
[40] Some members of the Royal Family who were implicated had their cases examined by the Privy Council, without public comment.
[41] http://www.judiciary.gov.bt/html/case/Judg/2013/HC/StateVsSpeaker.pdf; see esp. pp 13-35 for the Appellant's argument, and the ACC rebuttal at pp. 35-54.
[42] http://www.judiciary.gov.bt/html/case/Judg/2013/HC/StateVsLyonpo.pdf
[43] Ibid., p. 16.
[44] Ibid., p. 17.

Government while not charging other dignitaries and individuals who may even have engaged in forgery"[45].

The ACC's lawyer argued principally that "The 'Kaja' [Royal decree] of 31 March 1987 was specifically issued to regulate allotment of commercial plot and it categorically stated that the government should promulgate a bye-law and disseminate it and till that was done, all Dzongkhag Municipal Committees or any other person cannot allot any commercial plots"[46], and that 1991 administration circulars suggested that "preference" should be given only to those persons who own and operate legal shops in the given township".[47] The appellant had "abused his authority" to allot plots.

For present purposes, it is noteworthy that the ACC's concern was to ensure that the word and spirit of the 4th king's kashos should be implemented. Informally, some of the accused felt unfairly dealt with as they had operated under "the old system". The subtext of the case was clearly that there must be transparency and accountability.

Kidu Democracy – II

At the end of 2010, Mark V. Tushnet, professor of law at Harvard, was reported as saying

> "You won't know whether the Constitution is an accurate power map, until there's a displacement of monarch's views with that of the government. […] This confrontation will occur here, and it'll test wherein lies the power."[48]

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45 Ibid., p. 18.

46 Ibid., clause 2, p. 35.

47 Ibid., clauses 2-4, p35.

48 This lays the fireplace for a detailed discussion of the growing unpopularity of the leading party elected to power in 2008, and the widespread expression - up to the 2013 elections - in the social media of the view that the party's leader in particular sought to have the power and authority of a king. (Detailed review of these developments lies beyond the present essay.).

> "When democracy is imposed, not in any critical way, particular kinds of problems arise," he said, proffering the contemporary example of a dysfunctional democracy in Iraq. "In Bhutan's context, democracy has to be nurtured because it didn't arise from the organic movement of people".[49]

Tushnet's comments should be seen in the wake of several differences between the National Assembly and the (avowedly a-political) National Council between 2008-2010 and indeed up to the elections and a new government in mid-2013. For present purposes, it is important to underline the growing role of the 5th king in establishing a series of organisations and institutions that could have a semblance of maintaining a society in case of a breakdown of the democratic experiment, or more positively could be seen as complementing the public policy decisions of the Parliament from 2008 and looking some distance to the future.

There had for several years been an understanding by the monarchs that while the democratic experiment had to develop "ïts own legs" and learn from mistakes over a period of time, it was not enough to stake all on the success or failure of the parliamentary system of governance. A series of natural disasters in Bhutan affecting thousands of people underlined the contemporary vulnerability of society to unpredictable events, against which at least some plans could be made.

It is in this sense that the 5th King's "People's Projects" began, basically a series of investigations of circumstances of people's livelihood that took their authority from outside the formal civil service administration. Natural disasters catalyzed the 5th king's decision to establish the Kidu Foundation[50], followed by

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[49] "Why a constitution matters – because it defines where power resides, says resource person from Harvard", *Kuensel*, 29 December 2010, pp 1, 2. The report on Prof. Tushnet's seminar contribution was unclear on several key points: his remarks were not based on a prepared paper (personal communication, 30th April 2013).

[50] See http://www.kidufoundation.org/

the Bhutan Press Foundation, the Desuung Movement[51], the Royal Institute for Governance and Social Studies[52], the Royal Academy, the Bhutan Legal Institute.

The Kidu Foundation is not the only enterprise endeavouring to work with NGOs and private individuals to improve the lot of the people in Bhutan. But the Foundation in many ways is the bed-rock for the continuing strengthening of civil society and to buttress the parliamentary political system. The Foundation has significantly expanded its area of interest and the number of projects under its umbrella[53], in the fields of education, media and the rule of law, culture, and the aforementioned People's Projects.

One may see the work of the Foundation as a parallel government, but this would misconstrue the longer intention: there is not a sense of competition with the formal government bureaucracy, but a constant attempt to enhance public policy by non-bureaucratic means. For present purposes, its goals are not just succour in time of disasters, but to extend the political, social, and economic role of kidu, as a parallel-track policy safety net pending further maturation of the democratic impulse. The 5th King stated in mid-2012 that

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[51] See www.desuung.org.bt (not operative in August 2014). De-suups are "Guardians of the Country's Happiness & Peace". The organisation has established a regular three-week training program for its members (all aged over 25, with roughly one-third female), consisting of basic military training, lectures and practice on health and first-aid and other assistance for times of natural calamities, and lectures and discussions on Bhutan's history and culture. Formal goals are "to impart basic knowledge and skills in various fields such as disaster rescue and relief operations, environment and development, survival skills, leadership and personal development." The Desuung Movement might be seen as a "proto-militia" in the absence of such, but the members are volunteers from the private and corporate sectors, do not carry arms (although they learn how to use these), and - after successfully completing the initial course - have refresher training as lifelong registered members of the organization.

[52] Inaugurated October 2013. See http://www.rigss.bt/.

[53] http://www.kidufoundation.org/our-projects/

> A King's sacred duty is in looking after the wellbeing and Kidu of our people. Thus, I have spent these years meeting my people in their homes and villages as I fulfill this duty. I pray that my people will utilize to the fullest the Kidu I strive to bring to them, and ensure that its benefits accrue, not only them but to the future generations.[54]

Looking at the practical extent of kidu grants at the start of 2014, the Prime Minister at the opening of the second session of the second Parliament:

> expressed gratitude to His Majesty the Druk Gyalpo for granting land Kidu of over 60,000 acres to 63,000 people and 711 acres to 2,000 people comprising 315 households under the resettlement programme besides land Kidu to 196 people who directly approached His Majesty … [and] education support to 3,500 children from humble families under the Gyalpoi Tozay Scheme that enabled these children to study from pre-primary up to high school. … 75 students who had received scholarship to study abroad [were] back after completion of their studies. Currently 161 students are pursuing their education in eight countries under His Majesty's scholarship programme.
>
> His Majesty also granted citizenship to 8,374 people and medical referral abroad to 95 people including children and old people … [and] granted amnesty to 98 prisoners. The Prime Minister expressed his gratitude to His Majesty the Druk Gyalpo for granting Kidu to people from his own personal fund[55].

Evidently, the role of kidu in supplementing the democratic goals of Bhutan is by no means at an end.

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[54] 26 July 2012 (original from Kidu Foundation website but no longer there: see the *Kuensel* reportage at *Kuensel*, 28 July 2012, p. 2.

[55] Resolutions of the 2nd Session of the Second Parliament (from 22 January 2014), published as http://www.nab.gov.bt/downloads/2resolution.pdf, pp. 2-3.

Concluding Reflections

Kidu in Bhutan has content, and is also a process; therefore grounded but evolving. It means welfare, and it substantially relates to (and is rooted in title over) land, but it also has come to encompass all that is absent but seen to be desirable in the life of a citizen. The desire for kidu has perhaps grown out of proportion: the granting of requests for it certainly has consequences.

It seems clear that, whatever the origins and dynamics of the kidu system in and around the Tibet region historically and even today, the development of the kidu system in Bhutan has been different (as indeed have many aspects of life in Bhutan). In Tibet kidu was principally to provide a modality for the welfare and support of members of a group, whether they be monks or artisans from other occupations (e.g. musicians).

In Bhutan, pre-dating the institution of the monarchy system, the central role of kidu has been rooted in issues relating to land (and conversely tax): asserting that unallocated land was the property of the State, the de facto sovereign has also asserted his right to determine the allocation of that land. In monarchical times, the right to extend land kidu also reinforces the authority of the monarch to extend kidu in other matters, and indirectly reinforces the dominant political authority of the monarch as one to whom the people can turn for assistance when all hope seems lost - even though government officials, ministers and even members of the Royal Family themselves have endeavoured to take and assert this power for themselves.

After 2008, the monarch is an integral part - albeit at the apex - of the Parliamentary system.[56]

[56] During the first Parliament, there were extensive discussions on whether the leading political party – the governing party - should term itself "the Royal government". There were definite benefits accruing to a government party from a public linkage to the monarchy - especially when there were disputes over public policy - so the term could be used in a self-serving way. Ultimately, prior usage of the term, the international usage by other monarchies, and the constitutional

This right of the sovereign has not been directly rejected, but it has on occasion clearly been ignored in both the pre-parliamentary and parliamentary eras of contemporary Bhutan.

Both the 4th and the 5th kings have sought to maintain the asserted right to solely allocate land: as noted, persons in the bureaucracy (pre-2008) and the parliament (post-2008) have sought to wrest (or at least share) that right for themselves.

The Land Amendment Bill of 2012 most clearly and unambiguously shows the proposed intention of politicians to acquire this right. The "Gyalpoishing land case" shows its major importance in asserting, clarifying and "re-setting" the rights of the monarch over land title vis-à-vis the bureaucracy and (more recently) elected politicians.

That politicians have taken up the notion of kidu as good things that they might dispense to the people is inevitably in competition and conflict with the rights of the monarch. As elsewhere, politicians have long understood that if they can grant other good things to the people, then their status will be enhanced (and their re-election encouraged). In this continuing process, politicians are not only in competition with the monarch, but they are also building on and encouraging expectations of the people for good things to come to them from higher authority.

While binding people more closely to the monarch in the Bhutanese "social contract", the kidu authority and practice also has the practical effect of keeping open an avenue of review and possible redress for the people, at a time when the political institutions of the country (notably legal and political) are still in the process of growth and maturation.

In a society that might be described as politically adolescent in some contemporary respects, it makes great sense for a benevolent monarch to take initiatives to establish institutions

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provisions which included the monarch in the formal Parliament structure, led to acceptance of the status quo.

and practices that can operate independently of – but alongside of, and congruent to - the formal state institutions now being constructed or rebuilt under the authority of elected politicians. The achievements of the 5th king in particular in this respect deserve notice, notably (but not solely) the large range of projects folded under the Kidu Foundation.

Institution-building in a modernising society has a principal goal of establishing rules and procedures that seek to minimise or eliminate the arbitrariness of the ignorance or prejudice of those who have authority, i.e. the misuse of power. If we talk of "kidu democracy" as a synonym for "democracy with Bhutanese characteristics", the "kidu system" supports the rights of the common man and woman to a basic livelihood as well as succour in time of dread.

While politicians seek to co-opt the rights and political benefits of kidu to their own interests, their efforts seem unlikely to enjoy success unless they are joined as one with the moral authority of the monarch - and the allocation of land title (particularly to individuals or the family unit) will and should remain out of politicians' reach until such time as the review institutions have acquired their own authority.

What of the future? One may envisage a time when politicians are elected by an informed and critical citizenry, and all elected decision-makers (at grass-roots as well as national level) find their decisions closely examined by and helped by a strong network of informed civil interest-group societies. A strong and independent legal system, and a fearless anti-corruption body, could continue to encourage a deepened and vibrant "social contract" within the polity, having as a principal focus the continuous implementation of a "development without discontent".

Of course, kidu democracy is a process, not a goal in itself. Its essence is to be dynamic and informed, with the seeking of welfare for all citizens as a guiding principle. Land will remain the lodestar of the dispossessed, and the rich and powerful will

by whatever means continue to amass land banks as an ultimate familial wealth.

It may be that the kidu powers of the monarch, so expressly presented in the Constitution, may come to be eroded in practice by some who might assert that that document is "too narrowly interpreted" or "viewed in an unbalanced light".

It might be possible to argue that the tendency towards consensus that had been the norm in public affairs up to 2008 is now in the process of being replaced by a naked individualism, encouraged by the nature of party politics[57]: but individualism was never absent, and it was often the King (or the king's representative in the districts) who could bring moral authority to bear for acceptance of a consensus on controversial issues.

Will the Bhutanese form of kidu, focused on the grant of land but in fact and practice encompassing almost everything else as well[58], predominantly (but - excepting land – not exclusively) in the gift of the king, come to be transformed in due course to a Bhutanese version of pork-barrelling[59]?

As things stand today, and given the dynamic changes in political and individual relations now under way, the monarch's moral authority must rest to a large extent on the continuing ability to grant – and to be seen to grant – land as well as other kidu[60], independently of the politicians. The grant of citizenship

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[57] Some argue that corruption has come up much more strongly after 2007 than previously, as the notion that "public money is nobody's money" has taken stronger root with the moves towards parliamentary-style politics.

[58] The outgoing ministers of the First Parliament sought from the 5th king – and were granted – kidu (or soelra according to a statement by the outgoing party) to retain some perks of office, notably including the very expensive Japanese-made 4WD LandCruisers and Prados (*Kuensel*, 30 April 2013). Soelra is seen as a gift, often of appreciation.

[59] http://en.wikipedia.org/wiki/Pork_barrel

[60] The pseudonymous Bhutanomics website carried an article on 21 June 2013 suggesting that citizenship kidu was based on a list managed by the (former) DPT government

is a form of kidu that is managed by the 5th king, but it is not clear whether he is constrained to only accept potential citizens from a list drawn up and presented to him by politicians. It will be important in the mid-term and longer-term to have a well-educated and well-financed legal structure, especially with a view to having the Courts assess fairly any challenges to the Constitution, particularly on the issue of interpreting right to kidu.

The kidu system – both in its land aspect, and as more broadly and popularly understood welfare system - has come to underpin the entire march of Bhutan to modernity. If the kidu system is lost, then the future well-being of the peoples of Bhutan will be lost also.

There is an additional issue to ponder. With the well-known rural-to-urban migration trend in Bhutan well under way (and at least one recent report[61] suggesting more urban dwellers than rural population by around the mid-2030s), increasing areas of rural land will be left fallow. Fallow land by the border areas will gain the attention of neighbours; in due course it might be lost. This is a major security issue, touching the very existence of the state. Indeed, land kidu has become a very real security-related complex of issues for the present as well as the not-so-very distant future. How to motivate people to go back to the land, and how to ensure that rural incomes may meet the growing consumer demands of the people, deserves very serious attention[62].

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http://bhutanomics.com/2013/dpt-takes-credit-for-kidu/. Article 2 (16)(b) of the Constitution makes it clear that the Monarch has the right to grant citizenship, as well as "land kidu and other kidus". (The domain www.bhutanomics.com [registered in Panama, and hosted from 11 November 2011 on OrangeWebsite.com, a "100% Anonymous domain registration service", based in Rejkjavik, Iceland: see http://whois.domaintools.com/bhutanomics.com] extended its registration to 11 November 2014.

[61] *See Table 1 given for Bhutan under* http://esa.un.org/unpd/wup2014/Country-Profiles/Default.aspx.

[62] The "Samdrup Jongkhar Initiative" (www.sji.bt) which was formally inaugurated on 18-20 December 2010 in Dewathang, appears to be continuing to gain traction. But "Thimphu is far away".

Trend of Bhutan's Trade during 1907-26: Import

Ratna Sarkar[*] *and Indrajit Ray*[**]

Introduction

It is logical to expect that quantitative and qualitative changes in Bhutan's export during the period of Ugyen Wangchuck should be corresponded by similar changes in her imports. For one thing, when a country's export grows over a longer period, the accumulation of foreign exchange in that country enables her to import more. Indeed, since both exports and imports, especially their growth and diversification, depend on the changes in the domestic economy (along with changes in the rest-of-the-world), in most cases do we observe simultaneous changes in both these fronts. The present article seeks to assess to what extent Bhutan's import changed during the years of the First Monarch.

The organisation of the study is as follows. While section I seeks to measure the quantitative aspect of change in Bhutan's import during the study period, the following two sections discuss the changes in the origin and composition of her import respectively. Section IV gives the summary.

Section I: Trend analysis for 1907-25

We present the import series for 1907-08/1924-25 in Table 1. For the sake of analysis of Bhutan's import, we consider 3 yearly moving average series for imports.

If we consider the average annual import in Bhutan for the first and the last four years of our study period, the growth rate comes to 11.21 per cent per annum. This is, indeed, a high rate of growth especially in view of longer framework of time.

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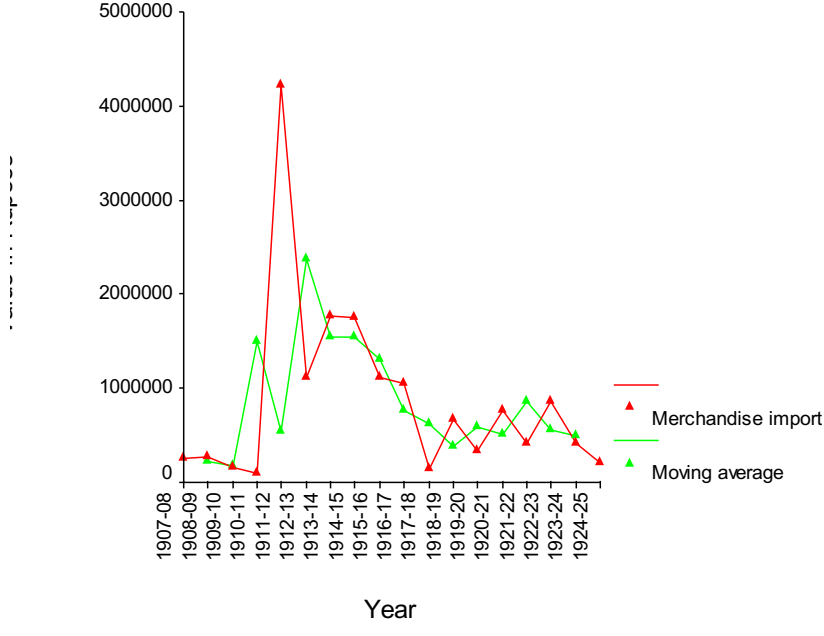
Table 1: Import trade of Bhutan during 1907-1925 (in Rs.)

(in Rs.)

Year	Value	3-yearly moving average	Year	Value	3-yearly moving average
1907-08	254,171	-	1916-17	1,044,415	1,005,972.00
1908-09	266,058	225,843.00	1917-18*	859,301	92,634.00
1909-10	155,442	172,345.67	1918-19	674,186	623,231.33
1910-11	93,679	1,492,694.00	1919-20	336,207	590,370.00
1911-12	4,227,103	545,093.67	1920-21	760,717	505,562.67
1912-13	1,119,499	2,370,726.00	1921-22	419,764	860,533.00
1913-14	1,765,576	1,547,105.00	1922-23	860,530	563,083.00
1914-15	1,756,240	1,545,338.33	1923-24	408,955	492,855.00
1915-16	1,114,199	1,304,951.33	1924-25	209,080	-
			Total	16,325,122	

Source: Various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925.

For clear understanding the above series are plotted in Figure 1.



Three separate phases are discernable in this import series, viz. i) the pre-War period of 1907-08/1914-15 (except 1911-12), ii) the War period of 1914-15/1919-20, and iii) the post-War period of 1919-20/1924-25. We have excluded the year 1911-12 from our analysis since import in that year is found abnormally high. The first sub-period, however, shows a steady expansion of Bhutan's import. In rupee terms, its annual rate of growth was 84.42 per cent for seven consecutive years. In this phase, her import touched at Rs.1.76 million in 1914-15 from Rs.254 thousand in 1907-08. It is, thus, clear that Bhutan's import trade gained momentum during the pre-War period.

During the War period, however, Bhutan's import from British India moved downwards with the rate of deceleration at 16.17 per cent per annum. These downward deviations were checked once the War had been over. From Rs.336 thousand in 1919-20 her import trade increased to Rs.761 thousand in 1920-21 and further to Rs.861 thousand in 1922-23. Falling trend is visible in the last two years of the study period.

The cyclical and random movements in the annual series are, however, removed in the series of 3-year moving averages presented in column 3 of Table 6.1. This series points out that Bhutan's import declined continuously from Rs.2.37 million in 1912-13 to Rs.506 thousand in 1920-21. The War effect is reflected here in 1913-14 itself because of the feature of moving averages. The series, however, further declined to Rs.493 thousand in 1923-24. This moving average series shows that about 7.88 per cent annual rate of growth prevailed in Bhutan's imports during 1907-08/1924-25.

We have fitted time-trend of imports for each sub-period during our study period. The following linear trend model has been tried.

$$M_t = \alpha + \beta t + u_t \quad \ldots\ldots\ldots(1)$$

where, M_t represents Bhutan's merchandise import, t denotes year and u_t is the disturbance term. While the above model is fitted well for the import data of the pre-war period1907-08/1914-15 as well as the war period 1914-15/1919-20, the

goodness of fit is poor from the viewpoint of R^2 and F statistics when fitted on the data for the post war period. Suppressing the intercept we have tried the following model for the post-war period:

$$M_t = \beta t + u_t \quad \ldots\ldots\ldots(2)$$

and the observed trends for the period has been found significant from relevant statistic.

Model 1 therefore is fitted for the pre-war and the war period and Model 2 for the post war period. The estimated models along with relevant statistics are presented below.

$\hat{M}t$ = - 493.467 + 0.259 t.....(3)

(S.E.=106.581) (S.E.= 0.056) R^2 = 0.811
(t = - 4.630 (t = 4.637 F = 21.504 (Sig = 0.006)
Sig = 0.006) Sig = 0.006) DW = 1.202

$\hat{M}t$ = 472.167 - 0.246 t..... .....(4)

(S.E.= 67.902) (S.E.= 0.035) R^2 = 0.923
(t = 6.954 (t = - 6.939 F = 48.157 (Sig = 0.002)
Sig = 0.002) Sig = 0.002) DW = 2.320

$\hat{M}t$ = 0.00026 t.....(5)

(S.E.= 0.000) R^2 = 0.822
(t = 4.800 F = 23.037(Sig = 0.005)
Sig = 0.005) DW = 2.264

$\hat{M}t$ represents the estimated value of M in period t

The above estimations do not suffer from the problem of autocorrelation. In case of Equation (3), the Durbin-Watson (DW) statistic is found above the tabulated value of du. Against the relevant tabulated value of du at 1.036 at 1 per cent level,

its observed value is 1.204. However, in case of Equations (4) and (5), since the observed DW value are found more than 2, we have tested negative autocorrelation for these two Estimations. The values of (4 –DW) are 1.466 and 1.736 for Estimation (4) and (5) respectively as against the tabulated range of 0.390-1.142.

The values of R^2 and F are, however, found highly significant for the estimated time trend of all the sub periods. While R^2 is found at 0.811 for the trend of the pre-War period, 0.923 for the War period and 0.822 for the post-War period, their respective observed F statistics attain the levels of significance at 0.006, 0.002 and 0.005. The estimated relationships are, therefore, highly significant.

The estimated slope coefficients indicate that the import trade of Bhutan annually increased at a rate of 21.58 per cent during 1907-08/1914-15, but decelerated at 25.52 per cent during World War I. A growth rate of 0.05 per cent per annum prevailed during the post-War period. The statistical test based on the Student's t-statistic shows that these estimates are highly reliable.

Section II: Origin of import

Bhutan imported merchandise from two regions, i) Bengal and ii) Assam and Eastern Bengal. Her origin-wise imports during 1907-08/1924-25 are presented in Table 2. This table underscores a slow but steady change in the direction of import trade in Bhutan. The study period starts with a clear predominance of Assam and Eastern Bengal in Bhutan's import trade, and it continued through 1914-15. During this period those regions accounted for 88-95 per cent (save the figure for 1911-12) of the aggregate leaving only 5-12 per cent for Bengal. We have noted that it had been the traditional trend in Bhutan. This trend began to change very rapidly in favour of Bengal since 1915-16. By the end of the study period we find that Bengal overpowered its rivals in competition. In that year, Bhutan's intake was worth of Rs.142 thousand from Bengal as against Rs. 68 thousand from Assam and Eastern Bengal.

