

Nepal  
OFFICE OF THE INVESTMENT BOARD NEPAL  
(OIBN)

Preparatory Survey on  
Instant Payment Digital Platform Business  
In Nepal  
(PPP Infrastructure Project)

Final Report(Public Version)

April 2023

Japan International Cooperation Agency

GVE

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JR(P)
23-044

### Monthly exchange rate in JFY 2022

COUNTRY	CURRENCY	MAR
USA	USD1=¥	136.2390000
NEPAL	NPR1=¥	1.0401000

Source:JICA. Monthly exchange rate in JFY 2022, 2023,

[https://www.jica.go.jp/announce/manual/form/consul\\_g/ku57pq00000kzv7m-att/rate\\_2022.pdf](https://www.jica.go.jp/announce/manual/form/consul_g/ku57pq00000kzv7m-att/rate_2022.pdf)

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## **Executive Summary**

In 2019, GVE (GVE) met with a number of leaders in Nepal including then the Minister of Finance, then the Governor of the Central Bank, and the current Prime Minister Pushpa Kamal Dahal (Prachanda). It was confirmed that Nepal wants to achieve the access to finance and the financial inclusion as soon as possible. The Instant Payment Digital Platform, which now widely known as CBDC(Central Bank Digital Currency), is regarded as one of the options to achieve this quickly.

The Office of Investment Board of Nepal (OIBN) and the Japan International Cooperation Agency (JICA) signed the Memorandum of Understanding (MoU) on June 23, 2022. JICA, in turn, executed an agreement with GVE in October 2022. From November 24 to December 4, 2022, GVE team visited Nepal for the preparatory survey. 21 meetings took place which cover all regulators, relevant government agencies and financial institutions as stakeholders.

The objectives of this visit are as follows.

- To explain the Instant Payment Digital platform is equivalent to the CBDC in the broadest sense to all stakeholders.
- To ensure that all Nepalese stakeholders understand the benefits and necessity of the project and the CBDC.
- To explore the fastest way to implement the GVE's CBDC platform to achieve access to finance and to achieve the resilience to the payment system, two of the stated objectives by Nepal Rastra Bank (NRB).
- To understand the relevant laws and regulations and the roles of regulators and each government agencies.
- Agree the long-term goal and the short-term goal (this project) with a step-by-step approach.

OIBN and Global Capital Investment Limited(GCI) set up 21 meetings in Kathmandu for the GVE team. All the government agencies and Bank and Financial Institutions (BFIs) are positive about the design of this project. This is because, this will not only achieve the most important two goals but also will accelerate the digitalization for the whole industry in Nepal.

This project will have the green transformation/investment implication as Nepal can abolish cash carrying cars which have been pollutive.

The conclusion is that Nepal government has been seriously looking into the adoption of the CBDC and its positive implications. All stakeholders believe GVE's unique design and intellectual property is

the best for their CBDC and digitalization initiatives. The knowledge of GVE and the team's track record of being the developed first contactless card using Near field communication (NFC) and mobile payment in the world are not comparable to any IT companies. GVE is able to accelerate the first project of providing access to finance much faster time framework than GVE had planned before the trip. Nepal Clearing House (NCHL) is willing and keen to cooperate with GVE. Both parties are complementary and can accelerate all the Nepal Rupee CBDC projects into reality.

The secretary of National Planning Office and the Prime Minister have explicitly expressed their warm-hearted willingness to support the project.

All parties confirmed that GVE's platform is unique, and superior compared with those similar fiat currency digitalization platforms. Moreover, the joint venture (JV) between GVE and the Nepal companies, is likely to have big spillover effects not only domestically in Nepal but also as exportable service sector for some SAARC countries. The magnitude of this exportable sector could be as big as one third of the current GDP of Nepal.

The use cases beyond the first project include (1) cross border settlement, mainly the repatriation from the non-resident Nepalis (NRN) to their families in Nepal, (2) Electronic Medical Records, (3) Point of Sales (POS), and (4) mobile phone voting.

There are a couple of ways that the World Trade Organization government procurement rules may not apply for this case. It is likely that Swiss Challenge method might be the best way to consider the next step for the Nepali stakeholders.

The Nepali government wants JICA and GVE to accelerate the feasibility study so that JICA and GVE can help Nepal to become the most advanced digitalized nation among SAARC eight countries and to become one of the top digitalized nations in the world.

Chapter 1 provides background information on the feasibility study, including past communications with the Nepalese government, the need for CBDC in Nepal, and government agencies and financial institutions related to finance and IT. The chapter also describes the type of survey conducted.

Chapter 2 covers the demographic, economic and political situation, legal and tax systems, and payment infrastructure in Nepal, explaining how CBDC can contribute to achieving financial inclusion in the country.

Chapter 3 provides an overview of the project, including the functions to be provided by each party, the JV scheme, the advantages of the CBDC platform, and its impact on domestic payments and

overseas remittances.

Chapter 4 describes the JV's business plan, financial plan, and key performance indicators (KPIs). It also outlines the expectation that the JV will export its technology to neighboring countries in the future.

Chapter 5 describes the features of the CBDC platform and its compliance with ISO/IEC 24643, emphasizing its security robustness and modules for updating the existing payment infrastructure in Nepal.

Chapter 6 discusses topics to be addressed in future projects, such as conducting a detailed review of the local system, defining necessary functions, and conducting PoC to integrate and test the system. The chapter concludes with a statement about continuing discussions to achieve financial inclusion in Nepal as soon as possible.



## Location Map



Source: Khabarhub.com, English version of Nepal's updated map approved, to be sent to int'l community, 2020, <https://english.khabarhub.com/2020/14/119893/>

**Figure 1 Map of Nepal**

**Photograph**



**Photo 1 Scenes of meeting: Nepal Rastra Bank December 1, 2022**



**Photo 2 Scenes of meeting: Nepal Police (CYBER CRIME) November 29, 2022**



**Photo 3 Scenes of meeting: Nepal Telecommunication Authority November 29, 2022**



**Photo 4 Scenes of meeting: RBB (Rastriya Banijya Bank) November 28, 2022**



**Photo 5 Scenes of meeting: Muktinath Bikas Bank Limited November 28, 2022**



**Photo 6 Scenes of meeting: The World Bank November 28, 2022**



**Photo 7 Scenes of meeting: Ministry of Communication and Information Technology November 30, 2022**



**Photo 8 Scenes of meeting: National Planning Commission December 2, 2022**



**Photo 9 Scenes of meeting: Bankers Association December 2, 2022**



**Photo 10 Scenes of meeting: Bankers Association December 2, 2022**



**Photo 11 With ex-ministers and MP at Prachanda's residence November 30, 2022**



**Photo 12 Puspa Kamal Dahal (Prachanda)(Former-Prime Minister) November 30, 2022**



**Photo 13 Puspa Kamal Dahal (Prachanda)(Former-Prime Minister) November 30, 2022**



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## Abbreviations

BFI	Banks and Financial Institution
CBDC	Central Bank Digital Currency
ECC	Electronic Check Clearing
EXC platform	GVE's CBDC platform
EXC server	GVE's CBDC server
FAR	Financial Administration Regulation
GCI	Global Capital Investment Limited
GoN	Government of Nepal
IMF	International Monetary Fund
IPS	Interbank Payment System
ISO	International Standards Organization
KYC	Know Your Customer
LTE	Long-Term Evolution
MC	The Maoist Center
MOCIT	Ministry of Communication and Information Technology
MoF	Ministry of Finance
MoU	Memorandum of Understanding
NC	The Congress Party of Nepal
NCHL	Nepal Clearing House Limited
NCP	The New Communist Party of Nepal
NFC	Near Field Communication
NPC	National Planning Commission
NPR	Nepalese Rupee (Currency of Nepal)
NRB	Nepal Rastra Bank
NRN	Non-Resident Nepalis
NTA	Nepal Telecommunication Authority
OIBN	The Office of the Investment Board Nepal
PPP	public-private partnership
PPPIA	Pan-Pacific Pressure Injury Alliance
PSO	Payment System Operators
PSP	Payment Service Providers

RE&D	Rule Engine & Dispatcher
RTGS	Real Time Gross Settlement
SAARC	South Asian Association for Regional Cooperation
UML	The United Marxist-Leninist Party

# 1. Background

## 1.1. Background of the Survey

The Nepalese government has set a national goal of "moving out of poverty by 2022, achieving the SDGs, and becoming a middle-income country by 2030".<sup>1</sup> While the financial sector is very important in the economy, the total repatriation money to GDP is estimated at 22.5% in 2022, the public's access to finance remains low, with 67.3% of the population having bank accounts.<sup>2</sup> In rural areas with many mountains and scattered villages, the rate of access to finance is particularly low. The number of residents who can make payments between individuals through bank accounts is limited.