This change in the direction of import trade was due to a steadily falling trend the absolute value of import from Assam and Eastern Bengal. Table 2 reveals that imports from those regions fell on the average from Rs.1.13 million in the pre-War period to Rs.631 thousand in the War period and further to Rs.352 thousand in the Post-War period. On the other hand, imports from Bengal exhibited upwardly trend both in the pre-War and post-War period, punctuated by a depression in between. For the three years before the War, the average level of import from Bengal was Rs.116 thousand per annum; and it increased to Rs.171 thousand per annum during the War period. The post-War period witnessed further increment to Rs.179 thousand per annum.

Table 2: Bhutan's merchandise imports from Bengal and Assam and Eastern Bengal

(in Rs.)

Year	Bengal	Eastern Bengal and Assam	Year	Bengal	Eastern Bengal and Assam
1907-08	28,946(11.38)*	225,225 (88.62)	1916-17	169,511(16.23)	874,904(83.77)
1908-09	15,244 (5.72)	250,814(94.28)	1917-18	177,674(20.67)	681,627(79.33)
1909-10	8,339 (5.29)	148,961(94.71)	1918-19	185,837(27.56)	488,349(72.44)
1910-11	9,372 (10.00)	84,307(90.00)	1919-20	134,443(39.99)	201,764(60.01)
1911-12	9,823(2.32)	4,217,280(97.68)	1920-21	141,167(18.55)	619,550(81.45)
1912-13	134,296(12.00)	985,203(88.00)	1921-22	194,004(46.22)	225,760(53.78)
1913-14	202,632(11.48)	1,562,944(88.52)	1922-23	222,529(25.86)	638,001(74.14)
1914-15	154,849 (8.82)	1,601,391(91.18)	1923-24	197,535(48.30)	211,420(51.70)
1915-16	204,107(18.31)	910,092(81.69)	1924-25	141,282(67.57)	67,798(32.43)
			Total	2,331,590	13,995,390

Source: Various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925.

N.B. * The bracket terms represent the percentage share in aggregate.

Section III: Composition of imports

Commodity composition of Bhutan's import trade during 1907-08/1924-25 is shown in Table 3.

Table 3: Bhutan's imports from British India by commodity classification

(in Rs.)

Year	Manufactured goods	Agricultural products	Live Animals	Miscellaneous [2]
1907-08	157,446 (61.94) [1]	73,624 (28.97)	-	23,101 (9.09)
1908-09	172,630 (64.88)	81,798 (30.74)	-	11,630 (4.37)
1909-10	99,438 (63.97)	48,189 (31.00)	-	7,815 (5.03)
1910-11	65,273 (69.68)	22,526 (24.05)	-	5,880 (6.28)
1911-12	2,741,055 (64.84)	718,727 (17.00)	480,711 (11.37)	286,610 (6.78)
1912-13	834,497 (74.54)	184,981 (16.52)	74,070 (6.62)	25,951 (2.32)
1913-14	1,320,497 (74.79)	278,990 (15.80)	83,310 (4.72)	65,323 (3.70)
1914-15	1,362,704 (77.59)	256,172 (14.59)	67,631 (3.85)	69,733 (3.97)
1915-16	827,212 (74.24)	170,809 (15.33)	53,951 (4.84)	62,227 (5.58)
1916-17	776,924 (74.39)	162,237 (15.53)	41,828 (4.00)	63,426 (6.07)
1917-18	598,936 (69.70)	148,186 (17.24)	64,798 (7.54)	47,381 (5.51)
1918-19	420,948 (62.44)	134,135 (19.90)	87,768 (13.02)	31,335 (4.65)
1919-20	190,992 (56.81)	111,402 (33.13)	16,559 (4.93)	17,254 (5.13)
1920-21	528,236 (69.44)	143,185 (18.82)	67,629 (8.89)	21,667 (2.85)
1921-22	223,763 (53.31)	153,586 (39.59)	30,110 (7.17)	12,305 (2.93)
1922-23	515,592 (59.92)	166,325 (19.33)	50,593 (5.88)	128,020 (14.88)
1923-24	242,720 (59.35)	129,363 (31.63)	17,431 (4.26)	19,441 (4.75)
1924-25	94,535 (45.21)	72,558 (34.70)	18,297 (8.75)	23,690 (11.33)
Total	11,173,398 (68.52)	3,056,793 (18.74)	1,154,686 (7.08)	922,789 (5.66)

Source: Various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925.

'-' indicates nil. N.B. [1]The bracket terms represent the percentage share in aggregate.[2] Miscellaneous products include precious stones, raw jute etc.

In the aggregate, the manufactured goods are seen to predominate with a share of 68.52 per cent, and the agricultural commodities followed suit. The former's percentage share in total import varied between 45-78 per cent. Across different sub-periods, this dominance structure continued. For the first six years the annual average share is seen to be 66.64 per cent for the manufactured goods, followed in order by agricultural products (24.71 per cent), and miscellaneous products (5.65 per cent). For the last six years again, manufactured goods remained in its prime position, *albeit* a 9.30 per cent decline, and agricultural products survived at the second improving its share by about 4.82 per cent.

These relative positions of Bhutan's imported commodities are clear in the following diagram (vide Figure 2).

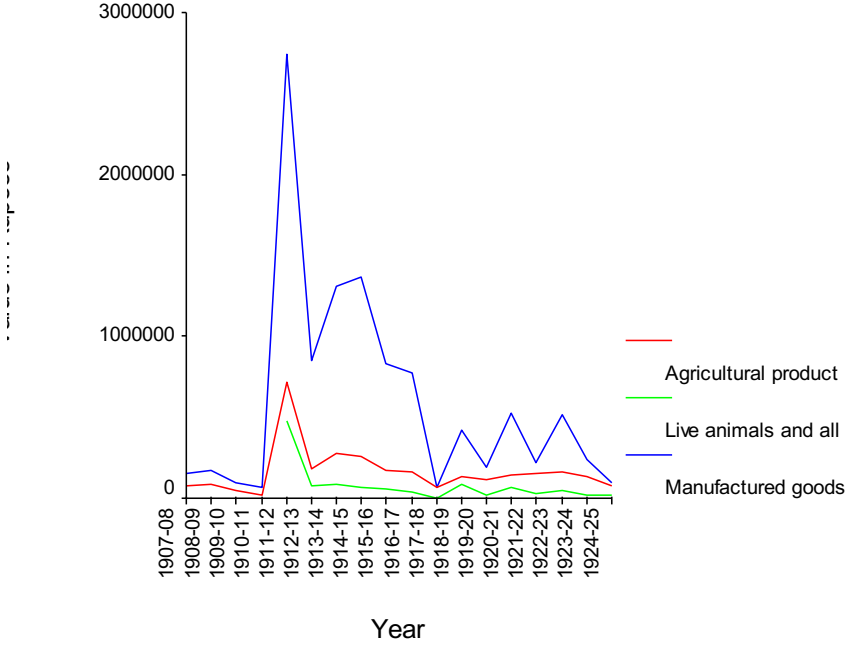


Figure 2. Bhutan's import of agricultural products,live animals and manufactured goods

This primary importance of manufactured articles in the import composition indicates a backward state of the Bhutanese economy devoid of any significant industrial activities. Its gradually declining share in the country's import since 1914-15 might, however, is taken as a signal for her improvement to this end. Only a further study over the subsequent years could confirm whether it was a secular trend of change in the economy.

Product-wise imports of manufactured goods are presented in Tables 4, 5 and 6. While the first two tables accommodate respectively the values and quantities of those articles in this classification that were regularly imported during 1907-08/1924-25, the last one presents both values and quantities of irregularly imported manufactured goods. We note that certain semi-manufactured goods like raw silk and metals are also included in this category.

Table 4: Values of imported manufactured goods

(in Rs.)

Year*	Raw silk	Foreign piece goods	Indian piece goods	Foreign twist and yarn	Indian twist and yarn	Salt	Iron	Silk	Brass	Other Metals
1907	11,319	71,396	9630	14003	1,065	-	2,875	30,406	15,859	427
1908	17,519	68,042	18820	14,963	1,340	-	5,283	37,228	9,211	138
1909	9,266	36,350	12755	5,264	5,092	-	2,168	11,762	16,242	196
1910	7,560	38,042	444	4,884	-	-	630	8,433	5,150	43
1911	837,004	308,387	136771	483,074	-	222980	257,691	243,588	182,876	440,567
1912	209,021	158,230	27624	46,754	40	50096	11,627	277,679	31,701	18,378
1913	299,084	244,141	45124	80,632	406	90763	36,473	379,419	77,964	32,906
1914	312,260	225,150	46655	81,940	295	52425	35,942	441,764	100,445	35,764
1915	125,346	226,850	41724	49,129	-	21437	28,054	272,544	37,500	13,540
1916	136,281	131,976	36655	67,215	314	20210	26,746	258,779	60,809	18,660
1917	118,574	92,290	23,620	50,697	517	18748	17,772	183,822	63,496	-
1918	100,867	52,603	10585	34,178	720	17285	8,798	108,864	66,182	1,582
1919	52,399	51,955	300	14,568	360	11675	4,401	27,055	18,314	-
1920	94,736	103,167	1404	90,690	380	21148	17,458	95,840	77,000	1,140
1921	45,463	62,369	6375	16,450	-	10508	4,323	50,823	21,092	-
1922	104,825	108,562	12810	103,566	-	20595	16,353	52,397	78,114	200
1923	11,658	111,890	10657	32,100	282	16477	1,552	18,184	24,730	6,033
1924	2,200	44,766	8396	13,255	-	5216	135	5,120	7,080	200
Total	2,495,382	2,136,166	450,349	1,203,362	10,811	579,563	478,281	2,503,707	893,765	569,774

Source: Various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925
N.B.'-' indicates nil. * 1907 represents 1907-08, etc.

Table 5: Quantities of import of manufactured goods

(in cwt.)

Year	Raw silk	Foreign piece goods	Indian piece goods	Foreign twist and yarn	Indian twist and yarn	Salt	Iron	Silk	Brass	Other Metals
1907-08	40	812	43	257	18	-	373	87	172	2
1908-09	62	915	152	293	23	-	586	106	107	2
1909-10	50	462	169	98	89	-	254	45	252	6
1910-11	25	488	4	83	-	-	60	37	66	2
1911-12	3026	5905	650	8,871	-	65401	21,772	2284	2,297	-
1912-13	805	2455	363	842	1	13907	1,293	747	397	87
1913-14	921	3043	504	1,450	7	19411	2,393	867	1,049	161
1914-15	956	2770	559	1,534	6	12991	2,494	973	973	170
1915-16	380	1533	508	1,013	-	3937	1,743	596	283	63
1916-17	454	1691	448	1,133	4	3380	1,459	887	557	70
1917-18	353	969	247	696	7	2,580	857	543	387	37
1918-19	252	246	46	259	9	2319	243	199	217	4
1919-20	125	264	2	108	1	1616	140	62	82	-
1920-21	187	411	6	680	1	3876	439	124	474	20
1921-22	123	309	25	123	-	1312	132	77	175	-
1922-23	244	513	54	862	-	3336	424	70	536	1
1923-24	23	505	49	245	2	2035	103	48	223	23
1924-25	10	240	41	142	-	901	6	38	59	1
Total	8,036	23,531	3,870	18,689	168	137,002	34,771	7,790	8,306	612

Source: Various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925
N.B. '-' indicates nil.

Table 6: Values and quantities of import of manufactured goods

Year	Wool		Paint and colours		leather		Chinese and Japanese ware		Oils	
	Rs.	cwt.	Rs.	cwt.	Rs.	cwt.	Rs.	cwt.	Rs.	cwt.
1907-08	466	2	-	-	-	-	-	-	-	-
1908-09	86	1	-	-	-	-	-	-	-	-
1909-10	343	2	-	-	-	-	-	-	-	-
1910-11	87	1	-	-	-	-	-	-	-	-
1911-12	68,684	1,779	-	-	-	-	-	-	-	-
1912-13	604	5	2,603	10	-	-	140	-	-	-
1913-14	333	1	13,295	104	-	-	19,957	-	-	-
1914-15	70,603	1,791	8,860	227	-	-	21,204	-	-	-
1915-16	-	-	6,305	42	-	-	4,783	-	-	-
1916-17	-	-	4,240	24	-	-	15,039	-	-	-
1917-18	-	-	5,700	14	36	-	8,812	-	-	-
1918-19	-	-	7,160	4	1,431	-	2,585	-	8,108	396
1919-20	-	-	-	-	512	-	800	-	8,653	269
1920-21	-	-	11,200	4	652	-	7,786	-	5,635	264
1921-22	-	-	-	-	384	-	1,042	-	4,934	238
1922-23	-	-	4,165	9	2,954	-	4,140	-	6,911	330
1923-24	-	-	-	-	899	-	115	-	8,143	415
1924-25	-	-	-		361	-	-	-	7,806	373
Total	141,206	3,582	63,528	438	7,229		86,403		50,190	2,285

Source: Various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925
N.B. '-' indicates nil.

These tables generate four conclusions. Firstly, Table 4 indicates that excepting three commodities, viz. silk goods, foreign piece goods and brass, all commodities in this group fell continuously over the War and the Post-War period. Their average rates of decline were 7.57 and 11.05 per cent during the successive periods (vide Table 7). Table 7 also indicates that the declining rate was comparatively high for the commodities like Indian twist and yarn (10-12 percent), iron (8-12 per cent) and other metals (13-17 per cent).

Table 7: Declining rates during the war and the post-war period

Name of the commodity	During War	During Post-War
Raw silk	37.55	58.27
Foreign piece goods	10.52	27.11
Indian piece goods	62.56	68.83
Salt	82.84	28.96
Indian twist & yarn	62.56	68.83
Brass	1.89	12.44
Iron	60.85	55.04
Other metals	82.89	86.93
Average declining rate	46.75	50.45

Source: Computed from Table 4

Secondly, the import of silk products rose significantly during the period of War, viz. at 13.21 per cent per annum. But it could not be sustained during the post-War period when its annual average value decreased annually at 15.20 per cent per annum. Possibly, the trade blockade elsewhere during the War compelled British India to supply more of these articles to Bhutan. Thirdly, the import of foreign piece goods moved in the same direction during the pre-War and the War periods. It rose from Rs.132 thousand per annum during 1907-08/1913-14 to Rs.312 thousand per annum during 1914-15/1919-20. In the post-War period, its average value of import reached at Rs.80 thousand per annum. Fourthly, the import of brass rose by 5.94 per cent per annum during the War period but fell by 7.74 per cent per annum during the post-War period. Lastly, subsequent to 1912, some new products were introduced in the import list of the country. Those were paints and colours, leather, Chinese and Japanese wares, and oils. During 1918-19, these newly introduced articles accounted for nearly three per cent in total import trade. This signifies diversification of Bhutan's import base during the study period.

Agricultural commodities were also an important component of Bhutan's import trade from British India as the country was not in a position to develop arable land in the slopes of the hills. Item-wise the values and quantities of all these imported items are shown in the following table.

Table 8: The values and quantities of import of agricultural products

Year	Spices		Rice-husked		Rice-unhusked		Sugar		Tobacco	
	Rs.	cwt.	Rs.	cwt.	Rs.	cwt.	Rs.	cwt.	Rs.	cwt.
1907-08	18,929	1,295	12,571	1,705	13,750	3,771	8,416	628	19,958	1,382
1908-09	28,104	1,659	5,490	720	11,198	3,502	12,287	1052	24,719	1,323
1909-10	19,689	1,381	3,241	688	5,475	2,304	4,134	390	15,650	802
1910-11	8,578	787	2,012	454	926	385	2,153	221	8,857	528
1911-12	157,602	22,689	30,105	7,671	4,666	1,743	363,633	25305	162,721	8,693
1912-13	88,546	8,854	45,404	11,311	21,624	8,709	3,188	332	26,219	1,156
1913-14	131,309	12,071	80,259	14,005	31,504	9,559	1,761	166	34,157	1,689
1914-15	113,419	12,354	83,668	14,061	26,339	8,332	5,839	430	26,907	1,204
1915-16	69,885	5,719	48,236	7,356	18,362	5,234	10,965	640	23,361	1,039
1916-17	66,759	5,210	45,101	6,919	15,416	4,864	7,713	419	27,248	1,090
1917-18	56,504	4,232	42,468	6,017	12,612	4,429	8,733	535	27,870	1,148
1918-19	46,248	3,253	39,835	5,115	9,807	3,993	9,753	651	28,492	1,205
1919-20	37,457	2,825	34,967	4,564	13,339	3,707	5,917	374	19,772	852
1920-21	59,963	3,421	44,306	5,586	13,444	3,711	5,048	306	20,424	811
1921-22	78,419	4,555	36,032	4,198	12,492	3,890	7,914	533	18,729	842
1922-23	71,708	4,023	40,587	5,307	15,025	4,829	8,265	515	30,740	1,132
1923-24	40,370	2,764	28,129	4,021	19,506	5,746	11,556	612	29,802	952
1924-25	21,413	1,509	18,265	2,128	3,141	962	10,597	673	19,142	709
Total	1,114,902	98,601	640,676	101,826	248,626	79,670	487,872	33,782	564,768	26,557

Source: Various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925.

Table 8 reveals firstly that the spices were the most significant article of import in this category sharing about 36.47 per cent of total group import in value. They are followed by rice (husked and unhusked varieties taken together), with a share of 29 per cent. Tobacco and sugar shared respectively 18 and 16 per cent of aggregate agricultural import. Secondly, the import series of different commodities did not move in a given direction. It

should be noted that in the initial years of the study period tobacco was a very important article. Its share in import bill of agricultural products was the highest in 1907-08 and 1910-11, and the second highest in 1909-10 and 1911-12. It, however, gradually fell into insignificance subsequently. While the import value of spices rose by 1.52 per cent per annum during the War period, it decreased annually by 4.90 per cent during the post-War period. The import of rice increased in value in the former duration but decreased thereafter. However, the import of sugar and tobacco fell continuously during the War period and post-War period.

The category of live animals and allied products was, however, insignificant in Bhutan's import composition sharing little over seven per cent of the aggregate. Here provisions are found to be the single largest item although the source has not classified the items that were included in provisions. It is gathered from other sources that it included dry fish in the main. Table 9 reveals that the import of these types of articles was started in Bhutan in 1911-12. Though their value of import was initially as much as Rs.480 thousand approximately, it gradually declined to about Rs.14 thousand in 1924-25.

Table 9: Import of live animals and allied products

Year	Provisions		Living animals	
	Rs.	cwt.	Rs.	no.
1907-08	-	-	-	-
1908-09	-	-	-	-
1909-10	-	-	-	-
1910-11	-	-	-	-
1911-12	480,711	44,081	-	-
1912-13	74,070	3,125	-	-
1913-14	83,310	3,270	-	-
1914-15	67,631	4,014	-	-
1915-16	53,951	2,627	-	-
1916-17	41,828	2,381	-	-
1917-18	43,836	-	580	
1918-19	45,844	1,780	41,924	3,516
1919-20	11,448	283	5,111	704
1920-21	34,587	1,037	33,042	1,828
1921-22	24,972	763	5,138	493
1922-23	38,735	1,041	11,858	939
1923-24	14,503	1,448	2,928	187
1924-25	13,762	348	4,535	1,091
Total	1,029,188	66,198	105,116	8,758

Source: Various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925
N.B. '-' indicates nil.

Section IV: Conclusion

This study indicates that Bhutan's import trade grew on an average at 11.21 per cent per annum during the study period. But the performance was not uniform all along. Achieving an annual growth rate of 21.58 per cent in the pre-War period, the import retarded at an annual rate of 25.52 per cent during the War. The rate of growth was 0.05 per cent per annum thereafter.

Among other important findings in this exercise we note firstly that Bhutan's direction of import trade was changed during this period, especially from 1915-16. While earlier Bhutan took the lion's share of her import requirements from Assam and Eastern Bengal, Bengal gradually came into prominence thereafter, and superseded its rival in this respect in the closing year of our study period. Secondly, changes also started taking place in her composition of import that was predominated, owing to the 'primitive' structure of the economy, by manufacturing products and agricultural goods. Our data source has indicated a 9.30 per cent decline in the share of manufacturing products in Bhutan's import during the last six years of the study period. Thirdly, there was also diversification of import base of Bhutan in this duration. A number of new products such as paint and colour, leather, Chinese and Japanese wares, and oil were introduced in her import list in this period. Lastly, imports of all commodities did not move in a uniform direction during different phases of the study period. British India's War compulsions and constraints determined the courses of their movements.

Terms of Trade and Balance of Trade of Bhutan during 1907-26

Ratna Sarkar[*] and Indrajit Ray[**]

Introduction

Though exports and imports are important constituents of the aggregate demand of an economy, and hence the determinants of growth, welfare implication of foreign trade follows to a good extent from the terms of trade. In the trade literature, the concept of terms of trade is defined in many ways such as the quantity definition, the price definition and the income definition. In this study we adopt its price definition, i.e. the terms of trade of a country equals the ratio of her export and import price indices. Since such price indices are not readily available, those are calculated from estimated prices of individual export-import commodities. Before analyzing the terms of trade, therefore, we review the movements of import and export prices. Also important for an economy is the balance of trade that determines under the silver standard of currency (as practised in contemporary Bhutan) the flow of silver to and from the domestic economy, and hence the supply of money. This chapter, therefore, reviews also the balance of trade in Bhutan and along with it the change in the exchange value of Bhutan's currency in the contemporary period under the presumption that the balance of trade is functionally determined by devaluation/revaluation of domestic currency.

The organization of the study is this. Section I reviews the price movement of import and export commodities. For gaining insights into the nature of the commodities, it also derives and interprets their price elasticities. Section II deals with the terms of trade for Bhutan during the study period. Sections III and IV analyse her balance of trade and the exchange value of her

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currency, respectively. Major observations are summarized in Section V.

Section I: Export and import prices

For the analysis of individual price trends we consider only the important commodities with the threshold floor at four digit number in their value accounts. Price series of such commodities are presented in Table 1.

If we take into account the average prices during the pre-War, the War and the post-War periods from Table 1, it appears that the annual average price for horses, musk, provisions, fruits, lac and spices increased continuously over the successive periods. Compared to the pre-War average, the price of fruits and vegetables increased annually by 37.44 per cent during the War period. It further increased by 60.28 per cent per annum during the post-War period. It was followed by the price of lac, which rose by 9.03 and 36.53 per cent per annum in those respective phases. The annual price hike was moderate for horses, ponies and mules (viz. 10.96 and 4.69 per cent), and low for provisions (viz. 3.73 and 7.62 per cent) and musk (viz. 3.72 and 0.62 per cent).

Table 1.Price series for important export commodities in Bhutan

Year	Horses, ponies, mules	Cattles,	Other animals	Musk	Provision	Fruits, vegetables	Lac	Wax	Timber	Spices
1907-08	85.54	17.55	2.96	43.25	39.95	1.99	23.94	48.23	1.11	17.26
1908-09	89.35	21.02	3.01	39.92	40.96	2.03	16.65	49.01	1.21	13.58
1909-10	60.75	28.50	2.78	37.33	31.10	2.34	13.06	46.55	0.65	12.76
1910-11	63.52	43.00	3.47	37.25	45.09	2.09	12.70	49.18	0.91	15.33
1911-12	69.76	30.95	3.20	48.10	33.45	2.84	13.38	46.60	0.66	13.48
1912-13	74.90	32.27	2.59	53.63	39.08	4.27	19.77	63.31	0.95	13.05
1913-14	111.89	20.56	8.57	59.94	52.14	7.99	18.33	61.50	0.68	12.15
1914-15	115.66	18.58	8.38	54.06	41.69	8.88	19.80	54.08	0.84	15.19
1915-16	133.29	24.83	10.02	50.06	43.63	13.14	18.80	48.04	0.23	18.60
1916-17	122.50	28.32	10.01	53.94	53.29	8.29	28.04	50.06	0.06	19.01
1917-18	105.88	24.14	20.41	54.24	55.03	17.87	29.70	53.01	0.52	24.42
1918-19	180.40	28.28	11.73	66.82	52.60	7.84	33.42	48.65	1.14	36.83
1919-20	239.34	53.12	7.83	53.42	54.14	26.54	47.15	50.82	1.28	23.99
1920-21	156.86	49.74	6.16	72.76	67.51	19.61	43.55	35.53	1.38	23.51
1921-22	138.36	38.77	4.66	62.69	69.21	47.27	46.40	48.69	0.87	30.32
1922-23	114.50	52.82	5.80	66.10	80.80	37.32	96.78	54.86	0.89	35.23
1923-24	128.39	36.07	5.94	35.80	70.55	78.67	56.71	32.28	1.17	27.45
1924-25	183.56	31.50	6.05	55.60	77.19	80.58	177.94	36.98	1.23	30.08

Source: Computed from various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925

For other animals and timber, however, the export price rose in one period but fell in the other. For the War period the export prices were higher by 36.45 per cent for other animals but lower by 4.40 per cent for timber. They were reversed in the post-War period, viz. a rise of 40.71 per cent for timber and a fall of 9.07 per cent for other animals. For cattle, the export price fell by 1.72 per cent per annum during the War phase and rose by 13.80 per cent per annum during the post-War phase. The wax price, however, declined continuously over the years. It fell by 0.02 per cent during the War and 2.68 per cent thereafter.