For interbank payments, A clearing house provides payment systems for domestic financial institutions, but they need improvement due to its settlement capacity and possibly the security for many settlements for peak times. Against this background, the government of Nepal has set forth the improvement of people's access to finance in the central bank's strategic plan and the Financial Sector Development Plan, strengthening the payment and settlement system is one of the major issues.

While the number of people with bank accounts in the country is limited, the mobile phone subscription rate was around 140%.<sup>3</sup> More than 60% of the population uses the Internet.<sup>4</sup> In the future, as the progress of socio-economic development is expected to expand domestic and international fund settlement activities, providing access to finance to citizens using the mobile networks or the Internet is likely to become an important policy issue. The Ministry of Communication and Information Technology announced in 2019 that " Digital Nepal Framework" to promote financial inclusion through digitalization.

On September 1, 2019, the then Minister of Finance, the then Central Bank Governor, Prime Minister Pushpa Kamal Dahal (Prachanda) and others met with GVE and Global Capital Investment Limited (GCI). In one of these meetings, GVE confirmed that it aims to achieve financial inclusion by 2030<sup>5</sup> and that GVE's CBDC platform (EXC platform) is ideal to become the financial and digital infrastructure for almost all industries for the whole of Nepal.

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<sup>1</sup> Nepal Rastra Bank. Nepal Financial Inclusion Action Plan, 2018, P.5

<sup>2</sup> Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation), 2022, P.44

<sup>3</sup> ITU World Telecommunication. ICT Indicators Database, 2015, <https://www.soumu.go.jp/g-ict/country/nepal/detail.html>

<sup>4</sup> Ncell. Ncell Sustainability Report FY 2019-2020, 2020,

[https://webapi.ncell.axiata.com/upload/SustainabilityReport/Sustainability\\_and\\_National\\_Contribution\\_Report\\_for\\_FY\\_2019\\_2020.pdf](https://webapi.ncell.axiata.com/upload/SustainabilityReport/Sustainability_and_National_Contribution_Report_for_FY_2019_2020.pdf)

<sup>5</sup> Nepal Rastra Bank. Nepal Financial Inclusion Action Plan, 2018, [https://un.org.np/sites/default/files/doc\\_publication/2018-08/MAP%20Nepal%20Financial%20Inclusion%20Action%20Plan.pdf](https://un.org.np/sites/default/files/doc_publication/2018-08/MAP%20Nepal%20Financial%20Inclusion%20Action%20Plan.pdf)

In January 2020, GVE was selected by JICA to conduct a preparatory survey as a PPP project. Koji Fusa, CEO of GVE visited Nepal for the second time with the view to conclude the Memorandum of Understanding (MoU) at that time. The MoU was finally signed on June 23, 2022.

## **1.2. Objectives of the Preparatory Survey**

The objectives of this survey are as follows:

- i. Collection and analysis of information necessary to examine the feasibility of the project
- ii. Confirmation of the status as to the distributing digital IDs to both residents, overseas Nepalis and visitors
- iii. Confirmation of willingness from the part of the Ministry of Communication and Information Technology in the area of Mobile Device Management
- iv. Confirmation of laws and regulations concerning Nepal's payment system and related legal systems
- v. Confirmation of the status of technology used in Nepal's payment system and telecommunication infrastructure
- vi. Confirmation of legal regulations and related legal systems related to PPP in Nepal
- vii. Drafting of the structure of the project and agreement among stakeholders
- viii. Preliminary analysis on the business plan
- ix. Identifying issues in promoting the project

## **1.3. Purpose of the survey**

The Nepal Instant Payment Digital Platform Project introduces and operates a Real Time Gross Settlement (RTGS) platform that allows both individuals and corporations to open a digital account and make real time gross settlement for all transactions. This platform requires only a mobile phone handset with any of 3G, 4G or 5G network coverage or Internet connection. This enables online cashless payments 24 hours a day, 365 days a year and online settlement takes less than one second. The CBDC initiative in Nepal aims to digitize the Nepal Rupee, creating a digital currency that can be issued by the central bank for both wholesale and retail use. This initiative seeks to improve the efficiency of the financial system and promote financial inclusion.

By providing this kind of instant payment digital platform (CBDC platform in a broad sense), GVE will improve the access to finance for residents and visitors even in the rural area. The benefits for introducing such a platform includes strengthening financial stability, improving administrative capacity, giving fair tax treatment for everyone. GVE understands from the Telecom authority, the 3G mobile network or higher networks covers almost the entire Nepal. Since residents in rural areas who otherwise could not have a bank account opened have more than one mobile phone per household, this

project makes a lot of sense by allowing to open a bank account and settle funds. In addition, residents who currently have bank accounts and existing financial institutions will be able to use RTGS to settle funds with lower fees with the higher security environments.

In the survey, GVE will confirm the legal basis for the implementation of the project, will confirm important prerequisites for promoting this project, such as the acquisition of business rights and various permits, and verify the validity in terms of technology and profit. In addition, the purpose of this survey is to share workable business structure and the financing scheme of the project. This in turn will help build consensus with Nepalese partners, customers and government officials.

#### **1.4. Stakeholders and their view**

This project aims to realize the digitization of the Nepalese Rupee (NPR) by introducing an instant payment digital currency system utilizing EXC platform in Nepal. (See chapter 5) The NPR is the legal tender of the Republic of Nepal. It is important for the Nepalis stakeholders to keep the seigniorage and thus the NPR needs to be kept as the commonly used means for payment. The digitization of legal tender is called CBDC in a broad sense. Thus, the stakeholders suggested that the instant payment digital currency system should be called CBDC project to be understood by all stakeholders better. It is estimated that 90% of the world's central banks are considering it. Both China<sup>6</sup> and India<sup>7</sup> are thinking to introduce CBDC.

Some projects led by NRB are synonymous with the digitization of NPR, or CBDC. The ideal payment infrastructure allows all of Nepal's more than 30 million stakeholders will have access to the RTGS platform. This is consistent with several initiatives of the NRB, which has been actively revising its laws since around 2019. In particular, with India's decision to introduce CBDC in 2022, there is no option, but Nepal needs to introduce the EXC platform. The National Planning Commission understands the importance of the CBDC as it requires the highest cyber security design which can have significant spillover effect.

Several key words for the digitalization of NPR and this project are RTGS,<sup>8</sup> Straight Through Processing, Resilience of the payment system, Access to payments, financial inclusion, Inter-

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<sup>6</sup> International Monetary Fund(IMF). Opening Remarks at Peer-Learning Series on Digital Money/Technology: Central Bank Digital Currency and the Case of China, 2022, <https://www.imf.org/en/News/Articles/2022/07/07/sp070722-central-bank-digital-currency-and-the-case-of-china>

<sup>7</sup> The Reserve Bank of India (RBI). Concept Note on Central Bank Digital Currency, 2022, <https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=1218>

<sup>8</sup> Nepal Rastra Bank. REAL TIME GROSS SETTLEMENT SYSTEM RULES Version:02, 2022

operability, Oversight, Know Your Customer (KYC) and KYC Repository, Anti-Money Laundering and Anti-Terrorist Financing, Privacy Protection,<sup>910</sup> Virtual Private Network. Privacy protection is necessary for all stakeholders to be incentivized to use the new system. This might be the most important factor for stakeholders to understand that the NRB and governmental agencies have no intention to intrude the private data without court approvals under the Nepal Constitution.

<Unrevealed>

## **1.5. List of all administrative organization responsible for the project**

The administrative organizations responsible for IT and financial infrastructure in Nepal are as follows.

### **1.5.1. Office of the Investment Board, Nepal (OIBN)**

The Pan-Pacific Pressure Injury Alliance (PPPIA) provides two broad mandates to OIBN:

- a) To act as the national investment promotion and facilitation agency, providing ‘one-stop service’ for private sector investors,
- b) To approve Foreign Direct Investment of NPR 6 billion (Approx. USD 45.8 million) or above, carry out project studies, develop and manage (both solicited and unsolicited) projects under the public-private partnership (PPP) or private investment model as per the prevailing Act. The OIBN also approves investments for the development of energy projects with a capacity of 200 MW or above.
  - Foreign Direct Investment
  - PPP and Private Projects
  - Project Development and Management
  - Investment Promotion and Related Process
  - Land Acquisition

This project belongs to the second category as the PPP project.

### **1.5.2. Ministry of Finance (MoF)**

The MoF performs the following services.

- Economic Policy Analysis
- Annual Budget and Programme
- Economic survey

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<sup>9</sup> Nepal Rastra Bank. NRB-RTGS Frequently Asked Questions, P.6

<sup>10</sup> Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation), 2022, P.54



- Economic Bill and Act
- Biniyojan Ain
- Budget Speech
- Financial Sector Management and Cooperation
- Fiscal Federalism Coordination
- Inter Government Fiscal Transfer
- International Economic Cooperation Coordination
- Nepal Portfolio Performance Review
- Revenue Management Source, Red Book and Technical Assistance Book Publication

### **1.5.3. Ministry of Communication and Information Technology**

The Ministry of Communication and Information Technology performs the following services.

- Postal Services
- Telecommunications,
- Broadcasting,
- Press and Information
- Film Development

### **1.5.4. NRB**

The NRB performs the following services.

- Monetary Policy Formation
- Imposing regulations
- License
- Supervision and controlling
- Total debts deposits to customers
- Generate and published banking information
- Quick credit information of customer

### **1.5.5. Nepal Telecommunication Authority**

The Nepal Telecommunication Authority performs the following services.

- Provide license including internet email
- Network Service Provider
- Pay Phone
- Prepaid calling card
- GMPCS Service
- Standardization of Equipment

- Make available the frequencies
- Province numbers and inter-affiliation facilitation
- Quality Management
- Approval of infrastructure construction
- Approval service charge
- Hearing of Customer complaints
- Mobile Registration and lost handling

The Nepal Telecommunication Authority has expressed full support. They will make sure all areas required for this project will be covered by either mobile network or by internet.

#### **1.5.6. National Information Technology Center**

The National Information Technology Center performs the following services.

- Domain Registration
- Provide Internet Service
- Web Hosting
- Provide Technical Service
- Human Resource Training
- E-gatepass
- Singhadurbar Optical Fiber Network
- Opening Email Account

This authority is responsible for the design and distribution of the national ID to each Nepali resident and company.

#### **1.5.7. Banks and Financial Institutions (BFIs)**

BFIs perform the following services.

- Accepting deposits with or without interest or mobilizing deposits through various financial instruments and disbursing them.
- Making payments, transacting, conducting transactions through electronic devices or instruments and money changer,
- Giving various types of loans
- Granting loans on the guarantee of foreign bonds or financial institutions.
- Lending an amount up to the value of movable immovable property already mortgaged, or to re-mortgage movable immovable property already mortgaged to another bank or financial institution, to lend an amount up to its value,
- Issuing a bond on behalf of the client and making necessary conditions with the client for that purpose, taking his movable and immovable property as a mortgage or taking a guarantee from a third person and receiving and holding the property secured by the mortgagee, and carrying out

other related transactions.

- Re-borrowing from national banks or taking loans from other banks or financial institutions as per requirement
- Providing loans or managing loans from funds received through domestic or foreign agencies.
- Writing off loans subject to prevailing loan write-off regulations,
- Issuing of shares, debentures etc.
- Issuing, accepting, paying, discounting or selling promissory notes, bills of exchange, promissory notes, cheques, travelers' cheques, drafts or other financial instruments.
- Issuing, accepting, managing financial instruments including digital or cards for electronic transactions and to appoint an agent to act in connection therewith,
- Carrying out foreign exchange transactions subject to prevailing laws,
- Buying and selling or accepting bonds issued by the Government of Nepal (GoN) or the National Bank,
- Sending or transferring funds within Nepal or abroad through bills of exchange, checks or other financial instruments, receiving and paying remittances from abroad,
- Acting as a commission agent on behalf of the client in shares, debentures or taking charge of security, buying and selling, collecting dividends of shares, debentures or interest on security etc. sending the dividend, profit or interest within Nepal or abroad, arranging safe deposit vault for the customer,
- Borrowing from other banks or financial institutions or Details of borrowers or customers availing any kind of facility,
- Providing information or information between the State, related agencies or other organizations or financial institutions,
- Buying and selling gold, silver,
- Providing consultancy and other information to carry out studies, research, surveys, training,
- Managing properly all types of assets to be sold,
- Dealing in letters of credit and remittances with the prior approval of the National Bank,
- Acting as a commission agent on behalf of the client in shares, debentures or taking charge of securities, buying and selling, collecting dividends, interest, profits etc. of shares, debentures or securities, managing safe deposit vaults,
- Projecting as prescribed by the Nepal Rastra Bank, small business to a group or member of a group that has maintained savings granting micro-loans with or without security or guarantee of any movable immovable property for operation,
- Providing loans and investing in shares in projects related to infrastructure development,
- Investing in the securities of the company that is conducting the project related to infrastructure development,
- Constructing of infrastructure development projects, machine tools required for operation and relating to purchase, sale or supply or installation of equipment, issuance of certificate of opening

for business,

- Raising necessary funds to invest in infrastructure development projects with the approval of the NRB for issuing financial instruments in various types of domestic or foreign currency and obtaining loans.

#### Name list of Banks and Financial Institutions

##### A) Commercial Banks:

1. Nepal Bank Ltd. NBL
2. Rastriya Banijya Bank Ltd. RBB
3. Nabil Bank Ltd. NABIL
4. Nepal Investment Bank Ltd. NIBL
5. Standard Chartered Bank Nepal Ltd. SCBNL
6. Himalayan Bank Ltd. HBL
7. Nepal SBI Bank Ltd. NSBI
8. Everest Bank Ltd. EBL
9. Bank of Kathmandu Ltd. BOK
10. Nepal Credit and Commerce Bank Ltd. NCC
11. NIC Asia Bank Ltd. NIC
12. Machhapuchhre Bank Ltd. MBL
13. Kumari Bank Ltd. Kumari
14. Laxmi Bank Ltd. Laxmi
15. Siddhartha Bank Ltd. SBL
16. Agriculture Development Bank Ltd. ADBNL
17. Global IME Bank Ltd. Global
18. Citizens Bank International Ltd. Citizen
19. Prime Commercial Bank Ltd. Prime
20. Sunrise Bank Ltd. Sunrise
21. NMB Bank Ltd. NMB
22. Prabhu Bank Ltd. Prabhu
23. Mega Bank Nepal Ltd. Mega
24. Civil Bank Ltd. CBL
25. Century Commercial Bank Ltd. Century
26. Sanima Bank Ltd. Sanima

##### B) Development Banks:

1. Mahalaxmi Bikas Bank Ltd. Mahalaxmi
2. Narayani Development Bank Ltd. Narayani
3. Karnali Development Bank Ltd. Karnali

4. Sangrila Development Bank Ltd. Shangrila
5. Excel Development Bank Ltd. Excel
6. Miteri Development Bank Ltd. Miteri
7. Muktinath Bikas Bank Ltd. Mukti
8. Garima Bikas Bank Ltd. Garima
9. Kamana Lease Bikas Bank Ltd. Kamana
10. Corporate Development Bank Ltd. Corporate
11. Jyoti Bikas Bank Ltd. Jyoti
12. Shine Resunga Development Bank Ltd. Shine
13. Lumbini Bikas Bank Ltd. LumbiniDB
14. Sindhu Bikas Bank Ltd. Sindhu
15. Salapa Bikash Bank Ltd. Salapa
16. Saptakoshi Development Bank Ltd. Saptakoshi
17. Green Development Bank Ltd. GreenDB

C) Finance Companies:

1. Nepal Finance Ltd. NFL
2. Nepal Share Markets and Finance Ltd. NSML
3. Gorkhas Finance Ltd. GURKHAFC
4. Goodwill Finance Ltd. Goodwill
5. Shree Investment & Finance Co. Ltd. Shree
6. Best Finance Ltd. BestFC
7. Progressive Finance Co. Ltd. Progressive
8. Janaki Finance Co. Ltd. Janaki
9. Pokhara Finance Ltd. Pokhara
10. Central Finance Ltd. PFCL
11. Multipurpose Finance Co. Ltd Multi
12. Samriddhi Finance Company Limited Samriddhi
13. Capital Merchant Banking & Finance Co. Ltd. CMerchant
14. Guheshwori Merchant Banking & Finance Ltd. GMBFL
15. ICFC Finance Ltd. ICFC
16. Manjushree Financial Institution Ltd. Manju
17. Reliance Finance Ltd. Reliance

D) Microfinance Financial Institution:

1. Grameen Bikas Laghubitta Bittiya Sanstha Ltd. NEPALGBB
2. Nirdhan Utthan Laghubitta Bittiya Sanstha Ltd. Nirdhan
3. RMDC Laghubitta Bittiya Sanstha Ltd. RMDC