Table 2. Price list of some important imported commodity

Year	Raw silk	Foreign piece goods	Indian piece goods	Foreign twist and yarn	Silk	Brass	Rice husked	Rice unhusked	Spices	Tobacco
1907-08	282.98	87.93	223.95	54.49	349.49	92.20	7.37	3.65	14.62	14.44
1908-09	282.56	74.36	123.82	51.07	351.21	86.08	7.63	3.20	16.94	18.68
1909-10	185.32	78.68	75.47	53.71	261.38	64.45	4.71	2.38	14.26	19.51
1910-11	302.40	77.95	111.00	58.84	227.92	78.03	4.43	2.41	10.90	16.77
1911-12	272.11	52.22	210.42	54.46	106.65	79.62	3.92	2.68	6.95	18.72
1912-13	259.65	64.45	76.10	55.53	371.73	79.85	4.01	2.48	10.00	22.68
1913-14	324.74	80.23	89.53	55.61	437.62	74.32	5.73	3.30	10.88	20.22
1914-15	326.63	81.28	83.46	53.42	454.02	103.23	5.95	3.16	9.18	22.35
1915-16	329.86	147.98	82.13	48.50	547.29	132.51	6.56	3.51	12.22	22.48
1916-17	300.18	78.05	81.82	59.32	291.75	109.17	6.52	3.17	12.81	25.00
1917-18	335.90	95.24	95.63	72.84	338.53	164.07	7.06	2.85	13.35	24.28
1918-19	400.27	213.83	230.11	131.96	547.06	304.99	7.79	2.46	14.22	23.64
1919-20	419.19	196.80	150.00	134.89	436.37	223.34	7.66	3.60	13.26	23.15
1920-21	506.61	251.01	234.00	133.37	772.90	162.45	7.91	3.62	17.53	25.18
1921-22	369.62	201.84	255.00	133.74	660.04	120.53	8.58	3.21	17.22	22.24
1922-23	429.61	211.62	237.22	120.15	748.53	145.73	7.65	3.11	17.82	27.16
1923-24	506.87	221.56	217.49	131.02	378.83	110.90	7.00	3.39	14.61	31.30
1924-25	220.00	186.53	204.78	93.35	134.74	120.00	8.58	3.27	14.19	27.00

Source: Computed from various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925

Table 2 presents the price series for eight imported commodities, viz. raw silk, foreign piece goods, foreign twist and yarn, silk, rice (husked and unhusked), spices, and tobacco. Most of these imported articles were buoyant in price in the successive phases of our period. Calculating the annual average price in these successive phases, we find that the annual price hike was highest for foreign piece good (viz. 11.22 per cent during the War phase and 13.02 per cent after the War), and foreign twists and yarn (viz. 5.59 and 12.72 per cent respectively), moderate for silk (viz. 7.47 and 3.60 per cent respectively), rice-husked (viz.4.26 and 3.00 per cent respectively), tobacco (viz.4.30 and 1.91 per cent respectively) and low for raw silk (viz. 4.02 and 3.76 per cent respectively), spices (viz. 0.39 and 5.02 per cent

respectively), unhusked rice (viz. 0.93 and 2.04 per cent respectively), and spices (viz. 0.39 and 5.02 per cent respectively).

For Indian piece goods and brass, however, the import price rose in one period but fell in the other. For the War period the import price was lower by 1.98 per cent for Indian piece goods but higher by 17.58 per cent for brass. They were reversed during the post-War period, a rise of 16.15 per cent for Indian piece goods and a fall of 1.75 per cent for brass.

With the help of the price series we now estimate the export/ import elasticity for individual commodities. To do so, we first estimate on the basis of the least square method the following relationship between export of individual commodities and their prices in double logarithmic form.

$$\log X_i = \log \alpha_1 + \beta_1 \log P_{Xi} + U_{1i} \ldots\ldots\ldots (1)$$

where U_{1i} is the disturbance term. Since the estimated value of β_1 is

$$\hat{\beta}1 = d \log X_i / d \log P_{Xi} = (d X_i / d P_{Xi}) \cdot (P_{Xi} / X_i)$$

it represents the price elasticity. We can not, however, suggest *a-priori* whether $\hat{\beta}1$ is the price elasticity of demand or the price elasticity of supply for a given commodity. It depends whether Equation (1) represents demand function or the supply function. It represents a demand function if $\hat{\beta}1 < 0$ and a supply function if $\hat{\beta}1 > 0$. Hence, in the case of negative $\hat{\beta}1$ it represents the price elasticity of demand; otherwise, it is the price elasticity of supply. In other words, the negative value of $\hat{\beta}1$ signifies that the volume of export is largely determined by demand factors in the-rest-of-the-world. Its positive value, on the other hand, implies that the export is largely determined by supply factors in the domestic economy.

Table 3 reports the values of $\hat{\beta}1$ β for the export commodities under study along with their relevant statistics.

The price-quantity relationship appears to be insignificant for spices, fire wood, hides and skins, and provisions, their level of significance being in the order of 0.643, 0.388, 0.663 and 0.764 percents. The commodities for which the relationship is the most significant are fruits, vegetables and nuts (0.000 per cent). Then came in rank other animals (0.006 per cent), followed by timber (0.020 per cent), lac (0.024 per cent), horses, ponies and mules (0.044 per cent), and musk (0.075 per cent).

Table 3. Price elasticities of export commodities in Bhutan

Name of commodity	$\hat{\beta}1$ (S.E.)	R-Square	F (Level of Significance in per cent)	DW
Spices	0.622 (1.316)	0.014	0.223 (0.643)	0.303
Musk	1.838 (0.964)	0.185	3.637 (0.075)	1.131
Fire wood	0.195 (0.220)	0.047	0.787 (0.388)	1.442
Hides and skins	0.0917 (0.206)	0.012	0.198 (0.663)	0.314
Lac	- 1.079 (0.434)	0.278	6.165 (0.024)	2.184
Timber	-0.562 (0.218)	0.295	6.683 (0.020)	2.574
Wax	0.869 (0.687)	0.091	1.601 (0.224)	1.536
Horses, Ponies, Mules	0.784 (0.359)	0.230	4.767 (0.044)	1.098
Cattle	- 1.111 (0.780)	0.112	2.025 (0.174)	0.462
Other animals	0.487 (0.152)	0.390	10.247 (0.006)	0.756
Fruits, vegetables & nuts	- 0.367 (0.071)	0.628	26.982 (0.000)	1.201
Provisions	- 0.225 (0.735)	0.006	0.094 (0.764)	0.764
Cotton piece goods-Indian	0.983 (0.579)	0.171	2.878 (0.112)	0.935
Wool	- 1.172 (0.728)	0.156	2.591(0.130)	0.697

Source: Computed from the export-price series

Among commodities of significant price-quantity relationship, the estimations for fruits, timber, lac and musk do not suffer from the problem of autocorrelation. The Durbin-Watson statistics for all these commodities are found above the tabulated value of d_u. Against the appropriate tabulated value of d_u at 1.118 at 1 per cent level, its observed values are 1.201 for fruits and 1.131 for musk. Since in the case of timber and lac the observed DW values are found more than 2, we have tested negative autocorrelation for them. The values of (4-DW) for timber and lac are 1.426 and 1.816 respectively as against the DW range of 0.902-1.118. However, in case of other animals and horses, the Durbin-Watson statistics are found below the tabulated value of d_u at 1.118.

We analyse here the nature of different commodities from two viewpoints, i) the signs of the estimated elasticities, and ii) their absolute values.

Table 3 indicates that among the commodities of significant price-quantity relationships, musk, other animals and horses have positive elasticities of export, signifying thereby that their exports were largely supply-dominated. Indeed, all these products were, as we have already pointed out, in great demand in British India. But they had limited exportable surplus for inadequate domestic availability and/or extensive domestic use. While the former reason held good for the articles like musk, the latter was largely true for horses and other animals. In so far as the export of horse was concerned, we note that although Bhutan produced abundant horses, her common people had no right to sell them without the Deb Raja's permission. These, however, explain why the exports of these articles were largely supply-determined.

Negative value of elasticity is obtained for the export articles like fruits, vegetables, timber and lac. This finding is also in line with the production structure in Bhutan, which we have already discussed elsewhere. Their abundant availability and export surplus made their volumes of export largely dependent on foreign demand.

To study the nature of products on the basis of absolute value of elasticity, we note that among the export articles under scrutiny (as indicated by their respective F-statistics), only the value for musk is significantly above the unity while it is less than that for timber, horses, other animals and fruits. For lac, the value almost equals the unity. We may, therefore, conclude that the export items such as timber, fruits, horses and other animals had inelastic export whereas the export of musk was elastic. Hence, the higher prices of the former products that occurred during the study period must have given rise to gain in trade for Bhutan as their export values must have risen up. The elastic nature of musk export, on the other hand, led to falling trend in its value in the phase of rising price especially during the post-War period.

We similarly estimate the price elasticity of import from the regression equations of different imported commodities on their respective prices, viz.

$\log M_i = \log \alpha_2 + \beta_2 \log P_{Mi} + U_{2i}$.....(2) [$U_{2i}$ =disturbing term]
and interpret its sign and absolute value as before.

Table 4 represents the values of $\hat{\beta}_2$ for the import commodities under study along with the relevant statistics. This table indicates that the price-quantity relations for raw silk, foreign twist and yarn, iron, silk, brass, other metals, rice (husked and unhusked), sugar, living animals and oils are insignificant from the viewpoint of F-statistics (vide column 4 of the table). These commodities have, therefore, been disregarded. We rank the other commodities (in descending order of their significance): 1. salt (0.000 per cent), 2.foreign piece goods (0.000 per cent), 3. paints and colours(0.001 per cent), 4.provisions (0.002 per cent), 5.spices (0.008 per cent), 6.manufactured wool (0.019 per cent), 7.Indian piece goods (0.026 per cent), 8.Indian twist and yarn (0.053 per cent).

Table 4. Price elasticities of import commodities in Bhutan

Name of commodity	$\hat{\beta}2$ (S.E.)	R-Square	F (Level of Significance in percent)	DW
Raw silk	0.495 (1.430)	0.007	0.120 (0.734)	0.884
Foreign piece goods	1.402 (0.304)	0.571	21.288 (0.000)	1.142
Indian piece goods	- 1.958 (0.800)	0.273	5.996 (0.026)	2.009
Foreign twist and yarn	- 1.070 (0.688)	0.131	2.421 (0.139)	1.825
Indian twist and yarn	- 1.074 (0.490)	0.325	4.810 (0.053)	2.218
Iron	- 0.794 (0.780)	0.061	1.036 (0.324)	1.312
Silk	- 0.263 (0.636)	0.011	0.171 (0.685)	0.689
Brass	- 0.424 (0.597)	0.038	0.630 (0.439)	1.869
Other metals	0.701 (0.529)	0.128	1.759 (0.209)	1.548
Spices	- 2.160 (0.716)	0.363	9.111 (0.008)	1.168
Rice-husked	- 0.0249 (1.004)	0.000	0.001 (0.981)	0.579
Rice-unhusked	1.820 (1.259)	0.116	2.092 (0.167)	1.344
Sugar	1.022 (1.191)	0.044	0.735 (0.404)	2.170
Tobacco	- 0.753 (0.749)	0.059	1.011 (0.330)	2.466
Provisions	- 2.034 (0.529)	0.552	14.756 (0.002)	1.314
Living animals	- 0.0973 (0.839)	0.003	0.013 (0.912)	2.151
Manufactured wool	- 3.332 (1.047)	0.566	10.124 (0.019)	2.291
Paints and colours	- 0.976 (0.159)	0.863	37.809 (0.001)	2.103
Oils	- 0.563 (0.526)	0.186	1.145 (0.333)	1.038
Salt	- 3.311 (0.620)	0.704	28.500 (0.000)	1.806

Source: Computed from the import-price series

Estimations for eight significant imported commodities do not suffer from the problem of autocorrelation. The observed Durbin-Watson values are 1.142, 1.168, and 1.314 for foreign piece goods, spices and provisions respectively and all these

values are found above the tabulated value of d_u at 1.118 at 1 per cent level. In case of paints and colours, salt, wool, Indian piece goods and Indian twist and yarn, the observed DW values are found greater than 2. We have tested the negative autocorrelation for these estimations. The values of (4-DW) are 1.897 and 1.709 for paints and colours and wool respectively as against the appropriate tabulated value of d_u at 1.036. The said values are 1.991 and 1.782 for Indian piece goods and Indian twist and yarn respectively as against the tabulated value 1.118.

This table points out that for all these commodities, the value of elasticity are negative signifying statistically that their imports were largely determined by domestic levels of demand. These findings may be rationalized as a characteristic of trade between a large country and a small country. Always the import of small country from a large country is determined by the former country's domestic demand.

We also gather from the table that among the eight import articles of significant price-quantity relations, the absolute value of price elasticity is found significantly greater than unity for as many as six articles. Those were foreign piece-goods (1.402), Indian piece-goods (1.958), spices (2.160), provisions (2.034), manufactured wool (3.332), and salt (3.311). It is almost equal to one for Indian twist and yarn (1.074), and paints and colours (0.976). The elastic values of the six significant items of import in Bhutan must have reduced their respective values of import in the phase of rising price, as occurred during the post-War period.

Section II: Terms of trade

For the purpose of calculating the terms of trade, we first compute price indices for both exports and imports. The Fisher's index is adopted for the purpose. Table 5 reports the series of price along with the terms of trade. The table also incorporates quantity indices for exports and imports, which will be required in the following section.

Table 5. Export, import indices and terms of trade

(1907-08 = 100)

Year	Export price index	Import price index	Export quantity index	Import quantity index	Terms of trade[1]
1907-08	100.00	100.00	100.00	100.00	100.00
1908-09	92.12	93.68	89.56	117.73	98.33
1909-10	71.60	84.67	73.80	79.99	84.56
1910-11	69.15	79.23	65.58	44.92	87.28
1911-12	45.49	74.60	196.44	1833.79	60.98
1912-13	230.44	84.31	416.35	496.70	273.32
1913-14	281.51	97.53	448.60	655.85	288.64
1914-15	297.99	100.34	446.22	663.95	296.98
1915-16	245.33	121.42	289.22	344.79	202.05
1916-17	254.66	95.63	229.37	407.93	266.30
1917-18	353.74	110.43	218.52	274.47	320.33
1918-19	240.59	170.05	123.23	132.22	141.48
1919-20	201.45	155.25	41.67	78.42	129.76
1920-21	278.79	194.88	127.49	139.04	143.06
1921-22	256.72	159.03	56.38	98.29	161.43
1922-23	358.41	174.91	98.93	158.57	204.91
1923-24	340.55	161.70	49.36	92.91	210.61
1924-25	82.30	136.92	26.49	48.68	60.11

Source: Computed from various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925

We note at the outset that while the price index and quantity index for export moved in the same direction in most of the years, no regular relationship is found in Table 5 between the price and quantity indices for import. Certainly other economic factors and also various political factors must have played important role in the country's import activities.

The above table indicates that Price indices for export and import, however, moved mostly in similar directions during the study period. After initial setbacks, both the price series underwent secular upward trends during 1912/13 – 1923/24. Because of higher rate of increment in the export price series, however, Bhutan enjoyed a steady-state improvement in her trade balance. From 100 in 1907-08, it increased to 273.32 in 1912-13 and further to 320.33 in 1917-18.

Section III: Balance of trade

Bhutan's balance of trade with British India during 1907-08/1924-25 is shown in the following table.

Table 6. Balance of trade during 1907-08/1924-25

(in Rs.)

Year	Balance of trade	Year	Balance of trade
1907-08	87,281	1916-17	283,688
1908-09	34,319	1917-18	1,078,949
1909-10	38,659	1918-19	233,113
1910-11	100,056	1919-20	187,258
1911-12	- 3,536,192	1920-21	412,067
1912-13	399,195	1921-22	433,796
1913-14	302,402	1922-23	549,305
1914-15	413,862	1923-24	557,391
1915-16	488,031	1924-25	546,291
		Total	2,609,471

Source: Computed from various issues of Accounts Relating to the Trade by Land of British India with Foreign Countries for twelve months, April 1907 to March 1925

A favorable balance of trade is thus evident in Table 6 for all years excepting 1911-12. Moreover, this balance went up through oscillation over the period of study. From Rs.87 thousand in 1907-08, it went up to Rs.546 thousand in 1924-25. A growth rate of 30.93 per cent thus prevailed in the series.

As in other series, periodic rhythms were also present. Though both the series of exports and imports increased during the pre-War period, the former was consistently higher than the latter. As a result, the balance of trade steadily shot up. The rate of improvement in this phase is calculated at 53.45 per cent per annum. During the War period, a decreasing trend prevailed over both series with a greater degree of decline inexports. Consequently, the balance of trade deteriorated at 10.95 per cent per annum in this duration. The situation, however, reversed after the War. The balance of trade that stood at Rs.187 thousand in 1919-20 became Rs.546 thousand in 1924-

25. An annual improvement rate of 38.34 per cent took place in this sub-period.

Section IV: Exchange value of Bhutan's currency

We have already observed that Bhutan experienced favourable balance of trade. Bhutan's total trade balance during 1907-08/1924-25 (excepting 1911-12) thus appears to be Rs.3,330,486 (vide Table 7.6). Comparing this with the trade balance in the previous period, viz. 1894-95/1906-07, we may resolve whether it was improved during our study period. To do so, we calculate Bhutan's balance of trade during 1894-95/1906-07 in the following table.

Table 7. Bhutan's Balance of trade during 1894-95/1906-07

(in Rs.)

Year	Export	Import	Balance of trade	Year	Export	Import	Balance of trade
1894-95	21,456	20,237	1,219	1901-02	38,334	18,937	19,397
1895-96	28,551	27,394	1,157	1902-03	31,785	12,742	19,043
1896-97	14,385	16,787	-2,402	1903-04	58,863	13,391	45,472
1897-98	14,667	15,883	-1,216	1904-05 *	650,018	102,570	547,448
1898-99	10,791	11,922	-1,131	1905-06	1,241,172	191,748	1,049,424
1899-1900	13,035	12,744	291	1906-07	1,135,505	256,820	878,685
1900-01	22,229	14,316	7,913				
				Total	3,280,791	715,491	2,565,300

Source:dsal.uchicago.edu/statistics/1894_excel/1894.165.XLS, dsal.uchicago.edu/statistics/1894_excel/1894.166.XLS and various issues of Accounts Relating to the Trade by land of British India with Foreign Countries for twelve months, April 1907 to March 1925

Table 7 indicates that total export and import values were of the order of Rs.3,280,791 and Rs.715,491 during 1894-95/1906-07 so that the aggregate balance of trade comes to Rs.2,565,300 in the concerned period. Bhutan's trade balance thus improved by Rs.44,171 during 1907-08/1924-25 compared to what was during 1894-95/1906-07.

Now the question arises whether this improvement in the trade balance was due to the devaluation of Bhutan's currency, or for other factors such as greater preference of Bhutanese goods in the global market, Bhutan's trade promoting policies, and so on.

To assess whether devaluation led to the favourable balance of trade in Bhutan, we assume

i) market conditions for domestic goods in the foreign market remained unchanged; and
ii) market conditions for foreign goods in the domestic market remained unchanged.

Now, in the trade literature, the following Marshall-Learner Equation is usually adopted to verify whether a given rate of devaluation (k) results in favourable balance of trade:

$$dB=k\,X_f(e_{1M}+e_{2X}-1) \quad \ldots\ldots\ldots\ldots (3)$$

where dB is the change in the balance of trade, X_f is the value of exports expressed in foreign currency, e_{1M} is the elasticity of home demand for imports and e_{2X} is the elasticity of foreign demand for exports.

If, for given values of e_{1M}, e_{2X} and X_f, the given rate of k leads dB > 0, the devaluation is said to cause favourable balance of trade. This happens when

$$|e_{1M}| + |e_{2X}| > 1 \quad \ldots\ldots\ldots\ldots (4)$$

This study uses the Marshall-Learner Equation differently. We know dB > 0 here. If we find that the condition 4 is satisfied in our case, then a positive value of k, which can be derived from Equation 3, would confirm that it represents the rate of devaluation during the period of study.

For the estimation of Bhutan's import elasticity (e_{1M}), and export elasticity (e_{2X}) we use the series of export and import indices from Table 5. To do so, we estimate on the basis of least square method the relationship between quantity and price indices for Bhutan's exports and imports in double logarithmic form.

$$\log X_{qi} = \log \alpha + \beta X \log P_{Xqi} + U_{1i} \ldots\ldots\ldots \quad (5)$$

$$\log M_{qi} = \log \alpha + \beta M \log P_{Mqi} + U_{2i} \ldots\ldots\ldots \quad (6)$$

where X_{qi} is the quantity index for exports, P_{Xqi} is the price index for exports, M_{qi} is the quantity index for imports, P_{Mqi} is the price indices for imports and U_{1i}, U_{2i} are the disturbance terms. Since the estimated values of β_X and β_M are

$$\hat{\beta X} = d \log X_{qi} / d \log P_{Xqi} = (d X_{qi} / d P_{Xqi}) \,.\, (P_{Xqi} / X_{qi})$$

and $$\hat{\beta M} = d \log M_{qi} / d \log P_{Mqi} = (d M_{qi} / d P_{Mqi}) \,.\, (P_{Mqi} / M_{qi})$$

they represent the export elasticity (e_{2X}) and import elasticity (e_{1M}) respectively.

From Table 5 the values of β and β are estimated at 0.431 and –1.321 respectively. Since $|eX\hat{}M\hat{}_{1M}| + |e_{2X}| = 1.752$ is greater than unity, the elasticity values confirm that a positive value of k represents the rate of devaluation for the study period.

Now, for the value of dB= 44,171, X_f = 18,934,593, e_{1M} = - 1.321, and e_{2X} = 0.431 as derived above, the rate of devaluation, k, is estimated at 0.31 per cent. Since it is of positive value, we infer that Bhutan experienced devaluation at her exchange rate during the study period. Given the values of elasticities, this was the maximum value of k that could generate the given level of trade surplus. If other relevant factors, mentioned above, exerted favourable impacts on the balance of trade, the value of k might have been lower. We, therefore, infer that there was very insignificant level of devaluation in Bhutan during the study period.

Section V: Conclusion

Our study generates six observations. Firstly, prices of most of the important export and import goods increased during the study period. Out of ten important export commodities, the price of only one commodity fell during both the War phase and the post-War phase while that of one each was lower in one of these phases. Again, out of ten important import items, price of seven went up in both these phases, and those of three alternated their directions of change. Secondly, the price-quantity relationships for six export commodities have been found statistically significant. Out of them, the exports of three commodities that were short in exportable surplus were supply-determined, and those of other three commodities, mainly of forest origin, were demand-determined. Thirdly, the similar relationship for eight import articles have been statistically found significant, and imports of all of them were demand-determined. Certainly the trade relation between a large and a small country generates such a feature. Fourthly, six out of eight important import goods have been found to be elastic in their respective prices and four out of six important export goods to be inelastic. Since all the important import articles were demand-determined, elastic nature of those commodities reduced their values of import in the phase of rising price. Inelasticities of export products also exerted favourable impact in the phase of rising price on the value of export even for those commodities whose price were demand-determined. Note that the value of export for the commodities, whose prices were supply-determined, always increases due to higher price. Thus, the price elasticities of import and export that Bhutan confronted during the period of study were very congenial for the economy. Fifthly, the balance of trade was surplus for Bhutan throughout the study period, and it underwent steady improvement over years. Lastly, the devaluation of domestic currency has been worked out at 0.31 per cent during the study period. If other economic and political factors generated favourable impacts on the trade balance, the rate of devaluation might be less than that.

Assessment of Yam (*Dioscorea* spp.) Diversity at Community Level in Nangkor Gewog under Zhemgang Dzongkhag

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Abstract

Yam (*Dioscorea* spp.) is an annual or perennial climbing plant with edible underground tuber. It includes 600 species of which 50 to 60 are cultivated, or at least gathered, for food or pharmaceutical purposes. There are however only 10 species for human consumption and economically significant. In Bhutan, yam plays an integral part in socio-economic and cultural aspects. However, there is limited information on yam diversity in Bhutan. Therefore, this study aimed to *assess domestic and wild yam species diversity,* its socio-cultural importance to the communities and its contribution towards food security.

The study was carried out in Nangkor gewog under Zhemgang dzongkhag. A total of 75 households were randomly selected from 308 households. Data was collected using semi-structured questionnaire, which comprised of both closed and open ended questions and were analyzed using descriptive statistical analyses in SPSS version 16.1

The survey found five species, which are water yam (Dioscorea alata L.), lesser yam (Dioscorea esculenta), white yam (Dioscorea rotundata), arerial potato yam (Dioscorea bulbifera) and yellow yam (Dioscorea cayenensis) in the gewog. D. esculanta and D.alata are the most commonly prefered species by the

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communities in terms of taste and nutritional value.The study found that yam has vital roles in the socio-cultural events and are indispensable during Prechula (Offering to local deity), Lochoe (annual ritual) and Losar (new events of year).

It was found that some of the respondents face 2-3 months of food shortage and one measure to cope with it is through collection of wild yams and tubers. Yams and tubers contribute 19% to food security although there is a gradual decline in utilization of this crop with the pace of socio-economic development. The availability trends in the wild are perceived to be decreasing by the respondents. The main causes perceived by 42% of the respondents is due to unsustainable harvesting practices, 38% due to increasing wild boar population and 20% with increase in human population leading encroachment of forest for development activities. Thus, it is necessary to have appropriate conservation strategies to maintain the species diversity in order to derive long term benefit.

Background

Yam belongs to the family *Dioscoreaceae* and the genus *Dioscorea*. It is an annual or perennial climbing plant with edible underground tuber. It is native to warmer regions of both southern and northern hemispheres. This genus includes about 600 species of which 50 to 60 are cultivated, or at least gathered, for food or pharmaceutical purposes (Norman, Pearson and Searle 1995). According to Nascimento *et al.* (2013) there are however only 10 species for human consumption and economically significant. Among those useful edible species, white yam (*Dioscorea rotundata*), yellow yam (*Dioscorea cayenensis*) and water yam (*Dioscorea alata*) are most economically important species in yam growing regions of Africa and in most part of the world (Vernier 1998). Further, amongst those economically important species, water yam (*Dioscorea alata)* is most widely distributed species globally (Mignouna and Dansi 2003).

Yams are widely distributed and found in tropical, subtropical and temperate regions of the world. It is the second important tuber crop in many parts of the world, especially Africa, after

cassava, and is extremely important to food security in regions of Southeast Asia and Pacific, as well as the tropical Americas (Okigbo and Ogbonnaya 2006). Yam is nutritious, comprising of 15-23% starch, 1-2.5% protein, 0.05-0.2% fat and other essential nutrients. In Africa and many tropical countries, the yams are staple food and major sources of income and have vital socio-cultural and culinary roles (Chukwu and Ikwelle 2000). The trends of consumer demand for yam are generally very high in this sub-region and yam cultivation is very profitable despite high production costs.

Worldwide yam production in 2011 amounted to 55 million tons grown on about 5 million hectares of land in about 47 countries in the tropical and subtropical regions of the world, of which Africa is the leading world producer with 94% of global production (FAO 2012). As per IITA (2009), the most of the world's production comes from West Africa representing 94%, with Nigeria alone producing 71%, equaling more than 37 million tons. Although yam cultivation is rising especially in Africa, but yield per unit area are declining due to increased land pressure associated with declining soil fertility and an increase in pest and disease levels (Tchabi *et al.* 2010).

The planet's biodiversity is important to human beings in many ways. Human beings are wholly reliant on the biodiversity for its potential resources for food, medicine, energy, industrial materials, building materials, vital services such as renewing the earth's atmosphere, absorbing pollutants and maintaining soil fertility (Okojie 1997). Similarly, traditional communities across the globe practice intense yam cultivation and consumption; this system provides a favorable environment for the generation and maintenance of genetic diversity of this crop (Nascimento *et al.* 2013). However, on other hand the socio-economic pressures faced by farmers or growers over the years have caused the loss of plant genetic resources, specifically yam crop (*Dioscorea spp),* and biodiversity losses can be severe and irreversible. Further, in most part of the world including African countries, where yam is currently grown, many potentially important varieties only exist in fields and there is a risk that diversity in species will disappear, destroyed

by conflicts of pressure on natural resources or natural disaster (Ezebuiro *et al.* 2012).

To tackle this challenge, farmers and crop scientists worldwide are engaged in a new effort to add 3,000 yam samples to international gene banks in IITA in Nigeria with the aim of saving the crop diversity that is consumed by 300 million people according to an announcement from the Global Crop Diversity Trust. Other international efforts include, United Nations Foundation and Bill and Melinda Gates Foundation (UNFBMGF) in supporting the global initiative to preserve yam biodiversity.

Bhutan has rich agro-biological diversity that has regional and global importance in the diverse ecosystems and ecological zones. Agro-biodiversity component includes agricultural and horticultural plants, such as cereal crops, vegetables, fruits and nuts that are native to Bhutan or introduced to Bhutan long time ago that they have developed unique genetic, morphological and ecological characteristics (NBC 2008).

Among the availability of rich diversity of high value agricultural and horticultural plants, diverse species of yams which has varied ecological and socio-economic importance exist across the country both in wild and domestic. Predominantly wild yam are used mostly for both household needs and sale in small quantities for additional source of household income, but some valuable species are also domesticated for subsistence and commercial use at household level. From time immemorial, yam is considered as the important means of supplementing food shortages and sources of nutrition for major remote populace. Such observations was further reported by Turkelboom *et al.* (2001), which states that the subsistence agriculture is often not sufficient to satisfy the food needs of the households. As the forest resources are in abundance and easily accessible, many farmers go to collect forest foods, such as wild yams, ferns, mushrooms and bamboo shoots. Recently, Dorji (2012) reported that the communities are indigenous user of wild foods such as yams and rely on it as supplementary food for 4-5 months from May-June to September when other staple food grains are deprived in most of the eastern part of Bhutan.

Yam crop plays an important socio-cultural and religious value in different parts of country, especially in southern and east central region. Also in Bhutan the study conducted by (Ngawang n.d) reported that wild yam species such as *Dioscorea bulbifera and Dioscorea deltoids* that has medicinal values are domesticated and cultivated in small scale in southern part of Bhutan.

In view of above, the objective of the study is to assess the diversity of yams at local level and to evaluate socio-cultural and economic importance towards the community. This will enable to have baseline data for development of conservation strategies programs in assuring diversity of crop's future and to carry out further research studies.

The study site was identified at Nangkor gewog under Zhemgang dzongkhag, in the view of the gewog having favourable diverse agro-ecological features for the existence of diverse species of yam. It was also reported that yam has a vital role in terms of both socio-economic and cultural life of the communities in the gewog.

Objectives

- To assess the domestic and wild yam species diversity in the gewog and their agro-ecological distribution.
- Evaluate the contribution towards food security and socio-cultural importance to the communities.

Research questions

In order to fulfill the above objectives, following questions was considered as the guidelines for the research study.

- Which species of yams (both cultivated and wild) are found within the locality and their trends of availability?
- What are the contributions of yam in Kheng community?

Materials and methods

The study was conducted in Nangkor gewog under Zhemgang dzongkhag which lies in the central and northern part of the dzongkhag and has an area of 493.8 km^2. The altitude ranges

from 1000 to 1800 meters above sea level. The survey was carried out in all the 10 villages considering the representation of various age group and gender as to assure to get quality data.

Sample size of 75 household for the survey was determined by using Yamane formula with 10% margin error level from 308 households. Sample households were randomly selected by using simple random sampling method of probability sampling techniques. Equal proportion of households' representation from villages was considered by taking 10% sample households through lottery system.

Semi-structured questionnaire comprising both closed and open questions were used to elicit information from farmers. Data collected include yam diversity, its distribution, farmer's preferred species, agronomic characteristics, culinary uses and socio-cultural and economic characteristics of yam species within their localities.

Field sample of yam species were identified by visiting the field or by collecting the samples with help of localities. Further the samples were identified by referring available resources and consultations of relevant resourceful persons.

Descriptive statistics analysis of SPSS version 16 was used to analyze the data and MS Excel spread sheet was used to generate the graphs and tables.

Results and discussion

Yam species diversity in communities

Among 10 edible species (Uwasomba *et al.* 2012), five species of yams named locally as Dawalaki *(D. alata L.)*, Chormola *(D. esculenta)*, Phurbaiki *(D. rotundata)*, Siktum *(D. bulbifera)* and Kachimaki *(D. cayenensis)* are found and consumed by the communities in the gewog as shown in Table 1.

Table 1. Yam species diversity in Nangkor gewog

Local name	Botanical name	Morphological characteristics	Plates
Dawalaki	*D. alata L.*	Vigorous and bushy vine with dense foliage. Tuber is watery and skin purple in colour with superficial hairy roots. Generally cylindrical in shape but are found in variable shapes.	
Chormola	*D. esculenta*	Less vigorous with oval shaped leaves. The tubers are found in individual in large numbers but sometime found in cluster with superficial roots. The inner flesh is white in colour.	
Phurbaiki	*D.rotundata*	Vigorous and bushy vine with ovate in shape. The tuber is usually cylindrical but also in variable in shapes with brown smooth and white flesh in colour.	
Siktum	*D. bulbifera*	Perennial large vines with broad leaves and long length vines. Bulbils are round or oval in shape with brown skin colour and white flesh.	

Kachamaki	*D.cayenensis*	Vigorous and bushy vine with oval creeping canopy shape. Tubers vary from oval to cylindrical shape with yellow flesh.	

Agro-ecological distribution of the yams found in the wild

The diverse and favorable natural environment of gewog has favoured for richness of wild yam. The vegetation cover within the gewog ranges from warm mixed broadleaved to cool broadleaved forest with elevation range of 1100 to 1700 meter above sea level. Soil type varies from sandy, sandy loam, clay, clay loam and rocky or stony. The agro-climatic condition varies within the geog with dry sub-tropical, warm humid and temperate type.

Species diversity and distribution with respect to vegetation cover

As indicated in Table 2, there are three types of vegetation categorized under the gewog. The 52% of the respondents reported that *D.alata* species are abundant in cool broadleaved and 48% had said it is available in warm mixed broadleaved vegetation. In case of *D. esculenta*, 59% of the respondents stated it is found in cool broadleaf and 41% has reported to be found in warm mixed broadleaf forest. The *D.bulbifera* species is said to be found in cool broadleaf forest by 64% of the respondents and in warm mixed broadleaf forest by 36% of the respondents. *D. rotundata* species is said to be found in cool broadleaved and warm mixed broadleaved vegetation. *D.cayenensis* it was found growing in the shrubs. The above findings relates to the report of Ugwu *et al.* (1991), which states that yams are cultivated and found in wild throughout the tropics, subtropics and temperate zones in cool broadleaf and warm humid mixed vegetation cover in West Africa. The existence diversity of yams species in the gewog are mainly because the 28% of areas lies under warm humid subtropical

and 27% of areas under cool temperate zones of the total area (Dukpa 2012).

Species diversity and distribution with respect to soil type

As shown in Table 3, 71% of the respondents have reported that *D.alata* is found abundantly in the sandy loam, 20% of the respondents said it is found in clay loam and 9% of the respondents in stony areas. With to *D.esculenta*, majority of the respondent (62%) reported it is mostly found in sandy loam, 22% in stony areas and 14% in clay loam. Similarly, among 14 respondents those collects *D.bulbifera*, majority of the respondents (64%) reported that species are abundant in clay loam and rest of the respondents perceived to be found in sandy loamy types. *D.cayenensis* is reported to be usually found in sandy loam. Both *D.rotundata* and *D.*cayenensis are said to be commonly found in sandy loam and clay loam.

In overall, the study has found that majority of the respondents found diversity of yams thrives well in sandy loam type of soils. Similarly, according to the study carried out by Ezebuiro *et at.* (2012) in Nigeria, found that most of the edible yam species performed well and obtained maximum yield in sandy loam than other types of soil such as clay, clay loam and sandy.

Table 2. Distribution of species in different vegetation types

Species	N	Cool broadleaf (%)	Mixed broadleaf (%)	Shrub (%)
D.alata	54	52	48	0
D.esculenta	63	59	41	0
D.rotundentata	2	50	50	0
D.bulbifera	14	64	36	0
D.cayenensis	1	0	0	100

Table 3. Percent yam species found in different soil types

Species	N	Clay loamy	Sandy loam	Stony
D.alata	54	20	71	9
D.esculenta	63	14	62	22
D.rotundentata	2	50	50	0
D.bulbifera	14	64	36	0
D.cayenensis	1	0	100	0

Status of yam cultivated and available in wild

Overall perception of domestication in community

The respondents were asked on the status of the yam cultivation over the past 10 years in the gewog. 77% of the respondents reported that the cultivation is constant and 23% reported the decrease in cultivation (Figure 1). The reason for reporting yam cultivation as remaining constant was mainly because of its abundance in the wild, for which domestication is not required. Decline in cultivation is mainly perceived due to socio-economic development and replacement by other valued cash crops. Similar decline reported on the decrease in cultivation of the yam species like *D.esculenta* has been almost abandoned in Ghana due to farmers choosing to plant non-indigenous crops as well as due to change in socio-economic conditions (Henriques 2012).

Perception on status of different wild yam species

As shown in Table 4, among the respondents who collects *D. alata,* 52% reported that this species has decreased, 43% reported that it has remained constant and only 5% reported that it has increased. Regarding *D.esculenta*, majority (59%) of the respondents has reported that this species is decreasing and 40% had stated that it has remained constant. Similarly, in case of *D.bulbifera,* it was found remaining constant by majority (71%) and 29% of the respondents perceives that this species has decreased. With regard to *D.rotundata* and *D.cayenensis*, it is reported that there was decrease in case of *D.rotundata* and in case of *D.cayenensis* it remained constant.

Over all, there is a decreasing trend on the availability of the yam species in the wild over past 10 years. The possible causes as perceived by the farmers are shown in Figure 2.

Table 4. perception on the availability of species

Species	N	Increased	Decreased	Constant
D.alata	54	5	52	43
D.esculenta	63	1	59	40
D.rotundata	2	0	10	0
D.bulbifera	14	0	29	71
D.cayenensis	1	0	0	100

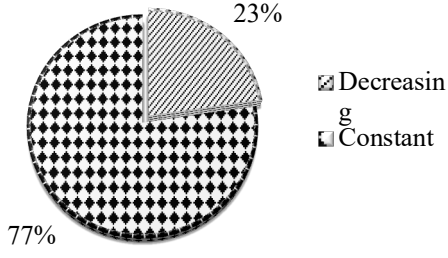

Figure 1. Perception on status of yam cultivation

Possible causes of decrease in yam availability

The perceptions on decreased availability of yam species are reported mainly due to three main possible causes among various reasons. The first important cause as reported by 42% of the respondents is due to unsustainable harvesting practices. The current practices include haphazard collection of species available within the locality that has led to destruction of whole plants, thereby preventing adequate regeneration to occur within the natural habitat. The second important reason as reported by 38% is due to increasing population of wild pigs feeding on the wild yams compared to the past. The increasing pressure of wild pigs feeding on the yams around the vicinity of settlement is assumed to be because of deprivation in food availability in the natural habitat. The other possible perception for decreasing trend reported by 20% of the respondents is due to the increasing population on the utilization of the natural

resources for various purposes such as extraction of timber and non-wood forest products and encroachment of forest for both agriculture and infrastructure developments.

Those above possible causes correlates with the statement of Uprety *et al.*(2012), that in Nepal and other Himalayan regions, the wild edible plants are threatened due to various ever increasing human activities on the natural resources such as expansion of agricultural lands, developmental activities, extraction of natural resources like mining, timber harvest, fuel wood collection, unsustainable agricultural practices and overgrazing, which had led to loss of the natural habitat, thereby resulting to loss of biodiversity.

Further, Aryal *et al.* (2013) reported that despite the significant contribution towards food requirement of the remote people of Himalayan region by the uncultivated plants such as edible *Dioscorea spp.*, the availability of these species have declined over time due to lack of research and development activities.

Table 5. Perception on availability of species (in percent)

Species	N	Increased	Decreased	Constant
D.alata	54	5	52	43
D.esculenta	63	1	59	40
D.rotundata	2	0	10	0
D.bulbifera	14	0	29	71
D.cayenensis	1	0	0	100

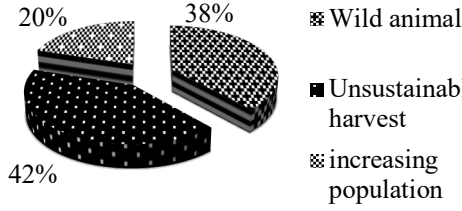

Figure 2. Possible causes of yam availability

Food security

Contribution towards food grain self sufficiency

The study has analyzed that majority (89%) of the respondents are not sufficient in food grain and only 11% are sufficient with the food grain produced in a year. It is reported that 64% of the respondents are in food deficit for duration of 2-3 months, followed by 23% less than one month and 3% within 4-5 months (Figure 3).

The food shortages reported are mainly due to insufficient grain produced especially rice and maize for the household consumption. Major limiting factors on food grain deficit are due to crop failure, limited cultivable land, labor shortage, low yield and crop damage by wild animals. Thus, the requirement is met through various measures.

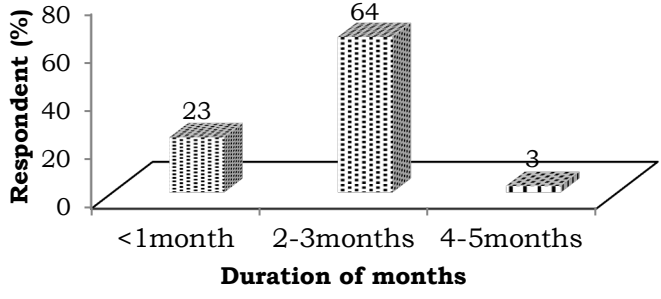

Figure 3. Duration of months

Similarly, MoAF (2012) reported that 53.3% are sufficient and 46.7% are not sufficient in food grain in Nangkor gewog and found that household food requirement is met from various means such as off-farm business, sale of wild vegetables and substituting it with wild tubers.

Measures to cope with food grain shortage

As indicated in Figure 4, it was found that food grain shortages are met 72% from off-farm business,19% from collection of wild

tubers and root crops such as yams and Taro, 5% contributed by the sale of cultivated and wild vegetables usually villages nearby roadside and 4% through remittance of cash by employed relatives of families. This finding is in line with (MoAF 2012), which has reported that off-farm activities contributes 80% of the farmer's source of income for livelihood in the gewog.

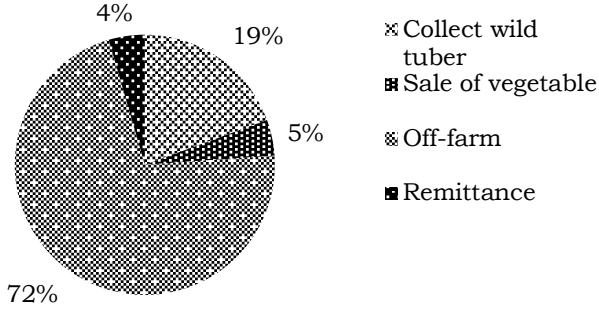

Figure 4. Various measures to cope with food grain shortage

Socio-cultural importance of yams and the species preferred

During the study, it was revealed that similar to other gewogs and communities, Nangkor gewog has its unique traditions and culture that has been bestowed throughout generations and still followed. Any of those socio-cultural ceremonies and festivals involved crops which are often directed to several gods and ancestral spirits of the family. The three most important socio-cultural events in which the yam crop is indispensable are briefly described.

Prechula (Offering to local deities): This is the worship festival ceremony to the local deity which is annually performed by almost all the communities of the gewog coinciding with 10th day of the Bhutanese first month. The monks or lay monks preside Prechula ceremonies in the local monastery (Lhakhangs) as to renew the personal relationship between a person or a community and the deity, conciliate it fierce aspects and ensure the protection of its benevolent aspects. The local believes that it was followed from time immemorial which was devoted after

local deity has been subdued by Guru Padmasambhava (Great Buddhist Master), who transformed them into guardian protector of the doctrine. During this ceremony, boiled yam tubers are offered as religious cakes in the altars of every household in the community and also need to contribute to the monastery where common ritual is held.

Locheo (Annual ritual): This is an annual ritual performed by households to bestow blessings and to do away unforeseen evil deeds of the household members. As reported by the respondents, the yam tuber is one of the integral parts of offering with other food and snacks items offered during annual ritual ceremony.

Losar (Local festivals): This is the festival or event where the family members gather and celebrate to mark the important days such as New Year, ending day of the year and mark the nine evils day. During these events, it is said that yams are one of the important menu among other food items, which are usually eaten boiled or as porridge.

The predominance of yam in the socio-cultural life of the communities have been consistent in accord with Okigbo and Ogbonnaya (2006), which states that yams are one of the most highly regarded food products in sub-tropical and tropical countries and are closely integrated into social, economic, cultural and religious aspects of communities.

As shown in Table 6, it was found that *D.esculenta* is the most preferred and commonly used (84%) whereas 16% of the respondents prefer *D.alata*, and are often used when *D.esculenta* are not available. *D.esculenta*, preferred over other species mainly due to smooth skin with white flesh and good taste, which are believed to have significant traits preferable during traditional offerings.

As shown in Figure 5, 44% consider offering of yams during Prechula ceremony as vital and indispensable than other occasion. 35% of the respondents still consider and offer during the annual rituals and 21% consume during Losar.

Table 6. Species preferred for different cultural values

Species	Frequency	Percent
D.alata	12	16.0
D.esculenta	63	84.0

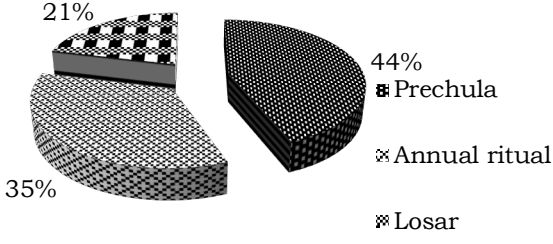

Figure 5. Socio-culture attributes of yam

Conclusion and recommendations

The study found five important species namely Dawalaki (*D.alata*), Chormola (*D.esculenta*), Phurpaiki (*D.rotundata*), Siktum (*D.bulbifera*) and Kachimaki (*D.cayenensis*) in Nangkor gewog. But *D.esculenta* and *D.alata* species are commonly preferred and used. The yam contributes significantly to socio-economic and cultural aspects of the community and has been an integral part for the livelihood of rural farmers in the gewog.