4. Deprosc Laghubitta Bittiya Sanstha Ltd. DIPROSC
5. Chhimek Laghubitta Bittiya Sanstha Ltd. Chhimek
6. Shawalamban Laghubitta Bittiya Sanstha Ltd. Swalamban
7. sana kisan bikas laghubitta bittiya sanstha lt. word race
8. Nerude Laghubitta Bittiya Sanstha Ltd. NERUDE
9. Sworojagar Laghubitta Bittiya Sanstha Ltd. Sworojgar
10. First Microfinance Laghubitta Bittiya Sanstha Ltd. First
11. Kalika Laghubitta Bittiya Sanstha Ltd. Kalika
12. Mirmire Laghubitta Bittiya Sanstha Ltd. Mirmire
13. Janautthan Samudayik Laghubitta Bittiya Sanstha Ltd. Jana
14. Mithila Laghubitta Bittiya Sanstha Ltd. Mithila
15. Suryodaya Womi Laghubitta Bittiya Sanstha Ltd. SWomi
16. Laxmi Laghubitta Bittiya Sanstha Ltd. LaxmiMF
17. Civil Laghubitta Bittiya Sanstha Ltd. CivilMF
18. Vijaya Laghubitta Bittiya Sanstha Ltd. VijayMF
19. NMB Laghubitta Bittiya Sanstha Ltd. NMBMF
20. FORWARD Community Microfinance Bittiya Sanstha Ltd. ForwardMF
21. Global IME Laghubitta Bittiya Sanstha Ltd. GIMEMF
22. Mahuli Laghubitta Bittiya Sanstha Ltd. MahuliMF
23. Meromicrofinance Laghubitta Bittiya Sanstha Ltd. MeroMF
24. Samata Laghubitta Bittiya Sanstha Ltd. SamataMF
25. RSDC Laghubitta Bittiya Sanstha Ltd. RSDCMF
26. Samudayik Laghubitta Bittiya Sanstha Ltd. SamudayikMF
27. National Microfinance Laghubitta Bittiya Sanstha Ltd. NationalMF
28. WEAN Nepal Sewa Laghubitta Bittiya Sanstha Ltd. WEANSEWAMF
29. Unnati Sahakarya Laghubitta Bittiya Sanstha Ltd. UnnatiMF
30. NADEP Laghubitta Bittiya Sanstha Ltd. NADEP
31. Support Microfinance Bittiya Sanstha Ltd. Support
32. Arambha Chautari Laghubitta Bittiya Sanstha Ltd. AChautari
33. Asha Lagubitta Bittiya Sastha Ltd. Asha
34. Gurans Laghubitta Bittiya Sastha Ltd. Gurans
35. Ganapati Lagubitta Bittiya Sastha Ltd. Ganapati
36. Infinity Laghubitta Bittiya Sanstha Ltd Infinity
37. Adhikhola Laghubitta Bittiya Sanstha Ltd. Adhikhola
38. Swabhiman Laghubitta Bittiya Sanstha Ltd. Swabhiman
39. Sabaiko Laghubitta Bittiya Sanstha Ltd. Sabaiko
40. Sadhana Laghubitta Bittiya Sanstha Ltd. Sadhana
41. NIC Asia Laghubitta Bittiya Sanstha Ltd. NICMF

42. Naya Sarathi Laghubitta Bittiya Sanstha Ltd. Sarathi
43. Manakamana Smart Laghubitta Bittiya Sanstha Ltd. Manakamana
44. Summit Laghubitta Bittiya Sanstha Limited Summit
45. Samaj Laghubitta Bittiya Sanstha Ltd. Samaj
46. Mahila Laghubitta Bittiya Sanstha Ltd. Mahila
47. Adarsha Laghubitta Bittiya Sanstha Ltd. Adarsha
48. Unique Nepal Laghubitta Bittiya Sanstha Ltd. Unique
49. Jalpa Samudayik Laghubitta Bittiya Sanstha Limited Jalapa
50. Manushi Laghubitta Bittiya Sanstha Ltd. Manushi
51. Rastra Utthan Laghubitta Bittiya Sanstha Limited Rastra
52. Upakar Laghubitta Bittiya Sanstha Limited Upakar
53. BPW Laghubitta Bittiya Sanstha Limited BPW
54. Dhaulagiri Laghubitta Bittiya Sanstha Limited Dhaulagiri
55. CYC Nepal Laghubitta Bittiya Sanstha Limited CYC
56. NESDO Samriddha Laghubitta Bittiya Sanstha Limited NESDO
57. Aatmanirbhar Laghubitta Bittiya Sanstha Limited Aatmanirbhar
58. Swastik Laghubitta Bittiya Sanstha Limited Swastik
59. Shrijanshil Laghubitta Bittiya Sanstha Limited Shrijanshil
60. Kisan Laghubitta Bittiya Sanstha Limited NRN(Kisan)
61. Jiban Bikash Laghubitta Bittiya Sanstha Limited Jiban
62. Super Laghubitta Bittiya Sanstha Limited Super
63. Aviyan Laghubitta Bittiya Sanstha Limited Aviyan
64. Khaptad Laghubitta Bittiya Sanstha Limited Khaptad

E) Infrastructure Development Bank

1. Nepal Infrastructure Bank Limited, NIFR

**1.5.8. Payment System Operator (PSO)**

Institutions/mechanisms established for the purpose of conducting, controlling and clearing payment-related activities will remain as payment system operators. Under this clearing house, organizations/mechanisms that operate electronic card network, organizations/mechanisms that operate electronic payment networks, organizations/mechanisms established for large/small value payment will remain as payment system operators.

**Table 1 List of Payment System Operator (PSO)**

No	NAME	Address	LICENSE DATE	PAID UP CAPITAL (Amount '000)
1	Nepal Clearing House Limited	Kathmandu	4/15/B.S.2074 (7/30/2017)	NPR 411,350
2	Smartchoice Technologies Limited	Kathmandu	9/17/ B.S.2074 (1/1/2018)	NPR 500,000
3	Nepal Electronic Payment System Limited	Kathmandu	1/29/ B.S.2076 (5/19/2019)	NPR 176,000
4	Union Pay International Company Limited	Shanghai, China	3/30/ B.S.2076 (7/15/2019)	CNY 2,000,000
5	Viza Worldwide Private Limited	Singapore	4/29/ B.S.2076 (8/14/2019)	USD 8,968
6	Nepal Payment Solution Private Limited	Kathmandu	7/19/ B.S.2076 (11/5/2019)	NPR 250,000
7	Mastercard Asia/Pacific Private Limited	Singapore	8/24/ B.S.2076 (12/10/2019)	USD 28,852
8	Fone Payment Services Limited	Lalitpur	10/26/ B.S.2076 (2/9/2020)	NPR 505,000
9	First Pay Technology Private Limited	Kathmandu	11/13/ B.S.2076 (2/25/2020)	NPR 100,000
10	Gateway Payment Services Private Limited	Kathmandu	11/3/ B.S.2077 (2/15/2021)	NPR 100,000

GVE's subsidiary in Nepal (or the Joint Venture) is required to become a clearing house in Nepal. GVE needs the NRB's commitment for GVE subsidiary to receive PSO license.

#### **1.5.9. Payment Service Provider (PSP)**

Organizations dealing with payments through electronic means, domestic money transfer companies, organizations established for the purpose of paying bills for goods and services, and organizations that have direct relationships with consumers for this purpose will be called payment service providers. Those involved in electronic transactions through agreements with banks and financial institutions licensed by NRB, conducting payment transactions through electronic means, making payments for goods and services through mediation between customers and service providers, transferring money to the country, conducting electronic transactions through telecommunication networks and other specified Institutions acting as payment providers shall remain subject to this.



**Table 2 List of Payment Service Provider (PSP)**

No.	NAME	Wallet/App	Address	LICENSE DATE	PAID UP CAPITAL Amount '000
1	IME Digital Solution Limited	IME Pay	Kathmandu	3/5/ B.S.2074 (6/19/2017)	NPR 100,000
2	E-sewa Private Limited	E-Rent	Kathmandu	3/5/ B.S.2074 (6/19/2017)	NPR 100,000
3	Cellcom Private Limited	Cell Pay	Kathmandu	9/8/ B.S.2075 (12/23/2018)	NPR 15,000
4	CG Pfay Nepal Private Limited	CG Pay	Lalitpur	9/13/ B.S.2075 (12/28/2018)	NPR 10,000
5	Khalti Private Limited	Khalit	Lalitpur	1/2/ B.S.2076 (4/15/2019)	NPR 50,000
6	P Nep Private Limited	M.R.	Kathmandu	4/15/ B.S.2076 (7/31/2019)	NPR 60,000
7	Q Pay Private Limited	Q Pay	Kathmandu	5/19/ B.S.2076 (9/5/2019)	NPR 50,000
8	Nepal Pay Time Private Limited	P Times	Kathmandu	5/19/ B.S.2067 (9/4/2010)	NPR 18,378
9	Smart Card Nepal Private Limited	My Pay	Bhaktapur	6/29/ B.S.2076 (10/16/2019)	NPR 10,400
10	Mohar Digital Private Limited	Mohar Pay Card	Lalitpur	6/30/ B.S.2076 (10/17/2019)	NPR 50,000
11	Prabhu Technology Private Limited	Prabhu Pay	Kathmandu	3/4/ B.S.2074 (6/18/2017)	NPR 100,000
12	E-Net Payment Private Limited	E-Net Pay	Kathmandu	11/21/ B.S.2076 (3/4/2020)	NPR 50,000
13	Focusone Payment Solutions Private Limited	Teaches	Kathmandu	11/29/ B.S.2076 (3/12/2018)	NPR 58,136
14	Kurakani Pay Private Limited	Kurakani Pay	Lalitpur	02/29/ B.S.2077 (6/11/2020)	NPR 10,425