Despite the favorable agro-ecological condition for domesticating yams in the gewog, 85% of the respondents still harvest from the wild. It was found only *D.alata* and *D.rotundata* species are cultivated by 15% of the respondents in small scale.

Although abundant in the wild, there is indication that the availability is declining because of various factors such as unsustainable harvesting practices, increasing number of wild

animals' feeding and increasing pressure on the natural forest due to increasing population.

In terms of food grain security, it was found that 89% of the respondents are unable to meet the food grain requirement in a year for almost 2-3 months, and the shortage is met from various measures. Among those copping measures, the average contribution of yam and wild tubers to supplement food shortage was 2-3 months a year with 19% of the households relying on uncultivated wild food sources during food shortage.

Through this study, it was found yam plays a vital role in socio-cultural aspects such as rituals, ceremonies and festivals. Yam is found as an integral part of people's livelihood in the gewog.

In course of carrying out this study, it was found that there is a need to create awareness on sustainable harvesting practices strategies in order to conserve the species diversity in the natural habitat. Also, it is expected that this information on species diversity provides the baseline for further similar study in other parts of gewogs and dzongkhags in order to know the species diversity in the country and to come up with appropriate conservation strategies. Accordingly, further study on species diversity in other parts of the country is recommended as to document crop species diversity for the nation.

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Macroeconomic Trends and Policy Implications: Evidence from Bhutan

Mashrur Khan and Matthew Robson[*]

1. Introduction

Bhutan has performed remarkably well with an average growth rate of 7.72 percent from 2004-2014. This growth is heavily fuelled by its strong hydropower sector, particularly the exports of hydropower, which have grown at an average rate of 18.1 percent over the same period. In recent years, hydropower capacity has been increased substantially, leading to higher exports and electricity generation in the country. In addition, the tourism sector has grown rapidly over the last decade, which largely contributed to the generation of revenue for the country.

Despite these successes, the country has experienced some setbacks, particularly in recent years. The current account deficit has been on the rise, which was mainly due to increasing hydropower-related imports to facilitate the installation of new hydropower plants. In addition, rapid credit growth has led to a consumption and housing boom, which contributed to large non-hydropower related imports. Consequently, the total reserves for the country as a percentage of total external debt has declined - reducing their ability to service debt - which is concerning since their external debt as a ratio of GDP has risen to over 80 percent in 2013-14 from around 55 percent in 2007-08.

This paper focuses on the macroeconomic trends that Bhutan has experienced since the 1990s. The paper provides detailed graphs and tables on selected economic indicators, particularly on the budget, inflation and balance of payment estimates for the country. However, the data available from various sources

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for Bhutan is largely inconsistent, which necessitates emphasis to be placed on the quality of the data. Data is collected from the International Monetary Fund (IMF), the World Bank, and the Royal Monetary Authority of Bhutan (RMA) and the differences in the trends have been noted and compared. In addition, the assumptions and methods of calculating data for the various estimates have been identified and documented in detail.

The paper is organised as follows. The next section provides details on the data sources and the issues therein. Section 3 provides details on the macroeconomic trends of Bhutan, with comparisons between the trends observed from the data collected from multilateral organisations and the RMA. Section 4 provides projections for the economy of Bhutan using IMF data. Section 5 addresses the existing issues for the economy, with recommendations, particularly for the external sector and inflation. Section 6 concludes the paper with some observations that may be useful for those considering policy recommendations.

2. Data

The World Bank data presented here is collected from its databank that is publicly available from their website. Additional sources are mentioned in the paper, which include the IMF, Government Statistics, their own estimates, etc. For the IMF, data was collected from their World Economic Outlook Database.

For the RMA, data was taken from the Key Economic Indicators section of the Annual Reports of different years. The report from the years 2000-2001, 2004-2005, 2008-2009, 2010-2011 and 2014-2015 were used, as they provided the most up to date reports to span the years from 1995/96-2014/15. This data covers the topics of GDP Growth and Prices, Government Budget, Money and Credit, Interest Rates, External Indicators and Memorandum Items; thereby covering the indicators which are key. An attempt was made to combine the data, while keeping account of the necessary notes and assumptions which changed from year to year. The years that were kept were always

those from the most recent Annual Report, as their statistics were the more revised versions.

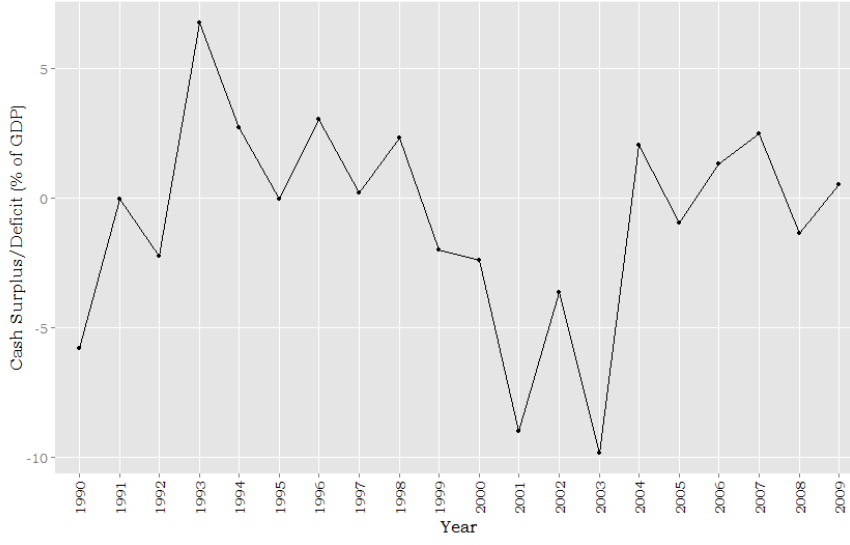
There was a major classification of data in 2002/03 and, according to the Annual Report of that year and after, data should not be compared before 2002 and after as that will be inconsistent. Another major discontinuity is the change that took place from the 2010/2011 report onwards. From August 2010 the Reserve Bank of India (RBI) revised its base year from 1993/94 to 2004/05, this creates a break in the continuity and comparison of data. The newly-recalculated weighted price index (WPI) commences from April 2004; with the reference period the same as for Bhutan Consumer Price Index (CPI). The second discontinuity is that the data till 2002/03 are based on the old half-yearly average CPI of the National Statistics Bureau (NSB) (1979 base year). This was replaced by a new quarterly CPI with a revised basket and Q3 of 2003 as the base. These issues are perhaps avoidable, and only really affect WPI. Moreover, Bhutan's BOP statistics were revised in line with the IMF's BMP6 Methodology from 2006/07, with the first statistics published in January 2014 (for more details, see RMA Annual Report 2013/14, pp. 44-45).

3. Macroeconomic Trends

Budget situation

Figure 3.1 provides Bhutan's cash surplus/deficit as a percentage of GDP for 1990-2009. Cash surplus or deficit is defined as the revenue (including grants) minus expense and net acquisition of nonfinancial assets. As the graph below shows, this has been very volatile for Bhutan, which are mainly due to the nature of hydropower projects' implementation and financing. However, more recently, the country has been able to recover and experience a positive cash surplus as a percentage of GDP, which is vital for the growth of the country. Due to Bhutan's high reliance on hydropower and external aid, emphasis should be placed on revenue generation, particularly through taxes, to provide an alternative source of income for the economy.

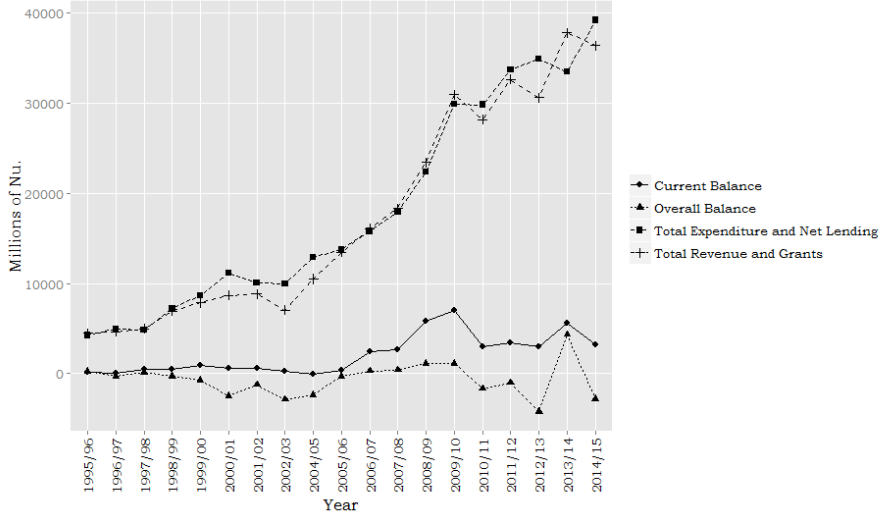
Figure 3.1: Cash surplus/deficit (% of GDP)



Source: International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates

After 2009, no data is available for cash surplus or cash surplus as a percentage of GDP in the World Bank database. The IMF, in Bhutan's 2014 country report, only has estimates and projections for data after 2009/10. The RMA has data relating to the government budget for 1990-2014, shown in Figure 3.2. However, its estimates until 2009 are not similar to the estimates provided in the World Bank and IMF, so a direct comparison between their data and the aforementioned organisations' data will be inconsistent. In terms of government budget both Total Revenue and Grants, and Total Expenditure and Net Lending have been rapidly rising together. The current balance appears to have a slight upward growth, and has consistently remained above zero. The overall balance, on the other hand, with the exception of 2013/14, has dipped below zero for the past 5 years.

Figure 3.2: Government Budget, in Millions of Nu.

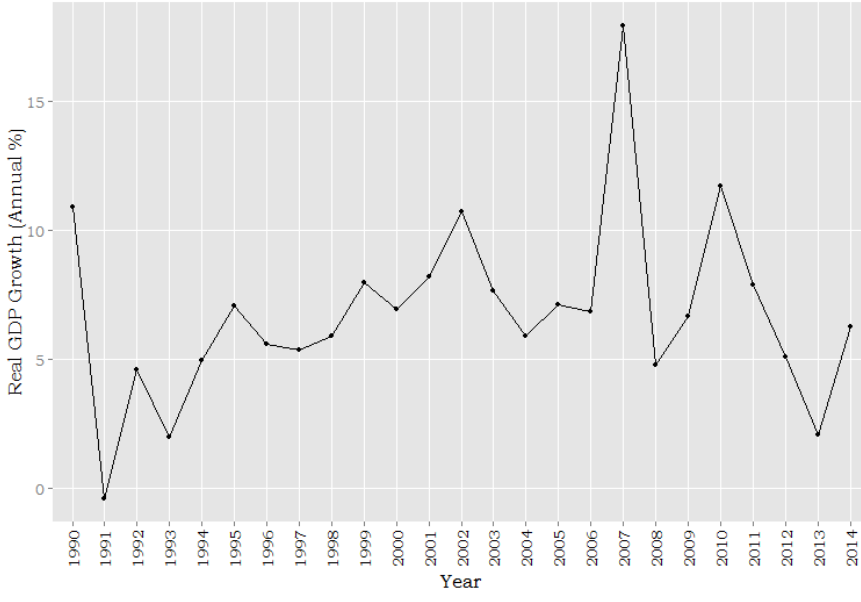


Source: Royal Monetary Authority (Various Annual Reports)

Structure of the Economy

Since the 1990s, Bhutan has experienced consistent GDP growth, year on year; with an average annual growth rate (based on constant 2005 dollars) of 6.79 percent, between 1990 and 2014, shown in Figure 3.3. This strong growth has had several notable leaps, foremost of which is seen in 2008. This was predominantly driven by the sharp rise in hydroelectric power production, as discussed below.

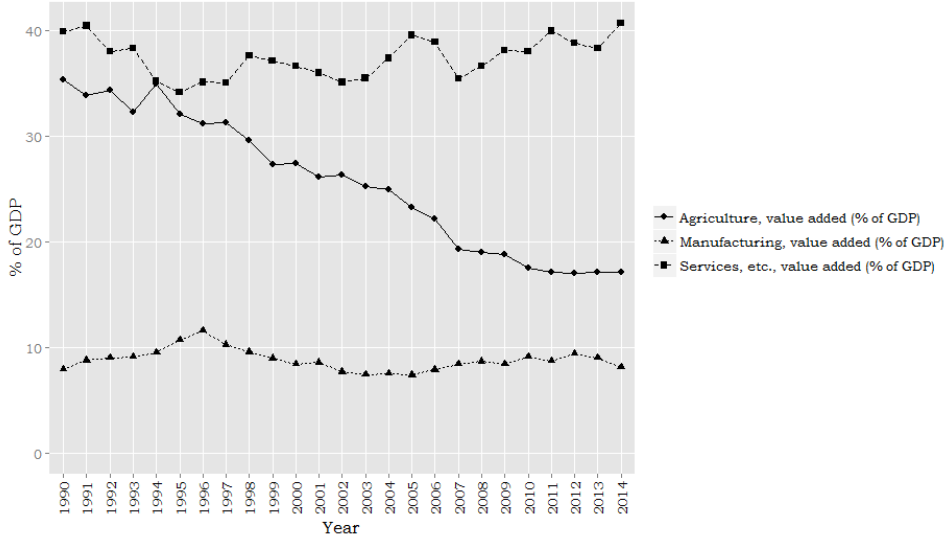
Figure 3.3: Real GDP growth (annual %)



Source: World Bank Databank

When decomposing GDP on a sectoral level, the contribution of the agriculture sector to Bhutan's GDP has declined, as is commonly observed among developing nations in Asia. Most of Bhutan's GDP comes from its services sector, which includes tourism, banking, etc. The contributions of manufacturing and services have remained fairly stable over the last two decades, as seen in Figure 3.4.

Figure 3.4: Sectoral Composition (% of GDP)



Source: World Bank national accounts data, and OECD National Accounts data files

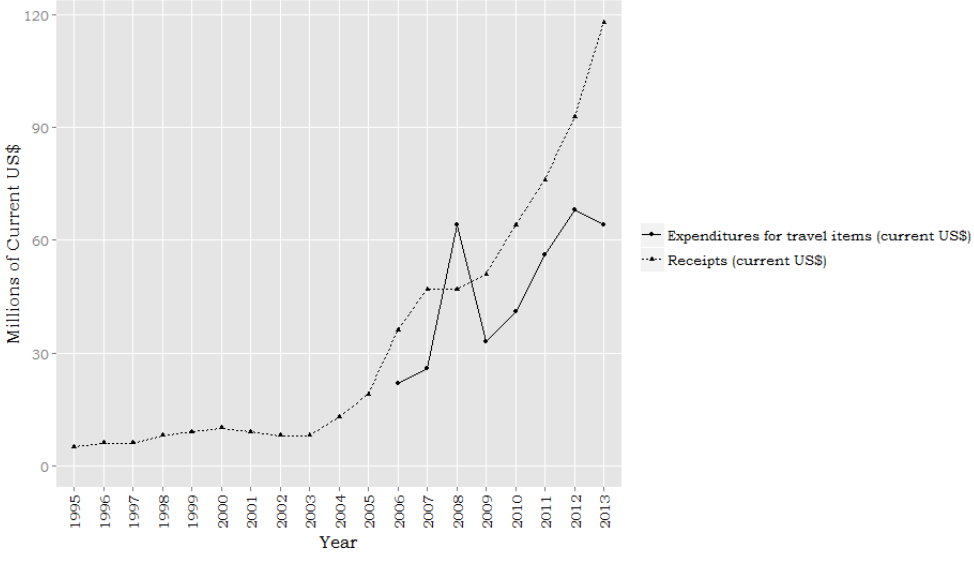
Bhutan is a small open economy, which is highly reliant on its exports and imports with the rest of the world, particularly India. Figure 3.5 shows that Bhutan's exports (as a percentage of GDP) have risen since 1990, although, they have been falling since 2006. As of 2014, hydropower contributed to 29.9 percent of exports (RMA 2014). Imports (as a percentage of GDP), however, has been on a steady rise, accounting for almost 70 percent of GDP as of 2014, see Figure 3.5. This is due to high levels of hydropower-related imports that have taken place in recent years to set up power plants.

Figure 3.5: Exports and Imports of goods and services (% of GDP)

Source: World Bank national accounts data, and OECD National Accounts data files

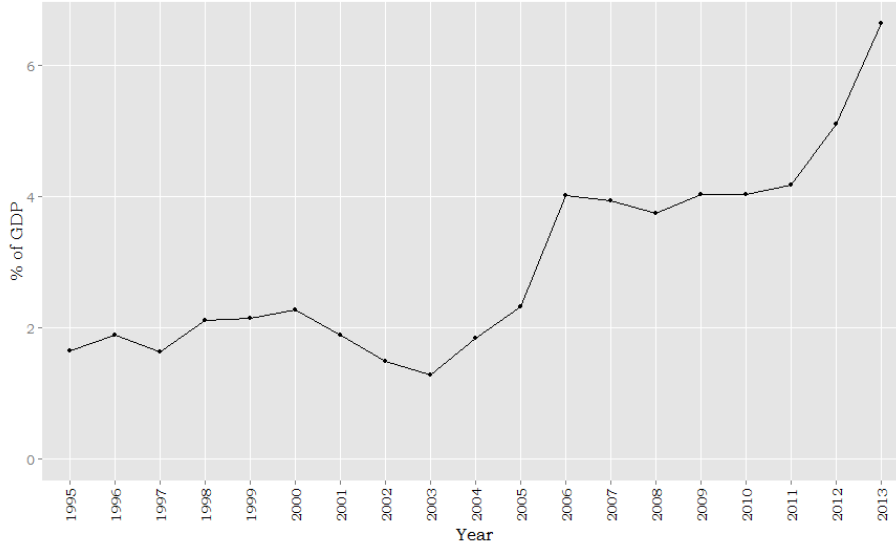
Tourism is a major source of revenue for the government of Bhutan. In addition to its remarkable landscapes, temples and rich cultural heritage, Bhutan has been able to maintain a stable political environment, with elections taking place smoothly in mid-2013, and to develop a 'high value' tourism sector which has attracted many visitors over the last two decades. Figure 3.6 shows the increase of both expenditure and receipts, with receipts far surpassing expenditure in recent years. As Figure 3.7 also highlights, tourism revenue, both in absolute terms and as a percentage of GDP, has grown rapidly since 2003.

Figure 3.6: International Tourism Expenditures (Imports) and Reciepts (Exports)



Source: World Bank Databank

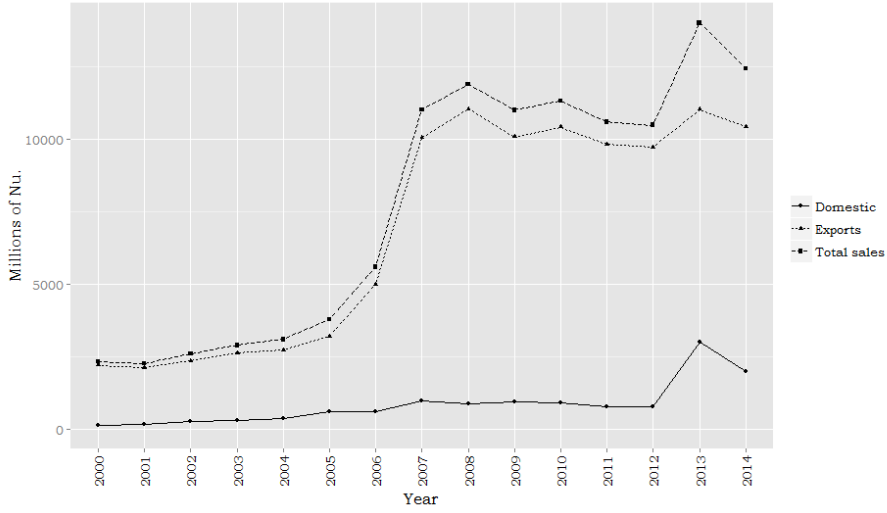
Figure 3.7: Tourism Revenue (% of GDP)



Source: World Tourism Organization, Yearbook of Tourism Statistics, Compendium of Tourism Statistics and data files (Collected from RMA)

Hydropower sales in Bhutan have risen steadily from 2000 with a sharper rise observed from 2005-2007, see Figure 3.8, which has been the result of more power plants being set up during this period.

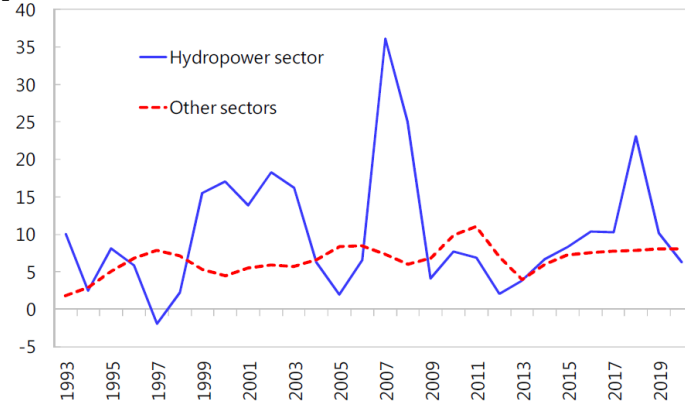
Figure 3.8: Hydropower Sales



Source: National Accounts Statistics, 2015, National Statistics Bureau (data from Table 4: RMA Annual Report 2014-15)

Despite its contribution to GDP, the reliance on hydropower for growth is concerning. Figure 3.9, taken from the IMF Country Report 2014, shows the reliance of Bhutan on hydropower. Dependence on the hydropower sector poses risks to Bhutan as the sector's growth plays a vital role in the country's growth. In addition, the volatility observed in the hydropower growth is translated to volatility in the overall growth levels. Hence, it is vital for the government of Bhutan to seek to improve and diversify production in other sectors, such as tourism, agriculture, etc.

Figure 3.9: Hydro vs. Non-Hydro GDP Growth (%) – actual and predicted

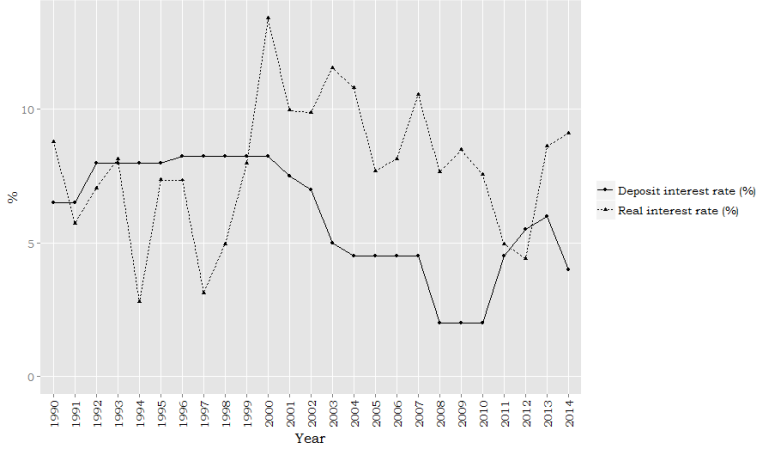


Source: IMF Country Report 2014

Foreign debt and interest rates

The deposit interest rates in Bhutan are relatively low, compared to other developing countries in Asia, which may induce investors in the country to invest outside of Bhutan. The real interest rate is more volatile, as Figure 3.10 shows. This is primarily due to the inflation fluctuations.