15	Payable Nepal Private Limited	Payable	Kathmandu	6/11/ B.S.2077 (9/27/2020)	NPR 10,000
16	Goldmine Business Group Private Limited	D Paisa	Kathmandu	8/29/ B.S.2077 (12/14/2020)	NPR 24,500
17	B Pay Private Limited	Supar Yap Yo Pay	Kathmandu	9/15/ B.S.2077 (12/30/2020)	NPR 60,000
18	Fintech International Private Limited	Yatra Card	Kathmandu	10/20/ B.S.2077 (2/2/2021)	NPR 50,000
19	Lenden Service Private Limited	Loincloth Service	Kathmandu	10/20/ B.S.2077 (2/2/2021)	NPR 10,000
20	DG Pay Private Limited	DG Pay	Kathmandu	11/18/ B.S.2077 (3/2/2021)	NPR 10,000
21	Nepal E-Biz Management Private Limited	Mobile	Kathmandu	11/18/ B.S.2077 (3/2/2021)	NPR 10,000
22	I Pay Private Limited	I Pay	Kathmandu	11/21/ B.S.2077 (3/5/2021)	NPR 10,000
23	I Cash Private Limited	I Cash	Kathmandu	12/3/ B.S.2077 (3/16/2021)	NPR 10,000
24	Nepal Digital Payments Company Limited	Namaste Pay	Kathmandu	12/3/ B.S.2077 (3/16/2021)	NPR 400,000
25	Sulav Pay Private Limited	N Cash	Kathmandu	12/5/ B.S.2077 (3/18/2021)	NPR 10,000
26	Chhito Paisa Private Limited	Chhito Paisa	Lalitpur	12/5/ B.S.2077 (3/18/2021)	NPR 10,000
27	Sajilo Pay Payment Services Private Limited	Sajlo Pay	Kathmandu	12/17/ B.S.2077 (3/30/2021)	NPR 10,000

#### 1.5.10. Cyber Bureau (Police Headquarters)

With the rapid development and increasing use of information technology, due to its misuse even in criminal activities, crime investigations are becoming more challenging due to new styles and trends of crime. In order to face such challenges and to prevent and successfully investigate crimes that may

occur in the present and in the future, the Nepal Police has revised and strengthened the mechanisms within the Nepal Police to carry out cybercrime awareness, cyber security and cybercrime investigation. According to the decision of February 27, the Cyber Bureau has been established under the Police Headquarters. Immediately, the Inspector General of Police has issued the Cyber Bureau Work Order – B.S.2075(2018/19) and the work is being carried out, as the eighth amendment of the Police Regulation B.S.2071(2014/15) was published in the Nepal Gazette dated

06/19/B.S.2077(October 05, 2020), and the provisions related to the Cyber Bureau are being carried out accordingly.

**Functions, Duties and Powers of the Bureau:**

1. Investigating cybercrimes with national and extraterritorial powers specified by law.
2. To study, research and analyze information on the changing nature of cybercrime.
3. Coordinate and collaborate with national and international agencies and organizations in cybercrime investigation.
4. Enhancing cybercrime and security related capabilities in police personnel.
5. To increase public awareness regarding cybercrime.
6. Computer Emergency Response Team to be formed at the national level and to play a coordinating role at the international level as well.
7. In the course of crime investigation, if assistance is requested from other police offices, provide necessary assistance.
8. Analyzing operational data and consulting with experts if necessary.

The Cyber Bureau told GVE that there are about 30 illegal activities reported to the Bureau every day. This translates more than 10,000 activities per year. Almost all hackings are coming from overseas.

**1.5.11. Department of Money Laundering Investigation, Office of the Prime Minister and Council of Ministers**

Department of Money Laundering Investigation is a competent authority to conduct preliminary enquiry, investigation and prosecution of offence relating to money laundering and financing of terrorism. It was established on August 5, 2011, as per the decision of Government of Nepal dated June 15, 2011, under the MoF. As per the decision of February 23, 2018, of the Government of Nepal, the Department is currently under the Office of the Prime Minister and the Council of Ministers.

- Apply risk-based approach for the regulation and supervision of activities relating to money laundering and financing of terrorism
- Conduct preliminary enquiry, investigation and prosecution of financial offenses relating to money laundering and the financing of terrorism
- Make proper coordination and collaboration for the control of crime and promotion of financial

system at national and international levels.

NRB has a Financial Information Unit to collect and analyze information related to prevention of money laundering. The work, duties and rights of this unit are as follows.

- a) Obtaining details of transactions exceeding or exceeding the limit determined in accordance with the Nepal Rastra Bank Act B.S.2058(2002),
- b) To receive reports relating to suspicious transactions in accordance with this Act,
- c) Obtaining details regarding currency and bearer exchangeable warrants in accordance with this Act,
- d) To receive other information, documents and details in accordance with this Act,
- e) Analyzing other reports and information received in accordance with this Act, including the Suspicious Transaction Report,
- f) In the course of analysis according to Clause (e), if there is any doubt related to money laundering and financial investment in terrorist activities or any other offences, the findings of the analysis shall be forwarded to the department or to the agency investigating the offense in accordance with the prevailing law, by himself or at the request of the relevant body.
- g) To arrange training for the indicator organizations, related agencies, regulatory agencies and their employees who have the obligation to provide information according to this Act, as needed,
- h) Providing necessary support and guidance to reporting organizations or related agencies regarding the identification of suspicious transactions, reports and information related to suspicious transactions,
- i) To submit an annual report to the Government of Nepal through the Rashtra Bank, including the details of the types of offenses related to money laundering and financial investment in terrorist activities, techniques, methods and trends of committing the offences.
- j) In relation to suspicious transaction identification, evaluation, reporting system and its effectiveness, assist the regulatory body in inspecting the indicator organization as necessary or provide support by studying the inspection supervision report,
- k) To enter into an agreement on mutual cooperation with foreign bodies working of a similar nature,

Offence relating to:

- l) Organizing criminal gang and illicit participation in racketing
- m) Destructive work et al terrorism
- n) Human trafficking
- o) Child prostitution or any other sexual exploitation
- p) Drugs and psychotropic substances
- q) Illicit transactions of arms and ammunitions,
- r) Corruption and bribery

- s) Cheating
- t) Currency and counterfeiting
- u) Piracy of products
- v) Environment
- w) Human body and grievous hurt
- x) Kidnapping, false imprisonment or hostage tacking theft and dacoits
- y) Smuggling (customs, excise, tax)
- z) Tax evasion
- aa) Extortion
- bb) Piracy
- cc) Market manipulation or inside trading monument
- dd) Forests, national parts and wildlife conservation
- ee) Cartel, consumers', protection, competition or supply
- ff) Monetary, financing, foreign exchange, insurance, cooperatives

#### **1.5.12. Nepal Bankers' Association**

In view of growing banking business in Nepal, it has been felt necessary to establish an Umbrella Association for collective efforts and participation of the banks to establish and enhance the interrelationship and co-ordination among the commercial banks incorporated in Nepal in order to develop a fair and healthy competition among the banks, to maintain uniformity in the policy and procedures of loan and other banking transactions, to develop and adopt creative and modern technology. To make the banks more effective and efficient, and to identify the problems and implement the remedies associated with the business of the banks, and institution with the name” Nepal Bankers’ Association” has been established under the Institution Registration Act, B.S.2034(1977).

##### **A) Objectives and Activities**

To develop and promote efficient, strong and creative banking activities and business within Nepal based on the most recent and modern principles and prudent practices.

- To adopt and implement necessary policies, procedures and technology for the purpose of providing prompt and useful banking services to the general public through effective banking transactions.
- To assist and provide various suggestions to the members of the Association with regard to banking business and activities.
- To provide suggestions to the Government of Nepal and NRB from time to time in connection with the formulation of necessary banking policies and to carry on timely reform in banking transactions.

- To implement appropriate way out for remedying various problems and difficulties faced in connection with banking activities concerning the business, administration, legal, procedural, technical etc. by establishing mutual co-ordination and assistance among the banks.
- To collect as a clearinghouse and distribute among the members various materials of research oriented, analytical and other articles, information, statistics, reports etc. relating to banking activities and business.
- To make an arrangement for the collection, classification, and distribution of banking statistics among the members.
- To provide information on customers and credit transactions in accordance with the prevalent Nepal laws and statutes and for the purpose to separately establish and constitute, under the Association, Credit Information Bureau and formulate policies to make an arrangement for the exchange and dissemination of such information among the members.
- To organize and conduct training, seminars, conferences from time to time with a view to enhance the knowledge, skill, efficiency and productivity of the employees in the banking sector. And to establish and constitute a separate Banking Training Center, under the Association, with the assistance and participation of the members.
- To plan and conduct a detail survey in an organized and coordinated manner for the further development of the banking activities, business, resources, human resources and management of the banks.
- To work for the enhancement of positive attitude of the general public towards banking activities and services.
- To raise the funds for the fulfillment and implementation of various objectives and programmed of the Association by prescribing membership fee, special fee, subscription fee against providing various information and to raise financial assistance from various national and international institutions and to collect fee from participating individuals, institutions and agencies in the programs and facilities organized by the Association.
- To perform all other acts for the fulfillment of, or supplementing to the fulfillment of, above mentioned objectives.

#### **1.5.13. Department of National ID & Civil Registration**

Established on 06/28/B.S.2075(October 14, 2018), the National Identity Card and Registration

Department established the first legal right to "personal incident registration" work as well as two very popular programs of the Government of Nepal; it has been handling the responsibility of distribution of multi-purpose "National Identity Card" for establishing "Cash Flow" and digital identify of individuals under social security. These two programs run for the identity and interests of the citizens of the country are interrelated in some way and are currently also based on technology. Therefore, the

two programs that have been implemented at different times are operated in their own way, have been integrated at different times and are currently being operated as a technology-based department covering a large area.

"National Identity Card" is a digital solution for identity verification. Due to its digital features, it is of great importance in the present modern era as it can be used for various purposes by being interconnected with public services. Many countries have a policy to successfully implement it in their own countries, and some countries are using it successfully. For all citizens to receive such a digital identity card without discrimination is to support national integration. Through the annual policy and program and budget statement of B.S.2066/067(2009/10/11), the government of Nepal has announced that all Nepalese citizens will be provided with a biometric smart card with a photograph so that it can be used as a national identity card even in elections and a separate central body will be established to implement this arrangement. After that, according to the decision of the Government of Nepal dated 03/16/ B.S.2067(June 30, 2010), the National ID Management Center was established on 04/01/ B.S.2067(July 17, 2010) as a department-level central body under the Ministry of Home Affairs. According to the decision dated 06/28/ B.S.2075(October 14, 2018), after the merger of the center and the central registration department, it is running under the name of National Identity Card and Registration Department.

"Strategic Plan of National Identity Card Management B.S.2075(2018/19)", "Registration of Details of Nepali Citizens for National Identity Card Distribution and Procedures for National Identity Card Distribution, B.S.2075(2018/19)", various decisions of the Council of Ministers and Ministry level has provided a legal basis for the national ID card distribution program. Before implementing it in all districts, it has been successfully tested by distributing national identity cards to the citizens of Panther district and the employees of Singhdarbar complex in AD B.S.2075/76(2018/19/20). In Panther district, Hon'ble Home Minister Mr. Ram Bahadur Thapa formally presented a national identity card to 101-year-old senior citizen Mr. Bhagwati Devi Bhandari and its distribution started. After the distribution in Panther district, the Nepal government has now started preparations to expand it across the country in three stages. This program, which is one of the priorities of the government, the policy and program of the government of Nepal in B.S.2076/77(2019/20/21) within the next 4 years and the following year. In the budget of B.S.2076/77(2019/20/21), it has been announced that national identity cards will be distributed within two years.

### **Purpose**

1. To prepare the necessary infrastructure to provide the national identity card.
2. To provide separate ID number for personal identification of the person.
3. Prepare and distribute multi-purpose national identity cards with biological identification.
4. To include the personal details of all people living in Nepal in the national data repository.
5. To develop a system with the provision of providing services to the public through an integrated

system with a single identity card.

6. Providing identity cards to non-resident Nepalese and foreign nationals as needed.

#### **1.5.14. National Planning Commission (NPC)**

The functions of the NPC are as follows:

1. To advise Government of Nepal (GoN), ministries, and departments on the amendments to be made in periodic plans, programmed, and projects
2. To advise GoN on conducting feasibility studies and initiation of master plans of large projects
3. To advise GoN, ministries, and departments on accepting foreign aids
4. To appraise project proposals

GoN has also assigned following roles and responsibilities to NPC by an executive decision of June 28, 1993.

1. To formulate basic development policies and prepare periodic development plans accordingly within the framework of a long-term development perspective.
2. To explore internal and external resources along as well as indigenous and foreign technology and to recommend suggestions to GoN to accelerate the pace of development.
3. To explore innovative approaches for sustainable development based on the economic situation of the country.
4. To formulate annual programmed and assist GoN in their implementation.
5. To advice GoN for the institutional development of monitoring & evaluation system, to monitor the implementation of programmed and projects according to plan target and outlay, and to carry out an impact evaluation of plans and projects.
6. To provide guidelines, advice and suggestions to sectoral ministries, departments, other agencies and local bodies and assist them in the plans and projects formulation.
7. To provide guidelines to collect data and to carry out action-oriented research necessary for the evaluation of new policies and for the refinement of the planning process.

Financial Administration Regulation (FAR) 1999 has assigned following roles and responsibilities to NPC:

1. NPC has to provide guidelines on policy targets and priorities regarding formulation of budget for the coming fiscal year to the MoF and all other line ministries before the issuance of circular on budget formulation.
2. Formulate a policy framework for approval of the district level projects by the secretaries of the ministries.
3. Approve Central level projects.
4. Set policy targets on development programmed for the coming year within the month of



December.

5. Provide advice to GoN offices for accepting any kind of aid in kind or cash or reaching an agreement for foreign aid.

The National Planning Commission has been accomplishing various activities in order to carry out above mentioned roles and responsibilities. These activities are as follows:

1. In addition to working as a national planning and programming body, the NPC has emerged as a leader and principal advisor in the economic development and economic affairs of the country. Almost all economic development and economic policies and programmed come into force either at the initiative of the Commission or on its advice or recommendations.
2. NPC has emerged as a key coordinator in the management of economic development and general economic affairs of the country.
3. NPC is also performing the role of an active and positive facilitator in the implementation of economic developmental policies and programmed. It has often assisted government organizations in solving challenges/problems faced in economic policy and programmed implementation.
4. The NPC has played the role of a pioneer in policy reforms. It has successfully pioneered the formulation and implementation of economic liberalization and other reform programmed.
5. The Commission is working as the central level institution for monitoring and evaluation of economic development of the country.
6. The Commission is a platform for exchange, dissemination, discussion and consultation in respect to economic affairs and development of the country. The meetings held in the offices of Vice-chairman and members of the Commission are important inputs for the development of the country.

The Commission also serves as an institution involved in analysis and finding solution to the problems of private sector in the country. The Policy Dialogue Committee under NPC is an effective forum for co-ordination of policy implementation and to address the various problems faced by the private sector.

#### **1.5.15. Office of the Prime Minister and Council of Ministers**

Relevant Functions:

Information coordination

1. To coordinate and facilitate the collection and analysis of information related to national security and interest, monitoring and control policies, standards and planning and regulatory work.
2. Collecting, analyzing and overall evaluating information on the national security situation and preparing a report.
3. To facilitate the collection and analysis of information related to the security of international

borders, cross-border crimes, border encroachment, the physical and strategic situation of border areas.

4. To coordinate and facilitate the work of the National Security Council.
5. Analyzing, reviewing and revising policies and programs related to peace and security and submitting suggestions for improvement.
6. Coordinating activities related to peace and conflict management.
7. To supervise, inspect, control and coordinate the work of the National Research Department.
8. To facilitate the collection and analysis of security information of important people, places, highways, buildings and structures.
9. To perform other necessary tasks related to national security and national interest.

### **Information Communication and Foreign Coordination**

1. To coordinate and facilitate the work of information classification committee.
2. Facilitate the formulation and implementation of programs in coordination with other agencies of the GoN to make access to information simple and easy for citizens.
3. Doing work related to publication and management of monthly, periodical and annual reports published by the office.
4. List and publish information according to the Right to Information Act, B.S.2064(2007/08).
5. Acting as an information officer.
6. Providing requested information from concerned persons and institutions.
7. Facilitating, coordinating and monitoring the implementation of treaties, agreements or agreements at the bilateral and multilateral levels.
8. Safely manage the international treaties, agreements, articles and other important documents, commitments, directives, circulars to which Nepal is a party and send them to the National Archives for records after seeing the justification of the documents.
9. To facilitate the activities related to the certificate of status submitted by the ambassadors of the countries that have established diplomatic relations with Nepal.
10. Coordinating the activities of various foreign visits involving the Honorable Prime Minister, including the delegation to participate in the United Nations General Assembly.
11. Coordinating the visit of the Head of Government and other special persons to Nepal at the invitation of the Prime Minister.
12. To perform other necessary tasks as specified regarding information, communication and foreign coordination.