Figure 3.10: Interest Rates (%)

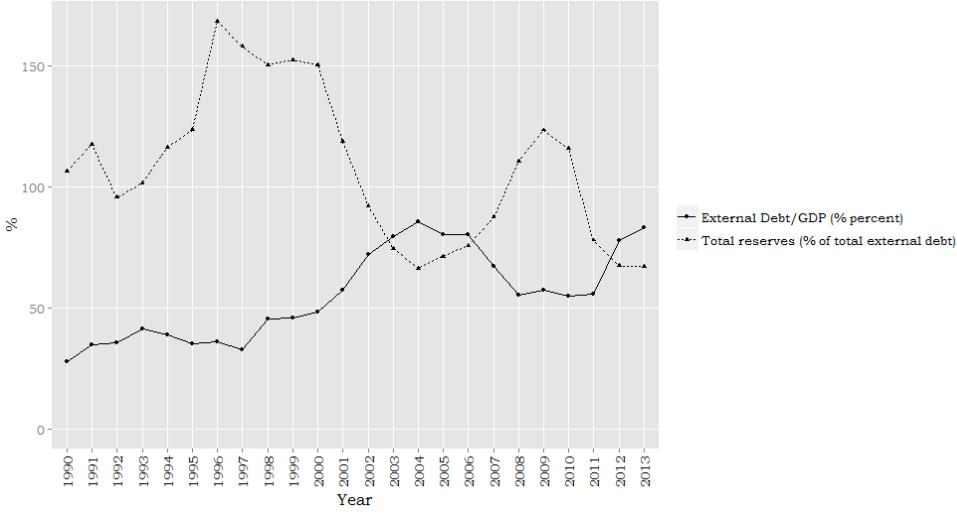


Source: International Monetary Fund, International Financial Statistics and data files using World Bank data on the GDP deflator

Figure 3.11 shows the ability of Bhutan to service its debts. Total reserves, as a percentage of total external debt, has declined quite sharply, starting in 2008, as shown below. External debt, on the other hand, has increased at an average rate of 17.1 percent since then. This was largely due to the rapid credit expansion which triggered an increase in imports for hydropower and non-hydropower activities in recent years, such as vehicles and construction materials from India. The RMA was forced to run down its reserves to meet payment obligations to India and eventually was led to borrowing to make the repayments. The result is that Bhutan's reserves reduced and debt accumulated despite strong growth. Another reason why debt has increased recently is due to the way hydropower plants are financed at present - 60 percent of the cost was received as grants from India earlier, 70 percent of the cost is loans currently - with difficult-to-verify but possibly excessively high interest rates of 10% to 12%. This poses a significant risk to Bhutan and needs to be addressed. In fact, the IMF predicts that external debt will increase even further[1] as new hydropower plants are being set up in the country. While the new plants will generate benefits for Bhutan in the medium term, it must be ensured that external debt is not allowed to rise beyond a threshold which makes it difficult for the country to repay its debt later.

[1] A confidential report suggests it will grow by as much as 21 percent annually in the near future.

Figure 3.11: Total Reserves (% of total external debt) and External Debt/GDP (%)

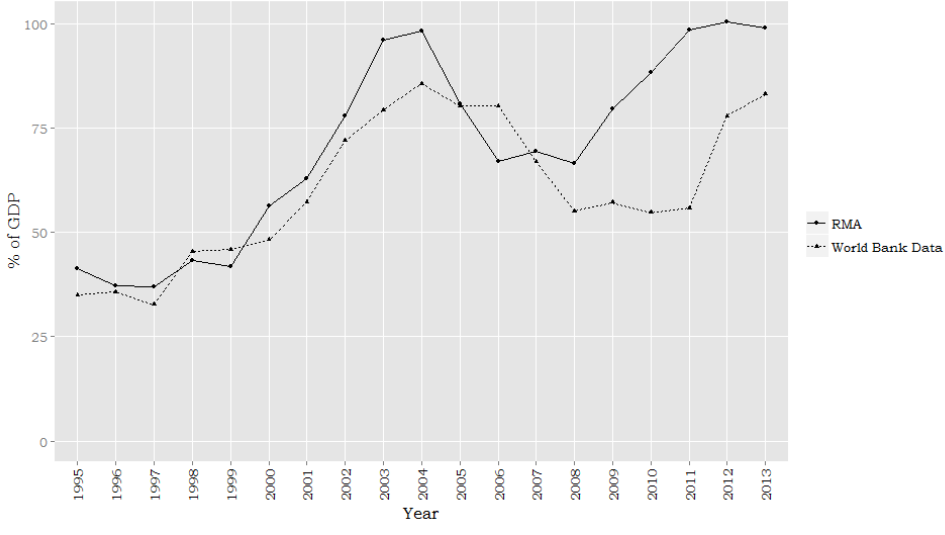


Source: World Bank, International Debt Statistics

A comparison was made with the RMA data for external debt as a percentage of GDP from 1995-2013 since these data are available.[2] We look at the trend of this indicator using the RMA and World Bank data, since that eliminates the issue of the indicators being in different units (RMA data is in Ngultrum; World Bank data is in USD). The trend observed using RMA data is similar for certain years but it is found to diverge from the World Bank, particularly in recent years, as shown in Figure 3.12.

[2] For other indicators, since GDP data is only available from 2004/05 and only in nominal terms, we are not able to derive the ratio of the indicator as a percentage of GDP. Hence, we were not able to compare the RMA data to the World Bank data for most indicators.

Figure 3.12: External Debt (% GDP)

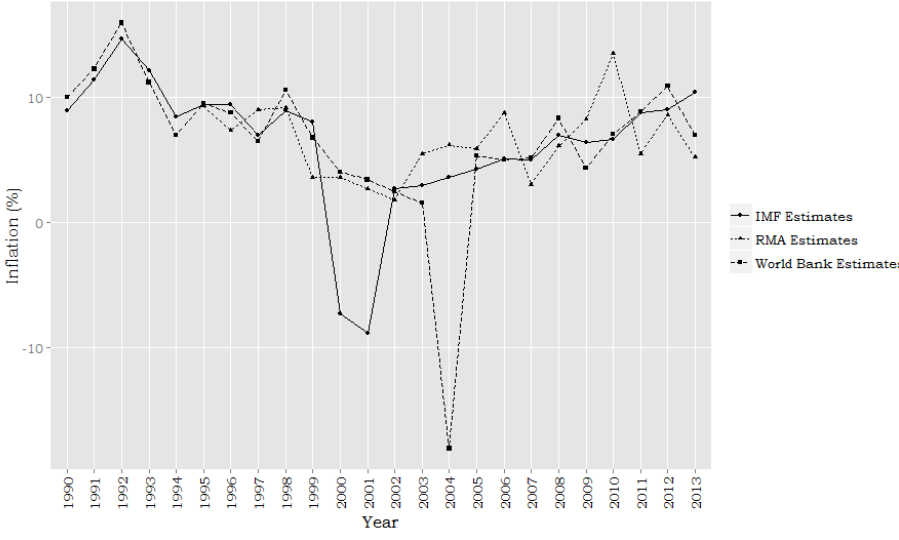


Source: World Bank, International Debt Statistics and RMA, Annual Reports

Inflation

Inflation data for Bhutan is inconsistent across different organisations. To make a comparison, Figure 3.13 shows estimates of inflation, which are year-on-year changes, from the World Bank and IMF. The data is consistent until 2000, after which the estimates from the two organisations are different. For example, according to the World Bank, Bhutan experienced a deflation of 18% in 2004. According to the IMF, Bhutan experienced deflation in 2000 and 2001.When comparing both estimates to the RMA further divergences in data occur. In the periods of record deflation by the World Bank or IMF, the RMA does not estimate a deflation. The estimates for the RMA, although, following a similar trend, appear to be more volatile in the more recent years.

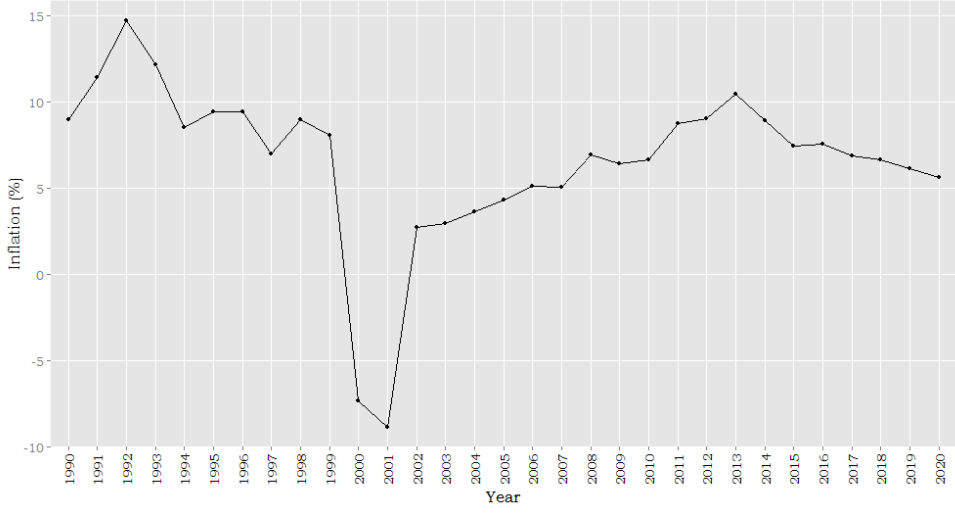
Figure 3.13: Inflation (%)



Source: World Bank and International Monetary Fund, World Economic Outlook

In general, over the last decade, the inflation rate for Bhutan has been around 5-12 percent. It rose to12 percent in 2012 during the rupee crisis but it came down to under 10 percent in 2014. Part of the drop in prices is due to the change in the CPI weights between food and non-food items that took place in 2013. According to the IMF, inflation in Bhutan is correlated with the inflation in India, due to their strong trade relations. The IMF predicts that inflation for Bhutan will decline over the next five years to around five percent, as Figure 3.14 shows.

Figure 3.14: Inflation (%): IMF Projection

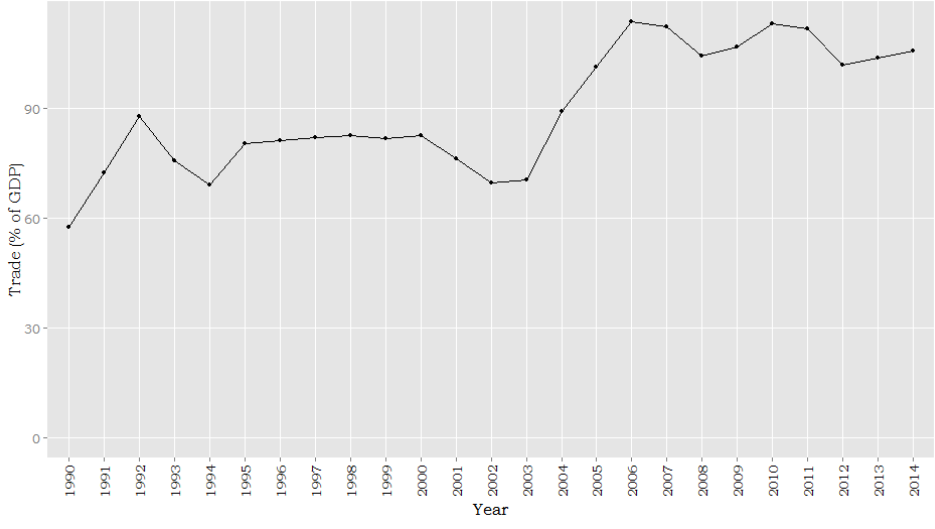


Source: International Monetary Fund, World Economic Outlook

Trade and investment levels

Trade statistics, shown in Figure 3.15, in Bhutan show that it is over a 100 percent of its GDP as of 2014. Exports and imports of hydropower and hydropower-related activities comprise most of the trade for Bhutan. As of 2014, hydropower comprised 29.9 percent of exports for Bhutan with 89.4 percent of its trade with neighbouring India. In terms of imports, 84.1 percent of its imports, the majority of which were hydropower-related, came from India.

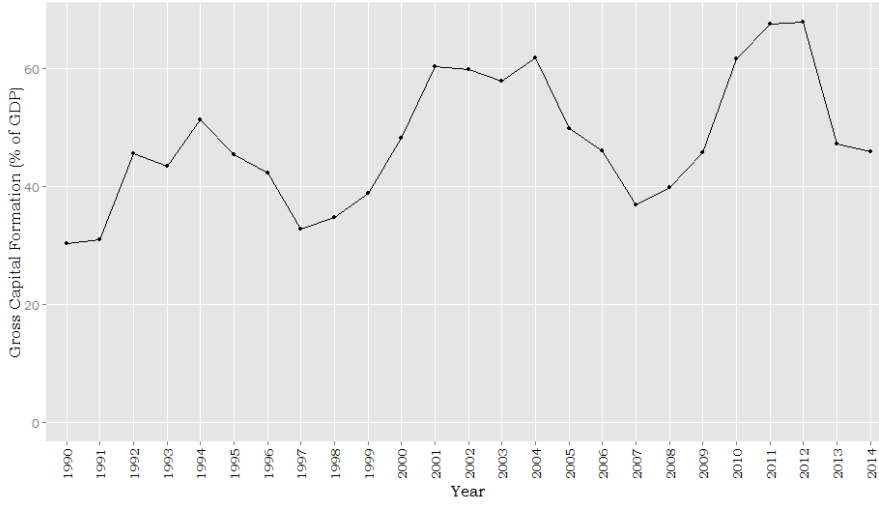
Figure 3.15: Trade (% of GDP)



Source: World Bank national accounts data, and OECD National Accounts data files

While investment levels for the country has increased in absolute value over the last two decades, gross capital formation shows that as a percentage of GDP, the ratio has remained consistent over the period. Bhutan is not very reliant on its domestic investment, which explains why gross capital formation as a percentage of GDP remained fairly constant.

Figure 3.16: Gross Capital Formation (% of GDP)

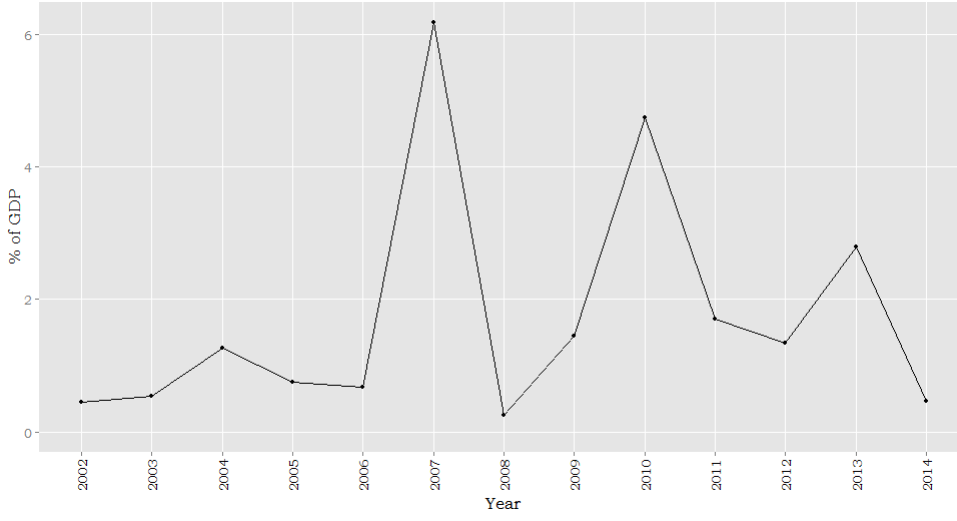


Source: World Bank national accounts data, and OECD National Accounts data files

Foreign Direct Investment

Data for foreign direct investment (FDI) is very irregular, even in the World Bank and IMF databases. Data from 2002 is relatively consistent, with substantial fluctuations, which may have actually occurred or could be a result of inaccurate data. Moreover, a large number of data points are missing. In general, FDI is claimed to have risen fairly sharply in the mid-2000s, although FDI, as a percentage of GDP, is at a lower level in 2014 than it was in 2002, see Figure 3.17.

Figure 3.17: Foreign Direct Investment, net inflows (% of GDP)



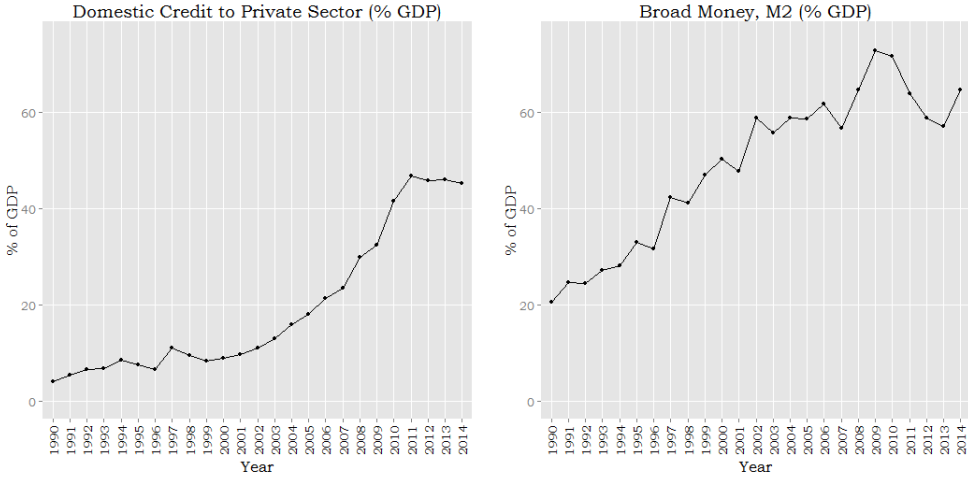
Source: International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and official national sources

Performance of Banking Sector

The banking sector of Bhutan, including the central bank, has performed well over the last few decades. As Figure 3.18 shows, domestic credit to private sector as a percentage of GDP has risen steadily over the entire period, which is commendable since GDP growth rate has increased as well. However, this was moderated since 2010 as it was deemed risky for the economy to have such a prolonged and rapid credit expansion. Broad money as a percentage of GDP, has also risen steadily since 1990. The rate of increase has fallen since 2010, which was an attempt by the Royal Monetary Authority to tighten liquidity due to high growth of rupee imports (IMF 2014); however, it is still almost 70 percent of GDP as of 2014. In fact, the rupee crisis of 2012 was triggered largely by the amount of credit that the banks had provided to the private sector, which led to a boom in imports, resulting in the rupee shortage.

In addition, the financial sector of Bhutan needs to be developed, by setting up markets for money and security, which will benefit the economy and the government. Macroprudential policies, which are widely used in developing countries to prevent financial risks, should continue to be implemented in Bhutan to contain vulnerabilities in the financial sector.

Figure 3.18: Domestic Credit to Private Sector and Broad Money, M2 (% GDP)

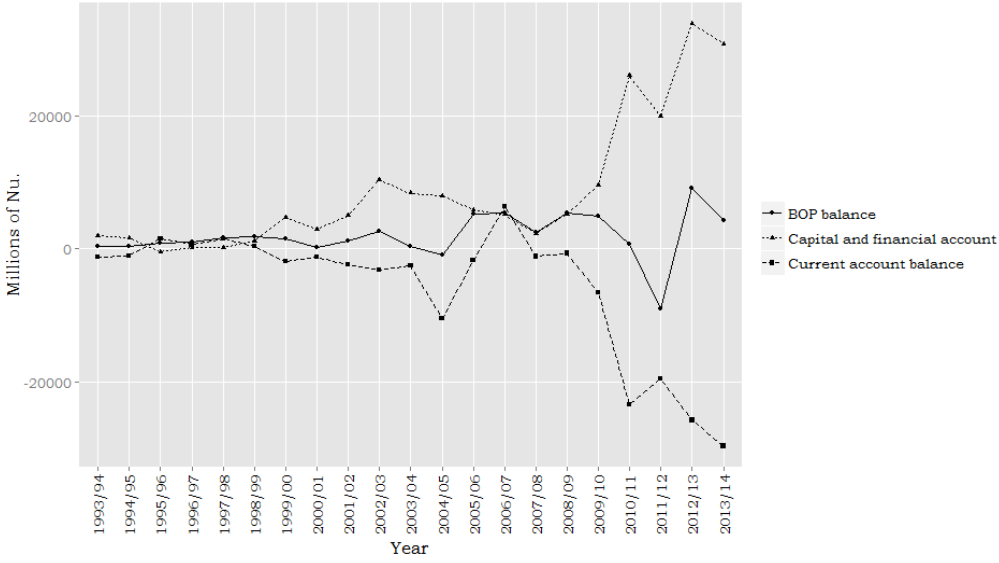


Source: International Monetary Fund, International Financial Statistics and data files, and World Bank and OECD GDP estimates

Balance of Payments

Due to Bhutan's high reliance on trade with the rest of the world, its balance of payment estimates are of great significance to the country. As Figure 3.19 shows, Bhutan has been able to achieve positive balance of payments since the 1990s. However, particularly after 2005, the current account deficit of Bhutan has risen, due to its low exports and high imports. The capital and financial account balance, which mainly comprises foreign aid inflows, has increased sharply since 2008, which has allowed for the balance of payments for the country to remain positive.

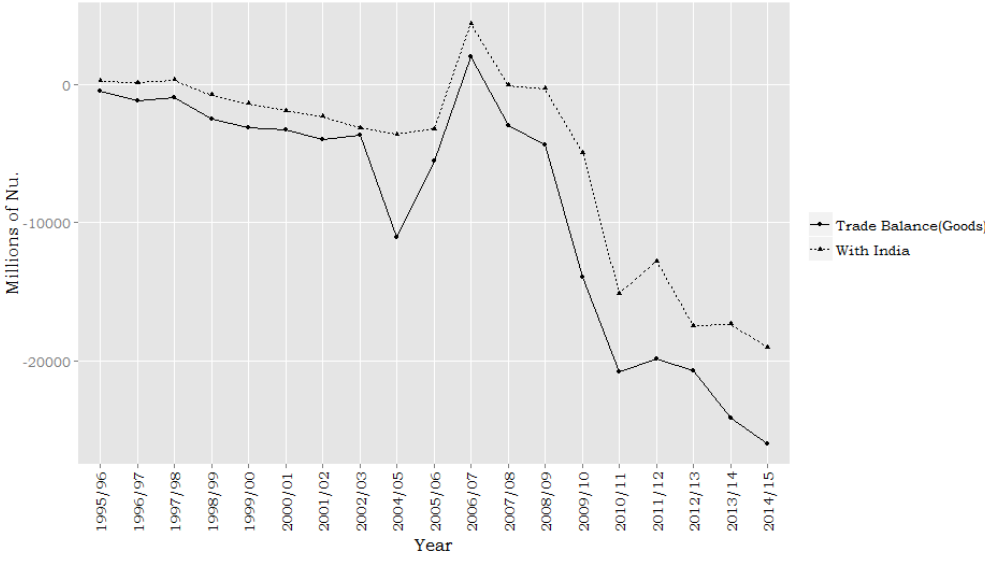
Figure 3.19: Balance of Payments



Source: Different tables in the RMA Annual Report, specifically, Table 18 (Annual report 2004-05, RMA), Table 20 (Annual report, 2010-11, RMA), Table 21 (Annual report, 2002-03, RMA), Table 17 (SEI, March 2003, RMA), and Table 20A (Annual report, 2014-15, RMA)

Due to Bhutan's strong trading relationship with India, we also look at the BOP estimates between Bhutan and India. It is not surprising that the BOP analysis yield similar results compared to the overall BOP for Bhutan as almost 90 percent of Bhutan's trade is with India. The trade balance, as shown in Figure 3.20, has become increasingly negative more recently which was due to its high imports of hydropower- and consumption-related activities from India.

Figure 3.20: Balance of Payments (with India)



Source: Royal Monetary Authority (Annual Report 2000/01, 2004/05, 2008/09, 2010/11, and 2014/15)

4. Future Projections

In terms of projections for the future the IMF Regional Economic Outlook provides statistics on several key indicators for the economy. For the current account, while the balance is becoming increasingly negative up until 2015, it is projected to stabilise and then rapidly fall towards the end of the decade. The volume of exports of goods and services is predicted to increase rapidly in 2018, where imports will slightly fall, then regain momentum. Similar to the current account, the gross debt position is predicted to increase, before slightly falling after 2017. GDP will continue its upward trend, and approach high levels of growth in 2018, while consumer prices are predicted to continue to increase, though not at the 2012-2014 levels.