### **Statistics:**

1. To study, analyze and give opinions on the policies to be submitted for the approval of the Council of Ministers from ministries/organizations related to economic development.
2. To study and analyze policies related to investment, production and employment promotion

adopted by the state and account for the status of their implementation and the impact on the overall economy.

3. To record and analyze the collected and published information, statistics and key indicators related to the macroeconomic sectors of the country from national and international research bodies.
4. Indigenous and in the fields of agriculture, industry, tourism etc.

### **1.6. Contents of the survey**

Due to the second general election in Nepal on November 20, 2022, GVE's visit to Nepal took place over 10 days, from November 24 to December 3, 2022. During the visit, a total of 21 meetings were held on site, including all government officials, nine banks, and one non-bank. (see Appendix1)

During this visit, Nepal government officials expressed their keen interest in implementing this project as Phase 1 project. The Phase 1 is defined as the project to achieve the access to finance to all mobile phone handset owners. This is defined as the urgent needs in the NRB's CBDC report in August 2022. Almost all relevant authorities express the Phase 1 project wants to be implemented within two years from the date of GVE's visit.

National Planning Commission and NRB specifically asked GVE to review their laws and regulations and come up with a road map to accelerate the project.

Interviews were conducted focusing on the contents described in I) to VI) below. In addition, relevant materials were collected after the interview, GCI followed up on the materials and on-site interview contents, and GVE conducted additional interviews online.

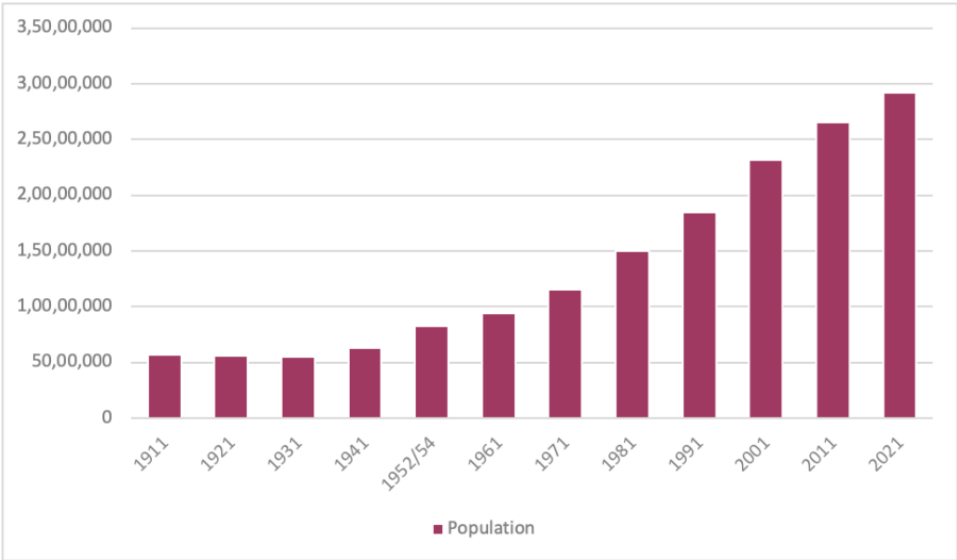
- I. Collection of information necessary for the business, such as background
  - a. Overview and Issues of Payment and Payment Systems in Nepal
    - i. Confirmation of the overview of the Nepal Payment System, the status of maintenance, and the development plan
    - ii. Supply and Demand Forecast for Person-to-Person and Interbank Settlements in Nepal
    - iii. Confirmation of fee structure, implementing agency and method in Nepal Payment System
      1. Confirmation of the interest and trends of domestic and foreign companies in the relevant business
      2. Social and Economic Conditions in Nepal
- II. Laws and regulations in Nepal (settlement and PPP related)
  - a. Confirmation of laws and regulations related to payment and settlement systems in Nepal
    - i. Status of the legal system related to finance

- ii. Status of the legal system related to settlement
    - iii. Status of the legal system related to communications
    - iv. Status of the legal system related to the handling of personal information
    - v. Issues in the introduction and implementation of this project
  - b. Confirmation of PPP Laws and Regulations and Related Legal Systems in Nepal
    - i. Status of Laws and Regulations Concerning Foreign Investment and Borrowing
    - ii. Status of Laws and Regulations Related to PPP and Infrastructure
    - iii. Status of Laws and Regulations Related to Foreign Exchange and Foreign Currency Remittance
- III. Examination of project implementation system
  - a. Role of the public and private sectors in this project and fund sharing
  - b. Examination of the business structure, organizational form, and implementation system of this project
  - c. Status of negotiations and agreements among related parties involved in this project
- IV. Overview and initial analysis of the implementation capabilities and business plans of key stakeholders
  - a. Analysis of key stakeholders' roles and implementation capabilities
  - b. Outline of business plan
- V. Initial analysis of business risks
  - a. Initial risk assessment, analysis, and initial consideration of risk sharing related to business implementation
- VI. Initial design and technical planning
  - a. Consider capital investment in servers, etc.
  - b. Initial review and setting of project expenses
  - c. Confirmation of technical requirements for system construction
  - d. Initial examination and determination of operation and maintenance costs
  - e. Calculation of approximate total project cost

## 2. Overview of the socio-economic situation in Nepal

### 2.1. Demographic dynamics

According to the 2021 census report,<sup>11</sup> Nepal's population reached 29,192,480, an increase of 2,697,976 compared to the population of 2011. Since 2011, Nepal's population has increased by 10.18%, the average annual growth rate is 0.93%, which presented at 1.35% in 2001. It has declined from the data in the 2011 census report from the year. The decline in population growth over the past 110 years is the result of several factors, including declining birth rates, increased migration, public health, and urbanization. Nepal's fertility rate has been declining year by year, from 2.51 in 2011 to 1.853 in 2021. In addition, due to the increase in living expenses and parental employment, the average family size decreased from 4.88 in 2011 to 4.33 in 2021. It is thought to contribute to this decline.



Source: Nepal Economic Forum. Key highlights from the Census Report 2021, 2021, <https://nepaleconomicforum.org/key-highlights-from-the-census-report-2021/>

Figure 2 Nepal population over the years

### 2.2. Economic and political situation

#### 2.2.1. Economy

According to the economic situation data of Nepal released by the Japanese Ministry of Foreign Affairs,<sup>12</sup> the main industries are agriculture and forestry, trade and wholesale, and transportation and

<sup>11</sup> National Statistical Office. Preliminary Report of National Population 2021, 2021

<sup>12</sup> Ministry of Foreign Affairs of Japan. Nepal basic data, 2023, <https://www.mofa.go.jp/mofaj/area/nepal/data.html>

communications, and the GDP (nominal) is NPR 4,266.3 billion (about USD 36.1 billion)(2021), per capita. GDP is NPR142,411 (about USD1,208)(2021), GDP real growth rate is 4.2%(2021), inflation rate is 4.1%(2021).

Foreign exchange reserves are approximately USD 9.66 billion(2021), debt service ratio 8.2 %(2019), out of total trade value, exports were NPR 141,120 million(2020/2021) mainly of soybean oil, yarn, wool carpet, jute products, cardamom, etc. Its major trading partners are India, the United States, Germany, the United Kingdom, Turkey, China, Argentina and the United Arab Emirates.

In terms of economic structure, agriculture, forestry and fisheries account for about 25.8% of GDP and 64% of the working population.

### **2.2.2. Political situation**

Since 1996, the Maoist faction of the United Communist Party of Nepal has been engaged in armed struggle, but a comprehensive peace was established in 2006, leading to the abolition of the monarchy and shift to a federal democratic republic.

Political instability continued, and a new constitution was eventually promulgated in 2015.

In 2020, after factional strife within the ruling Communist Party of Nepal (NCP), President Bhandari dissolved the lower house parliament, but this was ruled unconstitutional by Nepal's Supreme Court.

In May 2021, Prime Minister Oli (leader of the United Marxist-Leninist Party (UML) of the Communist Party of Nepal) was forced to resign after losing a vote of confidence, and after failed attempts to form a coalition government, President Bhandari reappointed him as prime minister but later dissolved the House of Representatives again.

The Supreme Court ruled this unconstitutional, and the coalition led by the Nepal Congress Party became the largest force in parliament, leading to the appointment of Sher Bahadur Deuba as prime minister.

In November 2022, a second general election was held, and a coalition government of the Maoist Center (MC) of the Communist Party of Nepal and UML was formed, with Pushpa Kamal Dahal (Prachanda) becoming the new prime minister.

In January 2023, a majority vote in parliament confirmed Prachanda as the new prime minister.