Table 4.1: IMF Regional Economic Outlook: Asia and Pacific Projections

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Current Account, In Billions of US Dollars	-0.3	-0.4	-0.5	-0.6	-0.6	-0.7	-0.4	-0.2	-0.2
Current Account, Percent of GDP	-19	-22.7	-23.1	-26.8	-25	-26.2	-14.2	-5.6	-6.5
Volume of Exports of Goods and Services, % Change	-15.2	-6.6	-2.2	1.4	1.4	2	29	28.4	1.8
Volume of Imports of Goods and Services, % Change	-15.2	-9.3	0.1	1.8	7.3	3	-1.5	4.3	4.2
Gross Debt Position, Percent of FY GDP	72.2	89.2	107.5	115.9	122.5	122.6	117	116.9	119.6
Net Lending/Borrowing, Percentage of FY GDP	-1.3	-4	-3.8	-2.4	-1.5	-0.7	1.5	4.1	5.1
GDP $ Current Prices, in Billions	1.8	1.9	2	2.2	2.5	2.7	3.1	3.5	3.8
GDP Constant Prices, % Change	6.4	4.9	6.4	7.7	8.4	8.6	11.2	7.6	6.5
Total Domestic Demand, Constant Prices, % Change	8.4	5.1	10	8.7	9.2	9.3	12.1	8.4	7.3
Consumer Prices (p.a.) % Change	10.1	8.6	9.6	7.2	6.1	6	5.8	5.6	5.6

Source: International Monetary Fund, Regional Economics Outlook: Asia and Pacific http://data.imf.org/?sk=ABFF6C02-73A8-475C-89CC-AD515033E662&ss=1390030341854

5. Preliminary Observations towards Policy Recommendations

Addressing the external imbalance

The rupee shortage of 2012 is a warning regarding the effect of internal imbalances on external imbalances. Domestic credit grew at an increasing rate, leading to a boom in the economy, which quickly led to higher imports and, consequently, current account deficit. Commercial banks of Bhutan, in October 2014, had a loan-to-deposit ratio of 98 percent, which is considerably high. While this ratio by itself is not an issue, the high amount of credit extended may lead to an unprecedented boom in the economy. Central banks need to ensure that commercial banks have a cap in loan-to-deposit ratio beyond which they are not able to lend – this will have the desirable effect of avoiding surge in imports. Similarly, tighter cash reserve ratio will curtail adverse domestic credit growth.These measures will ensure that future external imbalances are avoided.

Another lesson from the rupee shortage for Bhutan is the desirability of reliable forecasts of balance of payments. This is important for a small open economy like Bhutan where external debt is inevitable due largely to its reliance on hydropower-

related imports, particularly during project implementation. Reliable forecasts will assist Bhutan to plan the most desirable loan agreements and the currency in which the loan will be most beneficial to the economy. Longer-term forecasts will greatly assist to time the repayment such that the repayment obligations are not inexorably high. This will also help Bhutan to plan ahead of the reserves that they require to hold for future loan repayments, which will reduce the mismatch arising from the timing of cash outflows and inflows.

The hydropower plants that are currently in the pipeline will be vital to rectify the external imbalance that has adversely affected the economy of Bhutan recently. Once the power plants are set up, exports will be higher which will lead to higher revenue generation and have a positive effect on the current account and the balance of payments for the country. A reasonable forecast of the revenue that will be generated is crucial to effectively manage and utilise the revenue generated and the reserves accumulated in the economy.[3]

Addressing high inflation

High inflation has a substantial cost to Bhutan, given that it is a small economy and any change in the value of its currency has a large impact on its population, particularly in the poorer regions of the country. Bhutan's openness makes it difficult to avoid cost-push inflation, especially from India. To make sectors more competitive, the government of Bhutan may want to seek to improve on their Doing Business indicator, which has ranked Bhutan 71 out of 185 in 2015 (World Bank 2016). In addition, it may be beneficial for Bhutan to seek to add value through the use of improved technology in agriculture, raw minerals, etc.

6. Conclusion

Bhutan has managed to attain notable growth over the last decade due to strong hydropower generation capacity, booming tourism sector and sound macroeconomic management of fiscal

[3] Since ngultrum is pegged to the Indian rupee on par and most of Bhutan's trade is with India, forecasts of the external sector is expected to be reasonably informative and accurate.

and monetary policies. It is expected that with newer hydropower plants in the pipeline, Bhutan will be able to sustain its growth in the near future, which, consequently, will help them to maintain reasonable inflation levels.

The external sector of Bhutan was largely affected by the rapid credit growth that took place in the country recently. Domestic credit, primarily to private sector, led to overheating pressures, which led to the current account deficit of the country to rise as there was a considerable increase in imports due to the surge in aggregate demand. However, the overall BOP has been maintained, mainly through aid received from India, which has to be paid in the near future. Once the new power plants are installed, the increase in hydropower exports is expected to ease the repayment obligations to India.

The reliance of Bhutan's economy on hydropower has its downsides and these must be contained. Over the last decade, it has been found on several occasions that new power plant implementation has resulted in large external debt and current account deficit. While revenue is generated when the power plants are set up and electricity is generated, it must be ensured that reserves are maintained to pay for hydropower-related imports during project implementation. The mismatch of timing for money outflows and inflows is crucial and must be taken into consideration as they have a significant impact on the business cycles of an economy. In addition, it may be beneficial for Bhutan to diversify and expand its range of commodities to offset losses during hydropower project implementation.

Central banks, through monetary policy measures, were able to quell the rapid credit expansion that triggered a housing and construction boom in the country. However, measures, particularly macroprudential policies, should be put in place to prevent any unwanted financial problems arising in the country. The financial sector should be developed as well, by improving the money and securities market. Moreover, open market operations need to be implemented, which will allow the central bank to issue treasury bonds/bills to raise revenue, which will

ease pressures on the banks to extend large amount of credit to the private sector.

In terms of the quality of the data, missing data and divergences of data between differing organisations the message is one of caution. While data from sources such as the World Bank and IMF are useful, appear consistent and are easy to acquire, often the assumptions behind the data is unclear. While the data tends to use consistent assumptions for the time period, the assumptions used depend upon the organisation, which perhaps explains the divergence in the data. For the RMA data, while perhaps more detailed, there are concerns of consistency. When using different report's statistics, the assumptions behind them vary as do estimates which are updated to different figures with each coming report. Re-classifications of data such as the 2006/07 change, which affects the BOP data, make comparisons over time difficult. Indeed, if the World Bank or IMF data is based upon RMA data, and converted to dollars, even the continuity and potential comparisons to be made will be questionable. Divergence of data appears often, such as the External Debt/GDP, and the reasons behind these divergences need to be addressed.

Efforts have been made here to combine the Key Economic Indicators, from numerous RMA reports, into a single consistent table, where the most recent data is used and the necessary assumptions mentioned. If this were something which could be a more uniform policy it would greatly benefit the data quality and available. Alongside this supplementary data for US$ would prove useful. Comparisons between different organisations datasets could then be clearer, and issues such as the continuity in WPI and missing cash surplus data, could then be more easily overcome.

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port/annual%20report%202008-2009.pdf on February 16, 2016

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8. Appendices

Table 8.1: World Bank Databank; Selected Indicators 1990-2001

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Budget												
Cash surplus/deficit (% of GDP)	-5.831	-0.051	-2.240	6.744	2.725	-0.051	3.021	0.193	2.320	-2.020	-2.405	-9.030
Cash surplus/deficit (current LCU(millions))	-306.100	-2.900	-145.600	483.700	231.500	-5.000	338.700	25.700	360.904	-364.500	-474.700	-2029.787
Structure of the Economy												
GDP growth (annual %)	10.876	-0.408	4.601	1.986	4.952	7.074	5.565	5.374	5.914	7.984	6.933	8.204
Services, etc., value added (% of GDP)	39.869	40.396	37.970	38.245	35.175	34.132	35.073	35.009	37.566	37.083	36.620	35.961
Agriculture, value added (% of GDP)	35.278	33.829	34.355	32.227	34.868	32.011	31.164	31.202	29.532	27.272	27.389	26.131
Manufacturing, value added (% of GDP)	7.906	8.756	9.023	9.088	9.485	10.699	11.598	10.227	9.546	8.936	8.383	8.548
Imports of goods and services (% of GDP)	30.653	40.123	55.904	44.094	39.426	42.630	45.668	46.116	49.418	50.701	53.485	47.251
Exports of goods and services (% of GDP)	26.830	32.158	31.986	31.568	29.529	37.769	35.488	35.905	33.100	31.114	28.984	28.940
Foreign Debt and Interest Rates												
Total reserves (% of total external debt)	106.332	117.327	95.427	101.386	116.161	123.341	168.144	157.764	150.141	152.205	150.128	118.572
Debt/GDP (% percent)	27.868	34.530	35.567	41.073	38.593	34.901	35.725	32.686	45.374	45.828	48.177	57.249
Inflation												
Inflation, consumer prices (annual %)	10.000	12.281	15.980	11.206	6.993	9.496	8.790	6.513	10.577	6.777	4.011	3.410
Inflation, GDP deflator (annual %)	5.709	8.764	9.297	8.186	12.852	8.048	8.056	12.485	10.510	7.435	2.286	5.266
Trade and Investment												
Trade (% of GDP)	57.483	72.281	87.890	75.662	68.955	80.398	81.156	82.021	82.518	81.816	82.469	76.192
Gross capital formation (% of GDP)	30.387	31.006	45.584	43.461	51.293	45.377	42.283	32.740	34.773	38.818	48.197	60.352
Foreign Direct Investment												
Foreign direct investment, net inflows (% of GDP)	0.534	0.240	0.000	0.000	0.000	0.016	0.442	-0.191		0.251		
Banks and Foreign Deposit												
Domestic credit to private sector (% of GDP)	4.113	5.383	6.549	6.815	8.521	7.638	6.675	11.081	9.466	8.258	8.854	9.782
Broad money (% of GDP)	20.551	24.585	24.413	27.076	28.196	33.056	31.573	42.338	41.216	46.912	50.342	47.668

Source: World Bank DataBank; *World Development Indicators*. Accessed online at: http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators

Table 8.2: World Bank Databank; Selected Indicators 2002-2014

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Budget													
Cash surplus/deficit (% of GDP)	-3.653	-9.837	2.018	-0.987	1.322	2.462	-1.386	0.500					
Cash surplus/deficit (current LCU(millions))	-953.727	-2850.129	642.738	-356.384	537.882	1217.739	-758.668	306.389					
Structure of the Economy													
GDP growth (annual %)	10.728	7.664	5.896	7.123	6.849	17.926	4.768	6.657	11.731	7.891	5.072	2.045	6.256
Services, etc., value added (% of GDP)	35.059	35.447	37.334	39.528	38.879	35.392	36.580	38.083	37.963	39.918	38.765	38.273	40.626
Agriculture, value added (% of GDP)	26.340	25.188	24.923	23.183	22.135	19.232	18.969	18.749	17.492	17.116	16.977	17.080	17.115
Manufacturing, value added (% of GDP)	7.656	7.429	7.495	7.389	7.876	8.400	8.646	8.430	9.084	8.694	9.410	8.978	8.095
Imports of goods and services (% of GDP)	44.639	44.164	57.802	62.926	59.178	57.281	57.677	62.204	70.731	70.486	63.039	62.872	66.601
Exports of goods and services (% of GDP)	24.920	26.193	31.293	38.250	54.419	54.970	46.559	44.702	42.453	41.205	38.725	40.848	39.021
Foreign Debt and Interest Rates													
Total reserves (% of total external debt)	91.944	74.266	66.291	71.189	75.623	87.246	110.277	123.253	115.496	77.776	67.237	66.995	
Debt/GDP (% percent)	71.883	79.358	85.575	80.184	80.326	66.988	55.115	57.150	54.727	55.778	77.857	83.069	
Inflation													
Inflation, consumer prices (annual %)	2.483	1.566	-18.109	5.312	5.000	5.156	8.327	4.361	7.036	8.849	10.920	7.007	8.207
Inflation, GDP deflator (annual %)	4.881	3.085	3.791	5.858	5.411	3.111	5.653	4.851	5.986	8.607	9.181	4.960	4.613
Trade and Investment													
Trade (% of GDP)	69.560	70.358	89.094	101.176	113.597	112.251	104.236	106.906	113.184	111.692	101.764	103.720	105.622
Gross capital formation (% of GDP)	59.872	57.983	61.909	49.912	46.130	36.899	39.799	45.737	61.702	67.651	67.910	47.265	45.969
Foreign Direct Investment													
Foreign direct investment, net inflows (% of GDP)	0.452	0.542	1.261	0.758	0.682	6.175	0.250	1.447	4.748	1.711	1.337	2.795	0.460
Banks and Foreign Deposit													
Domestic credit to private sector (% of GDP)	11.109	12.984	15.815	18.070	21.410	23.421	29.961	32.423	41.452	46.812	45.718	46.075	45.147
Broad money (% of GDP)	58.744	55.619	58.787	58.576	61.713	56.730	64.663	72.766	71.675	63.853	58.883	57.036	64.609

Source: World Bank DataBank; *World Development Indicators*. Accessed online at: http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators

Table 8.3: International Monetary Fund; World Economic Outlook 1990-2004

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gross Domestic Product															
GDP, constant prices (Nu. Billions)	11.804	12.382	12.64	13.043	13.501	14.316	15.203	16.023	16.916	18.077	19.248	20.545	22.5	24.552	26.209
GDP, constant prices (% Change)	9.098	4.896	2.083	3.192	3.511	6.037	6.194	5.397	5.57	6.866	6.477	6.74	9.516	9.118	6.748
GDP, current prices (Nu. Billions)	4.925	5.539	6.177	6.929	7.944	9.29	10.663	12.449	14.677	17.082	19.038	21.108	24.293	27.54	30.41
GDP, current prices (US$ Billions)	0.281	0.244	0.238	0.249	0.253	0.296	0.311	0.348	0.382	0.401	0.436	0.455	0.504	0.575	0.67
GDP, deflator	41.727	44.732	48.871	53.127	58.84	64.896	70.14	77.696	86.764	94.493	98.907	102.737	107.966	112.17	116.03
GDP per capita, constant prices (10,000 Nu.)	2.2033	2.3148	2.3925	2.5129	2.6390	2.8120	2.9659	3.0746	3.1693	3.2952	3.4107	3.5369	3.7597	3.9832	4.1345
GDP per capita, current prices (10,000 Nu.)	0.9194	1.0354	1.1692	1.3350	1.5528	1.8249	2.0803	2.3889	2.7498	3.1137	3.3734	3.6337	4.0592	4.4680	4.7973
GDP per capita, current prices (US$10,000)	0.0525	0.0455	0.0451	0.0480	0.0495	0.0581	0.0607	0.0668	0.0716	0.0731	0.0773	0.0783	0.0842	0.0932	0.1056
GDP based on PPP valuation of country GDP (Current $ Billions)	0.757	0.82	0.856	0.905	0.956	1.035	1.119	1.2	1.281	1.389	1.513	1.652	1.837	2.044	2.242
GDP based on PPP per capita GDP (Current $10,000)	0.1412	0.1533	0.1621	0.1743	0.1869	0.2033	0.2184	0.2303	0.2399	0.2533	0.2681	0.2844	0.3069	0.3317	0.3537
GDP based on PPP share of world total (%)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004
GDP corresponding to fiscal year, current prices (Nu. Billions)	4.925	5.539	6.177	6.929	7.944	9.29	10.663	12.449	14.677	17.082	19.038	21.108	24.293	27.54	30.41
Implied PPP conversion rate (Nu. Per Current $)	6.51	6.754	7.214	7.66	8.307	8.975	9.526	10.375	11.461	12.294	12.582	12.778	13.226	13.472	13.562
Budget															
General government revenue (Nu. Billions)	1.469	1.749	1.993	2.881	3.123	3.93	4.491	4.657	4.95	7.86	8.342	8.383	8.849	7.054	10.421
General government revenue (% of GDP)	29.819	31.584	32.271	41.577	39.307	42.3	42.117	37.403	33.726	46.012	43.82	39.713	36.425	25.615	34.269
General government total expenditure (Nu. Billions)	1.859	1.796	2.241	2.569	3.168	3.776	4.253	4.958	4.806	7.224	8.624	11.178	10.052	9.945	9.865
General government total expenditure (% of GDP)	37.738	32.432	36.274	37.071	39.874	40.648	39.885	39.825	32.746	42.292	45.301	52.955	41.379	36.111	32.44
General government net lending/borrowing (Nu. Billions)	-0.39	-0.047	-0.247	0.312	-0.045	0.154	0.238	-0.302	0.144	0.635	-0.282	-2.795	-1.204	-2.891	0.556
General government net lending/borrowing (% of GDP)	-7.918	-0.849	-4.003	4.505	-0.568	1.653	2.233	-2.422	0.979	3.72	-1.481	-13.242	-4.955	-10.497	1.829
General government primary net lending/borrowing (Nu. Billions)	-0.347	-0.007	-0.196	0.514	0.138	0.342	0.48	0.169	0.588	1.459	0.229	-2.717	-1.088	-2.722	0.776
General government primary net lending/borrowing (% of GDP)	-7.054	-0.131	-3.167	7.414	1.731	3.681	4.498	1.358	4.005	8.541	1.204	-12.873	-4.478	-9.883	2.552
General government gross debt (Nu. Billions)				4.322	4.377	3.729	4.07	4.253	5.535	6.942	8.684	11.448	14.523	20.55	23.907
General government gross debt (% of GDP)				62.373	55.104	40.142	38.171	34.164	37.71	40.64	45.613	54.235	59.784	74.62	78.616
Current account balance (US$ Billions)	-0.028	-0.025	-0.07	-0.04	-0.034	0.045	0.045	0.018	0.039	0.009	-0.04	-0.039	-0.081	-0.138	-0.122
Current account balance (% of GDP)	-9.916	-10.139	-29.458	-16.017	-13.489	15.342	14.595	5.249	10.136	2.249	-9.097	-8.619	-16.028	-23.956	-18.15
Inflation															
Inflation, average consumer prices	228.653	254.25	267.98	304.357	322.335	348.753	381.249	411.177	441.398	488.407	508.188	528.515	543.985	555.233	578.79
Inflation, average consumer prices (% change)	9.415	11.195	5.4	13.575	5.907	8.196	9.318	7.85	7.35	10.65	4.05	4	2.927	2.068	4.243
Inflation, end of period consumer prices	230.755	257.123	294.906	330.849	358.962	392.925	430.094	460.047	501.368	541.84	502.166	457.786	470.315	484.289	501.902
Inflation, end of period consumer prices (% Change)	8.978	11.427	14.695	12.188	8.497	9.461	9.46	6.964	8.982	8.072	-7.322	-8.838	2.737	2.971	3.637
Trade															
Volume of imports of goods and services (% Change)	-34.132	0.32	-38.605	39.092	-32.71	1.457	9.964	10.099	1.247	12.464	13.319	-4.621	9.49	16.467	11.646
Volume of Imports of goods (% Change)	-32.59	-0.094	-40.104	42.705	-37.899	4.629	1.312	16.449	-5.185	10.267	9.56	-2.7	3.331	-2.235	23.055
Volume of exports of goods and services (% Change)	-10.865	-6.37	-34.72	0.134	-17.883	8.732	18.539	-1.682	10.022	-9.308	5.299	-11.28	-2.979	1.644	34.421
Volume of exports of goods (% Change)	-14.802	-1.504	-34.156	-0.346	-20.159	10.41	24.495	-0.384	2.422	-9.278	4.903	-16.184	-0.922	4.777	35.098
Total investment (% of GDP)	34.519	33.144	45.696	43.363	52.351	45.827	44.306	33.28	37.155	43.439	51.63	55.21	57.279	55.068	62.354
Gross national savings (% of GDP)	29.107	23.689	18.155	30.865	42.249	40.918	33.64	22.899	19.719	21.52	25.385	38.459	38.414	38.001	36.368
Miscellaneous															
Unemployment rate (% of total labour force)															2.5
Population (Millions)	0.536	0.535	0.528	0.519	0.512	0.509	0.513	0.521	0.534	0.549	0.564	0.581	0.598	0.616	0.634

Source: International Monetary Fund (IMF); *World Economic Outlook*. Accessed online at: http://www.imf.org/external/pubs/ft/weo/2015/02/weodata/weorept.aspx?pr.x=37&pr.y=15&sy=1990&ey=2020&scsm=1&ssd=1&sort=country&ds=.&br=1&c=514&s=NGDP_R%2CNGDP_RPCH%2CNGDP%2CNGDPD%2CNGDP_D%2CNGDPRPC%2CNGDPPC%2CNGDPDPC%2CPPPGDP%2CPPPPC%2CPPPSH%2CPPPEX%2CNID_NGDP%2CNGSD_NGDP%2CPCP

I%2CPCPIPCH%2CPCPIE%2CPCPIEPCH%2CTM_RPCH%2CTMG_RPCH%2CTX_RPCH%2CTXG_RPCH%2CLUR%2CLP%2CGGR%2CGGR_NGDP%2CGGX%2CGGX_NGDP%2CGGXCNL%2CGGXCNL_NGDP%2CGGXONLB%2CGGXONLB_NGDP%2CGGXWDG%2CGGXWDG_NGDP%2CNGDP_FY%2CBCA%2CBCA_NGDPD&grp=0&a=

Table 8.4: International Monetary Fund; World Economic Outlook 2005-2020

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gross Domestic Product																
GDP, constant prices (Nu. Billions)	27.919	29.868	33.623	37.238	39.369	43.041	47.375	50.411	52.884	56.275	60.589	65.676	71.322	79.335	85.392	90.939
GDP, constant prices (% Change)	6.527	6.981	12.571	10.752	5.722	9.327	10.069	6.407	4.905	6.412	7.668	8.395	8.597	11.235	7.635	6.496
GDP, current prices (Nu. Billions)	33.979	38.393	45.068	52.102	58	66.869	79.196	92.684	106.086	121.888	140.909	162.517	187.321	220.986	251.87	284.805
GDP, current prices (US$ Billions)	0.762	0.858	1.02	1.291	1.214	1.433	1.747	1.844	1.934	1.983	2.209	2.465	2.748	3.141	3.468	3.798
GDP, deflator	121.704	128.54	134.04	139.915	147.323	155.359	167.167	183.858	200.603	216.596	232.563	247.453	262.641	278.548	294.957	313.182
GDP per capita, constant prices (10,000 Nu.)	4.2925	4.4877	4.9492	5.3800	5.5879	6.0035	6.4948	6.7955	7.0142	7.3440	7.7799	8.2974	8.8658	9.7033	10.2762	10.7677
GDP per capita, current prices (10,000 Nu.)	5.2242	5.7684	6.6339	7.5275	8.2323	9.3270	10.8572	12.4941	14.0708	15.9067	18.0932	20.5321	23.2852	27.0283	30.3103	33.7225
GDP per capita, current prices (US$10,000)	0.1171	0.1289	0.1501	0.1865	0.1723	0.1999	0.2395	0.2485	0.2565	0.2588	0.2837	0.3114	0.3416	0.3841	0.4173	0.4497
GDP based on PPP valuation of country GDP (Current $ Billions)	2.465	2.719	3.142	3.548	3.779	4.182	4.698	5.092	5.428	5.871	6.384	7.002	7.736	8.782	9.658	10.507
GDP based on PPP per capita GDP (Current $10,000)	0.3790	0.4085	0.4625	0.5126	0.5364	0.5834	0.6441	0.6864	0.7200	0.7662	0.8197	0.8846	0.9617	1.0741	1.1623	1.2441
GDP based on PPP share of world total (%)	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007
GDP corresponding to fiscal year, current prices (Nu. Billions)	33.979	38.393	45.068	52.102	58	66.869	79.196	92.684	106.086	121.888	140.909	162.517	187.321	220.986	251.87	284.805
Implied PPP conversion rate (Nu. Per Current $)	13.782	14.123	14.345	14.686	15.347	15.989	16.856	18.203	19.543	20.76	22.074	23.211	24.214	25.163	26.079	27.106
Budget																
General government revenue (Nu. Billions)	10.439	13.328	16.083	18.197	19.027	30.99	28.172	32.646	30.664	33.141	32.091	41.53	44.997	53.329	66.976	87.746
General government revenue (% of GDP)	30.723	34.714	35.686	34.926	32.805	46.344	35.572	35.223	28.905	27.189	22.774	25.554	24.021	24.132	26.592	30.809
General government total expenditure (Nu. Billions)	12.893	13.771	15.795	18.065	19.31	29.889	29.842	33.806	34.9	37.773	35.406	44.031	46.361	50.022	56.584	73.214
General government total expenditure (% of GDP)	37.944	35.868	35.048	34.673	33.294	44.698	37.682	36.475	32.898	30.99	25.127	27.093	24.75	22.636	22.466	25.707
General government net lending/borrowing (Nu. Billions)	-2.454	-0.443	0.288	0.132	-0.283	1.101	-1.671	-1.16	-4.235	-4.633	-3.316	-2.501	-1.364	3.307	10.392	14.532
General government net lending/borrowing (% of GDP)	-7.221	-1.154	0.638	0.253	-0.488	1.646	-2.11	-1.252	-3.993	-3.801	-2.353	-1.539	-0.728	1.496	4.126	5.102
General government primary net lending/borrowing (Nu. Billions)	-2.048	-0.061	0.731	1.851	1.451	2.844	0.123	0.923	-1.087	-1.676	-0.37	0.671	1.822	6.442	18.466	27.491
General government primary net lending/borrowing (% of GDP)	-6.028	-0.159	1.622	3.553	2.501	4.253	0.156	0.996	-1.024	-1.375	-0.263	0.413	0.973	2.915	7.332	9.652
General government gross debt (Nu. Billions)	28.725	31.661	34.24	30.52	41.002	38.44	54.301	66.932	94.655	131.044	163.301	199.08	229.6	258.602	294.518	340.594
General government gross debt (% of GDP)	84.539	82.467	75.973	58.576	70.693	57.486	68.566	72.216	89.224	107.511	115.891	122.498	122.57	117.022	116.933	119.589
Current account balance (US$ Billions)	-0.235	-0.038	0.145	-0.028	-0.026	-0.142	-0.41	-0.35	-0.439	-0.459	-0.591	-0.617	-0.721	-0.446	-0.194	-0.246
Current account balance (% of GDP)	-30.865	-4.417	14.239	-2.177	-2.18	-9.922	-23.485	-18.973	-22.699	-23.15	-26.76	-25.033	-26.242	-14.197	-5.598	-6.475
Inflation																
Inflation, average consumer prices	606.701	636.612	670.007	712.216	762.976	799.797	868.198	956.017	1,038.69	1,138.53	1,221.07	1,295.31	1,372.39	1,452.16	1,534.12	1,620.70
Inflation, average consumer prices (% change)	4.822	4.93	5.246	6.3	7.127	4.826	8.552	10.115	8.648	9.612	7.249	6.08	5.951	5.812	5.644	5.644
Inflation, end of period consumer prices	523.442	550.258	577.966	618.179	657.958	701.544	763.008	831.821	918.878	1,000.79	1,075.06	1,156.47	1,236.08	1,318.28	1,399.14	1,478.10
Inflation, end of period consumer prices (% Change)	4.292	5.123	5.035	6.958	6.435	6.624	8.761	9.019	10.466	8.914	7.421	7.573	6.884	6.65	6.134	5.644
Trade																
Volume of imports of goods and services (% Change)	52.645	-12.853	12.093	25.473	-15.284	29.829	29.467	-15.217	-9.275	0.112	1.775	7.261	3.043	-1.51	4.315	4.158
Volume of Imports of goods (% Change)	67.32	-10.646	16.129	22.095	-14.17	31.829	30.566	-17.747	-9.275	0.982	1.775	7.261	3.043	-1.51	4.315	4.158
Volume of exports of goods and services (% Change)	31.007	35.333	67.02	-1.182	-16.779	1.578	13.198	-15.187	-6.611	-2.154	1.375	1.38	1.954	28.953	28.382	1.785
Volume of exports of goods (% Change)	28.235	39.352	76.195	0.062	-18.144	0.044	13.558	-18.741	-7.151	-1.59	1.015	0.856	1.429	33.418	31.774	1.42
Total investment (% of GDP)	56.386	44.582	39.128	48.149	48.047	63.092	53.204	55.111	57.162	55.206	55.914	56.254	55.87	55.918	55.727	55.459
Gross national savings (% of GDP)	29.62	43.703	39.191	38.707	30.849	34.5	27.194	26.749	28.494	22.164	21.501	20.776	19.504	18.556	17.515	16.409
Miscellaneous																
Unemployment rate (% of total labour force)	2.3	3.2	3.7	4	4	3.3	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Population (Millions)	0.65	0.666	0.679	0.692	0.705	0.717	0.729	0.742	0.754	0.766	0.779	0.792	0.804	0.818	0.831	0.845

Table 8.5: Royal Monetary Authority Bhutan; Key Economic Indicators1995-2003**

Key Economic Indicators	Annual Report 2000-2001					Annual Report 2004-2005			
	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
GDP Growth and Prices (percent change)									
Real GDP at factor cost (b)(d)	7.4	6	7.3	5.5	5.9	9.5	8.6	7.1	6.8
GDP at Constant (2000) Price (k)(l)(s)(t)(aa)(b)									
Consumer Prices (a)(u)(bb)	9.3	7.4	9	9.2	3.6	3.6	2.7	1.8	4.6
Wholesale Prices (India) (g)(n)(v)(cc)						6.6	1.7	5.7	5.6
Government Budget (in millions of Nu.) (h)(o)(y)(dd)									
Total Revenue and Grants	4491.3	4656.5	4949.3	6919.5	7859.5	8,686.70	8,826.70	7,054.30	10,618.50
Of which: Foreign Grants	2363.6	2232.1	1816.3	3262.6	3274.1	3,711.00	3,748.50	2,269.10	4,456.20
Total Expenditure and Net Lending	4252.7	4957.2	4806	7224.4	8624.1	11,177.60	10,052.10	9,945.30	12,479.60
Current Balance	159.5	83.2	505.2	478.6	883.3	540.10	610.30	204.40	593.20
Overall Balance	238.6	-300.7	143.3	-304.9	-764.5	-2,490.90	-1,225.40	-2,891.00	-1,861.10
(in percent of GDP)									
Money and Credit (percent change, end of period)									
Broad Money, M2	30.4	30.9	41.7	21.4	21.4	6.4	17.6	28.7	4
Credit to Private Sector	5.1	-3.5	13.2	5.2	4.1	57.1	27.7	23.4	32.8
Interest Rates (end of period)									
One Year Deposits	10	10	10	10	9-10	9-10	9	7	6
Lending Rate	13-16	13-16	13-16	13-16	12-16	12.0-16.0	12.0-16.0	12.0-16.0	10.0-16.0
91-day RMA Bills/ Treasury Bills	8	8.5	8.5	4	8.5	6.9	4.7	3.5	3.5
Balance of Payments (in millions of Nu.)									
Trade Balance(Goods)	-453.2	-1143.4	-951.9	-2453.7	-3087.3	-3,259.10	-3,995.50	-3,681.00	-3,966.00
With India	288.4	158.8	357.2	-738.3	-1354.5	-1,854.30	-2,288.30	-3,111.30	-3,020.70
Current Account Balance	-1272.5	-2011.9	-1787.5	-4170.1	-5668.4	-1,224.60	-2,327.40	-3,211.90	-2,518.00
(In percent of GDP)	13.2	17.7	12.8	26.2	31.1	-6.3	-10.4	-12.9	-9.1
With India	-205.5	-461.1	-981	-3063.5	-4373.6	-1,118.30	-1,527.10	-3,679.30	-2,620.80
(In percent of GDP)	2.1	4.1	7	19.2	24	-5.7	-6.8	-14.7	-9.4
Foreign Aid (Concessional Loans net)	2396.5	2867.4	3538.2	6550.8	7547.3	2,310.00	2,846.20	4,527.50	4,666.20
RGOB Loans									
Of which: India	682.1	1364.2	2366.1	5030.6	5981.3	1,707.90	1,863.20	3,116.00	3,258.60
Errors and Omissions	-190.8	-50.6	81.8	-245.4	-289.8	-1,508.90	-1,398.70	-4,639.00	-5,508.30
Overall Balance	855.8	794.1	1742	1882.5	1589.1	236.20	1,242.70	2,613.60	370.10
(In percent of GDP)	8.9	7	12.5	11.8	8.7	1.2	5.6	10.5	1.3
External Indicators (end of period)									
Gross Official Reserves in millions of USD	145.1	176.1	216.7	259	292.6	292.6	315.3	373.3	383.3
Reserves in months of merchandise imports	16	16.1	21	19.4	19.4	21	20.6	23	18.8
External Debt outstanding (USD millions)									
External Debt (percent of GDP)	41.4	37.2	36.9	43.3	41.7	56.30	62.90	77.80	86.60
CC debt outstanding (USD millions)									
CC debt (percent of GDP)									
Rupee debt outstanding (INR millions)									
Rupee debt (percent of GDP)									
Debt-service ratio (c)(i)(p)(x)	20.8	8.5	6.8	10.2	4.1	4.7	4.9	5	4.2
Memorandum Items									
(in millions of Nu. unless otherwise indicated)									
Nominal GDP (k)(l)(s)(t)(aa)(bb)	9610.6	11354.7	13971.1	15927.5	18201.8	19520.7	22373.1	24981.7	27745
Ngultrum per USD (fiscal year average)	34.3	35.8	38.4	42.6	43.6	46.40	48.20	47.90	45.40
Money Supply, M2 (end of period)	3268.5	4277.7	6063.1	7359.2	8930.5	9419.8	11076.9	14255.1	14832.3
Money Supply, M1 (end of period)	1315.6	1973.2	2500.2	2868.4	3691.7	4,477.90	5,019.50	6,793.70	7,737.00
Counterparts									
Foreign Assets (Net)	5017.9	6233.2	9088	11335.9	13248.3	12788.9	14348.5	17519.8	16456.8
Domestic Credit	794.3	1535	1245.6	380.9	752.1	2,017.90	2,280.50	3,707.50	4,169.10
Claims on Private Sector	532.9	1097.1	1242.1	1306.5	1360	2,137.10	2,728.90	3,366.70	4,470.50
Components									
Currency Outside Banks	455	617	1050.3	852.8	1119.4	1483.1	1600.2	1699	2015.2
Demand Deposits	860.6	1331.9	1327.1	1832.6	2474.8	2,889.70	3,313.60	5,094.70	5,721.70
Transferable Deposits									
Quasi Money	1952.8	2304.5	3562.9	4490.8	5238.9	4,942.00	6,057.50	7,461.30	7,095.30
Other Deposits									
Reserve Money, M0 (end of period)	2567.1	2122.6	3318.5	4464	4950.9	4,631.90	5,937.60	8,008.00	9,370.30
of which: Banks' Deposits	-1419.1	2082.7	3350.1	3686	3045.3	3,045.30	4,222.90	6,242.90	7,261.70
Money Multiplier (M2/M0)						2.00	1.90	1.80	1.60
Income Velocity (GDP/M2)						2.1	2	1.8	1.9
Population Growth Rate (d)(e)(k)(q)(r)(y)(aa)(bb)						-	3.1	2.4	1.3
Currency Issued	455	617	1050.3	852.8	1119.4				
Unemployment Rate (d)(j)(k)(q)(r) (s)(z)(aa)(ff)						-	1.9	-	1.8
Per Capita Income (USD) (d)(e)						450.9	499.7	545.2	623.7

Source: Royal Monetary Authority Bhutan; *Amalgamated Annual Reports: 2000-2001, 2004-2005*

Table 8.6: Royal Monetary Authority Bhutan; Key Economic Indicators 2004-2014**

Key Economic Indicators	Annual Report 2008-2009			Annual Report 2010-2011			Annual Report 2014-2015				
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
GDP Growth and Prices (percent change)											
Real GDP at factor cost (b)(d)											
GDP at Constant (2000) Price (k)(l)(s)(t)(aa)(b)	8	7	6.4	17.9	4.7	6.7	11.7	7.9	5.1	2.1	5.4
Consumer Prices (a)(u)(bb)	5.5	6.2	5.9	8.8	3	6.1	8.3	13.5	5.5	8.6	5.2
Wholesale Prices (India) (g)(n)(v)(cc)	5.2	4.6	5.4	9.6	0.5	10.6	9.9	7.4	4.9	5.6	-2.2
Government Budget (in millions of Nu.) (h)(o)(y)(dd)											
Total Revenue and Grants	10,501.10	13,452.20	16083.1	18,316.90	23,443.00	30,990.70	28,171.80	32,646.40	30,656.10	37,819.10	36,400.10
Of which: Foreign Grants	4,373.10	6,424.70	6,000.90	5,935.40	6,575.10	11,118.90	10,497.70	12,501.50	9,562.60	14,236.40	11,153.30
Total Expenditure and Net Lending	12,893.70	13,770.90	15,795.40	17,913.40	22,350.50	29,888.90	29,842.40	33,688.00	34,900.80	33,522.80	39,211.00
Current Balance	-42.60	355.10	2,390.80	2,655.80	5,806.50	6,969.10	2,939.00	3,439.20	2,996.90	5,641.60	3,202.70
Overall Balance	-2,392.60	-318.70	287.70	403.50	1,092.50	1,101.80	-1,670.70	-1,041.70	-4,244.70	4,296.30	-2,810.90
(in percent of GDP)				0.8	2	1.8	-2.3	-1.2	-4.4	4.1	-2.4
Money and Credit (percent change, end of period)											
Broad Money, M2	10.7	26.3	8.6	2.3	24.6	30.1	21.2	-1	18.6	6.6	7.8
Credit to Private Sector	26.3	32.2	35.5	37.4	31.1	38.6	29.4	30.1	7.1	6.4	14
Interest Rates (end of period)											
One Year Deposits	4.5	4.5	4.5	4.8	4.8	4.8	5.3	5.0-6.0	5.0-6.5	5.0-6.5	4.0-7.0
Lending Rate	10.0-16.0	10.0-16.0	10.0-16.0	10.0-16.0	10.0-16.0	10.0-16.0	10.0-16.0	10.4-16.0	10.0-16.0	10.0-16.0	11.7-17.0
91-day RMA Bills/ Treasury Bills	3.5	3.5	3.5	6	6	2	2	4.1	3	2.3	0.1
Balance of Payments (in millions of Nu.)											
Trade Balance(Goods)	-11,099.00	-5,496.70	2,061.80	-2,921.60	-4,322.40	-13,938.20	-20,835.30	-19,880.60	-20,708.50	-24,170.50	-26,021.60
With India	-3,601.20	-3,170.70	4,447.60	-27.80	-278.60	-4,933.60	-15,160.00	-12,795.10	-17,468.80	-17,362.40	-19,048.70
Current Account Balance	-10,487.40	-1,695.70	6,417.20	-1,134.30	-664.30	-6,634.90	-23,431.10	-19,600.60	-25,769.30	-29,694.10	-36,084.70
(In percent of GDP)	-32.4	-4.7	15.9	-2.3	-1.2	-10.8	-32.3	-23.1	-26.4	-28.4	-30.2
With India	-5,253.90	-2,344.60	5,882.10	-157.30	-798.80	-3,493.70	-17,981.10	-15,482.80	-26,625.80	-25,750.80	-29,981.00
(In percent of GDP)	-16.3	-6.4	14.5	-0.3	-1.5	-5.7	-24.8	-18.2	-27.3	-24.7	-25.1
Foreign Aid (Concessional Loans net)	2,939.40	3,474.70	783.30	-517.20	1,207.10	3,859.90					
RGOB Loans							11,784.40	11,232.10	17,933.70	18,710.00	24,217.70
Of which: India	1,853.10	2,324.80	-30.30	-1,049.70	163.10	794.20	7,186.50	9,675.40	14,275.70	16,347.50	22,890.00
Errors and Omissions	1,552.40	1,057.70	-6,091.40	1,235.10	919.60	1,987.00	-1,823.40	-9,487.30	1,079.10	3,158.00	-2,342.80
Overall Balance	-918.60	5,209.10	5421.2	2445.4	5,479.20	4,973.40	797.5	-9,068.40	9,212.20	4,280.50	-560.4
(In percent of GDP)	-2.9	14.7	13.7	4.9	10	8.1	1.1	-10.7	9.5	4.1	-0.5
External Indicators (end of period)											
Gross Official Reserves in millions of USD	363.4	486.4	608.4	589.1	704.4	791.6	796.2	674.3	916.9	997.9	958.5
Reserves in months of merchandise imports	9.2	13.8	12.8	12.8	13.9	11.2	8.4	9	13	12.6	11.8
External Debt outstanding (USD millions)							1,289.30	1,333.70	1,606.80	1,759.00	1,854.60
External Debt (percent of GDP)	96.10	98.30	80.80	66.90	69.50	66.60	79.5	88.4	98.4	100.3	98.9
CC debt outstanding (USD millions)							527.6	524.7	579.3	629.5	581.2
CC debt (percent of GDP)				28.6	30.3	29.4	32.5	34.8	35.5	35.9	31
Rupee debt outstanding (INR millions)							34,062.30	45,550.90	61,341.70	67,870.20	81,183.60
Rupee debt (percent of GDP)				38.3	39.1	37.2	47	53.6	62.9	64.4	67.9
Debt-service ratio (c)(i)(p)(x)	11.9	7.6	3.6	18.3	30.5	29.7					
Memorandum Items											
(in millions of Nu. unless otherwise indicated)											
Nominal GDP (k)(l)(s)(t)(aa)(bb)	31284.6	35496.9	39571.2	49,456.50	54,713.00	61,222.60	72,496.60	84,950.00	97,453.00	105,378.40	119,545.80
Ngultrum per USD (fiscal year average)	44.60	44.70	44.20	40.4	47.8	46.7	45.3	50.3	54.9	61.5	62.1
Money Supply, M2 (end of period)	18376.9	23208.7	25208.7	25,781.50	32,114.80	41,778.70	50,209.40	50,122.90	59,451.20	63,387.80	68,344.30
Money Supply, M1 (end of period)	9,331.90	10,678.10	13,542.30	14,393.20	18,375.00	22,537.70	27,901.50	31,960.20	37,794.10	39,701.80	41,675.50
Counterparts											
Foreign Assets (Net)	16397.2	22505	24881.3	26,101.20	32,720.60	34,918.50	35,144.50	35,532.10	48,566.40	53,886.50	58,248.70
Domestic Credit	6,553.70	8,651.90	10,063.30	13,362.10	16,259.90	23,136.50	30,705.70	46,466.10	52,432.30	52,299.00	56,255.10
Claims on Private Sector	5,645.40	7,462.50	10,111.70	13,890.40	18,216.00	25,246.10	33,625.20	43,734.60	46,824.60	49,838.70	56,820.50
Components											
Currency Outside Banks	2303.4	2614.9	3166	3,641.60	4,541.80	5,386.50	5,812.30	6,390.70	5,681.20	5,704.60	5,946.10
Demand Deposits	7,028.50	8,063.10	10,376.30	10,751.60	13,833.20	17,151.20					
Transferable Deposits							22,089.20	25,569.50	32,112.90	33,997.30	35,729.40
Quasi Money	9,045.10	12,530.60	11,666.40	11,388.30	13,739.80	19,241.00					
Other Deposits							22,307.90	18,162.70	21,657.10	23,686.00	26,668.80
Reserve Money, M0 (end of period)	9,340.10	13,474.70	13,319.60	12,871.00	14,697.90	20,574.70	19,727.60	16,743.10	23,997.40	26,638.20	26,248.80
of which: Banks' Deposits	6,929.50	10,703.00	9,982.30	8,685.70	9,810.20	14,683.90	11,927.40	9,397.70	16,607.60	18,543.70	16,916.60
Money Multiplier (M2/M0)	2.00	1.70	1.90	2	2.2	2.03	2.5	3	2.5	2.4	2.6
Income Velocity (GDP/M2)	1.7	1.5	1.6	1.92	1.7	1.47	1.4	1.7	1.6	1.7	1.7
Population Growth Rate (d)(e)(k)(q)(r)(y)(aa)(bb)	2.5	1.3	1.3	1.3	1.3	1.3	2.5	2.4	3	1.5	1.3
Currency Issued											
Unemployment Rate (d)(j)(k)(q)(r) (s)(z)(aa)(ff)	2.5	2.3	3.2	3.7	n/a	4	3.3	3.1	2.1	2.9	2.6
Per Capita Income (USD) (d)(e)											

Source: Royal Monetary Authority Bhutan; *Amalgamated Annual Reports: 2008-2009, 2010-2011, 2014-2015*

**Notes for RMA Tables	
Annual Report 2000-2001	a) June, - b) On a calendar year basis, e.g., the entry under 2000/01 is for 2000, c) Debt Service Payments in percent of exports of goods and services.
Annual Report 2004-2005	d) On a calendar year basis, e.g., the entry under 2000/01 is for 2000. - e) Source: National Accounts Statistics (November 2004) & Comparative Socio-Economic Indicators for Bhutan (June 2005), NSB. - f) Data till 2002/03 refer to the old CPI (average of the first half of the calendar year) of the NSB with the 1979 base year. Since rates of change (year-to-year) for the newly introduced quarterly CPI (Q3, 2003 = 100) are not available prior to the third quarter of 2004, the CPI for 2003/04 is based on NSB's new quarterly CPI and refers to the average for the third quarter of 2004 and 2004/05 refers to second quarter 2005. - g) Average of first 6 months, except for December 2004 which refers to the fourth quarter average. Source: Reserve Bank of India. Wholesale Price Index of All Commodities, Base 1993-94 = 100. - h) Data for 2003/04 are revised estimates. - i) Debt service payments in percent of exports of goods and services.-(j) National Labour Force Survey (2003,2004), Ministry of Labour & Human Resources.
Annual Report 2008-2009	k) On a calendar year basis, e.g., the entry under 2006/07 is for 2006. - l) Source: National Accounts Statistics(2007), NSB - m) Data till 2002/03 are based on the old half-yearly average CPI of the NSB (1979 base year). This was replaced by a new quarterly CPI with a revised basket and Q3 of 2003 as the base. Rates of change (year-to-year) for the quarterly CPI are therefore not available prior to Q3, 2004. The CPI reflected in this table is for the last quarter of the fiscal year. - n) Source: Reserve Bank of India. Wholesale Price Index of All Commodities, 1993-94 base; reference period same as for Bhutan CPI payments in percent of exports of goods and services. - o) Data for 2006/07 are revised estimates. - p) Debt service (q) Data for 2005 is from the Population & Housing Census of Bhutan 2005.- (r) Source: Comparative Socio-Economic Indicators for Bhutan (June 2005), NSB; Statistical Yearbook of Bhutan 2008, NSD; Labour Market Information Bulletin (2007), Labour Force Survey (May

	2007) and Labor market indicators 2009, MoLHR.
Annual Report 2010-2011	s) On a calendar year basis, e.g., the entry under 2010/11 is for 2010. t) Source: National Accounts Statistics 2010, NSB u) The CPI reflected in this table is for the last quarter of the fiscal year. v) Source: Reserve Bank of India. Wholesale Price Index of All Commodities, Base = 2004-05. Effective August 2010, the RBI revised he base year from 1993-04 to 2004-05, creating a break in the continuity and comparison of data. The newly-recalculated WPI commences from April 2004; reference period same as for Bhutan CPI. w) Data for 2010/11 are revised estimates. x) Debt service payments in percent of exports of goods and services. y) Data on CY basis; sourced from NSB; z) Updates sourced from Labour Market Information System, MOLHR.
Annual Report 2014-2015	aa) On a calendar year basis (eg: entry under 2014/15 is for 2014). bb) Source: National Statistics Bureau cc) Source: Reserve Bank of India. Wholesale Price Index of All Commodities, Base = 2004-05. Effective August 2010, the RBI revised the base year from 1993-04 to 2004-05, creating a break in the continuity and comparison of data. The newly-recalculated WPI commences from April 2004; reference period same as for Bhutan CPI. dd) Data for 2013/14 are revised estimates. ee) Debt service payments in percent of exports of goods and services. ff) Updates sourced from Labour Force Survey Report (2014), MOLHR.