### **2.3. Financial Infrastructure**

Currently, the NCHL plays an important role in supporting the financial infrastructure in Nepal.

NCHL is a public limited liability company established on 23 December 2008 and is a public limited liability company with NRB owning 10%. The other 90% is owned by commercial banks, development banks and financial institutions. NCHL provides payment infrastructure to enable banks/financial institutions to deliver financial services without investing heavily in infrastructure, so that banks and financial institutions can provide new financial services to their customers while

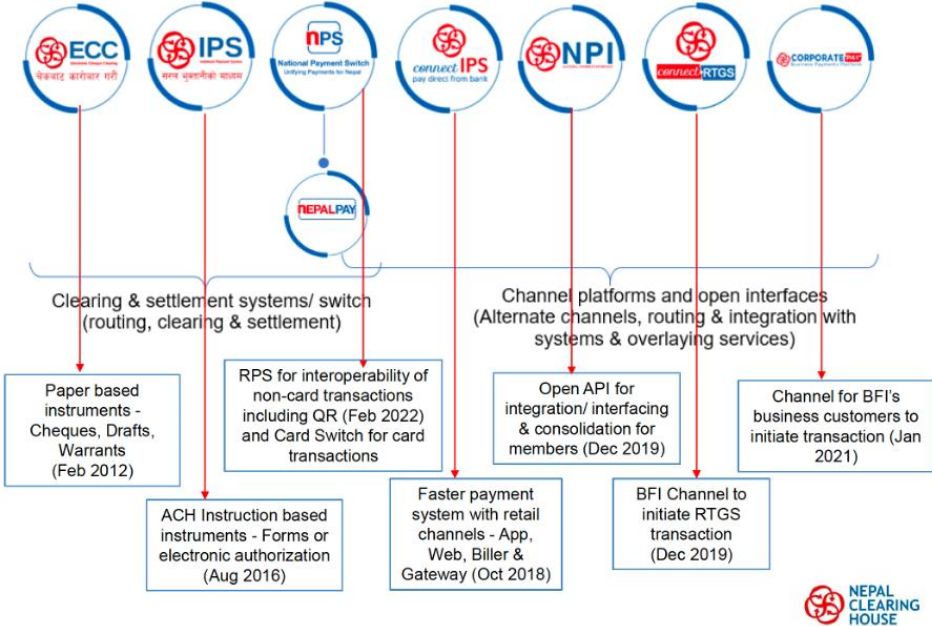
improving efficiency and productivity.

NCHL has a strategic goal of building multiple payment systems in Nepal and in the long term, it aims to establish a national payment gateway to facilitate electronic payments and financial transactions in Nepal. Electronic Check Clearing (NCHL-ECC), Interbank Clearing System (NCHL-IPS) and connectIPS e-Payment System are currently in operation.

The NCHL-ECC system transfers check images electronically through a secure medium, completely replacing the traditional physical procedure of moving paper checks between banks and clearing houses. For both banks and customers, the time-consuming manual process of checking has been significantly reduced.

The NCHL-IPS system provides a secure and efficient means of transferring funds from one account to another of the member BFIs and supports direct credit (payment) and direct debit (collection) related transactions.

The connectIPS e-Payment system is a standardized, single, payment platform that facilitates online money transfer (P2P), government revenue payments, creditor payments, and payment processing (e-commerce payments). All payments are processed from or directly to your bank account.



Source: Nepal Clearing House Ltd. (NCHL). NCHL Overview Presentation - For JICA, 2022, P.4

**Figure 3 NCHL Products & Services**

Each BFIs is registered with the NCHL as a Participating Member, i.e., User, and is responsible for its payment transactions and clearing operations. Within the NCHL-IPS and connectIPS e-Payment System, other non-bank institutions are currently undertaking development and maintenance so that they can register as indirect or technical members and initiate payment transactions.

See table below for fee of each system.

**Table 3 NCHL-ECC Transaction Fees Schedule Effective from July 16, 2020**

**Transaction Fees Details**

S.No.	Details	Transaction Amount Based Slab (Fees in NPR)			
		Up to 500	>500-50K	>50K-2L	> 2L
1	Regular Clearing (NPR)	-	5	10	15
2	Regular Clearing (FCY)	15			
3	Express Clearing	100			
4	High Value Clearing	100			

**Other Fees/ Charges**

S.No.	Other Fees	Session	Session Currency	Liabe Party	Fees (NPR)
1	Bank Session Extension Fee	Regular	All	Requesting Member	5,000
2	Last Minute Presentment Penalty	Regular	All	Presenting Member	200
3	Express Cheque Transaction Timeout	Express	All	Paying Member	200
4	High Value Cheque Transaction Timeout	High Value	All	Paying Member	100
5	National Archive System Charge	All	All	Requesting Member	200
6	Cheque Return Fee	All	All		0 / 100

Source: Nepal Clearing House Ltd. (NCHL). NCHL-ECC Transaction Fees Schedule Effective from July 16, 2020,2020, <https://nchl.com.np/storage/uploads/DownloadfeesandchargesofNCHL-ECC.pdf>



**Table 4 NCHL-IPS Transaction Fees Schedule Effective from July 16, 2020**

**Transaction Fees Details**

S.No.	Price Scheme	Transaction Amount Based Slab		
		Up to 500	>500-50K	>50K
1	NPR Transactions (Fee in NPR)-Others	2	5	10
2	NPR Transactions (Fee in NPR) PFDS and PFSA	10		
3	FCY Transactions (Fee in NPR)	10		

\* For Dividend payments, the transaction fee will be waived for transaction amount up to NRs 100.

S.No.	Product/ Purpose	Code	Txn Type	Who Pays	Txn Type	Who Pays
1	Customer Transfer	CUST	Direct Credit	Debtor (ODFI)		
2	Supplier Party Payment	SUPP	Direct Credit	Creditor (RDFI)		
3	Treasury Payment	TREA	Direct Credit	Debtor (ODFI)		
4	Government Payment	GOVT	Direct Credit	Creditor (RDFI)		
5	Remittance Payment-International	REMI	Direct Credit	Debtor (ODFI)		
6	Domestic Remittance	REMD	Direct Credit	Debtor (ODFI)		
7	Dividend Payment	DIVI	Direct Credit	Creditor (RDFI)		
8	IPO Refund Payment	IPOR	Direct Credit	Creditor (RDFI)		
9	Salary Payment	SALA	Direct Credit	Creditor (RDFI)		
10	Salary Payment Corporate	SALC	Direct Credit	Debtor (ODFI)		
11	Insurance Payment	INSU	Direct Credit	Debtor (ODFI)	Direct Debit	Creditor (ODFI)
12	Installment Payment	INSM	Direct Credit	Debtor (ODFI)	Direct Debit	Creditor (ODFI)
13	Credit Card Payment	CCRD	Direct Credit	Debtor (ODFI)	Direct Debit	Debtor (RDFI)
14	Fees Payment	FEEO	Direct Credit	Debtor (ODFI)	Direct Debit	Debtor (RDFI)
15	Collection Payment	COLL	Direct Credit	Debtor (ODFI)	Direct Debit	Creditor (ODFI)
16	Social Security Payment	SSBE	Direct Credit	Debtor (ODFI)		
17	Pension Payment	PENS	Direct Credit	Debtor (ODFI)		
18	Investment & Securities	INVS	Direct Credit	Creditor (RDFI)		
19	Provident Fund Saving	PFDS	Direct Credit	Creditor (RDFI)		
20	PF Disbursement	PFSA	Direct Credit	Creditor (RDFI)		
21	Government To Government Payment	G2GP	Direct Credit	Debtor (ODFI)		
22	SSF Collection Payment	SSFC	Direct Credit	Debtor (ODFI)		
23	Government Revenue Related Payments	GREV	Direct Credit	Debtor (ODFI)		
24	Commercial Payment	COMC	Direct Credit	Creditor (RDFI)		
25	Settlement Payments	STLM	Direct Credit	Debtor (ODFI)		

**Other Charges**

S.No.	Other Charge	Charge	Who Pays
1	Return Fee	0/ 100	Transaction Originator (ODFI) based on Return Reason
2	Cancellation Fee	100	Transaction Originator (ODFI)
3	Rollover Fee	Txn Fee	Transaction Receiver (RDFI)
4	Auto Rejection	2 x Txn Fee	Transaction Receiver (RDFI)
5	Unwind Fee	100	Requesting member
6	Session Extension	5,000/ 30Mins	Requesting member

**Other Fees**

S.No.	Other Fee	Charge (NRs)	Who Pays
1	Archive Fee	200 / txn	Requesting member

Source: Nepal Clearing House Ltd. (NCHL). NCHL-IPS Transaction Fees Schedule Effective from July 16, 2020, 2020,

<https://nchl.com.np/storage/uploads/DownloadfeesandchargesofNCHL-IPS.pdf>

**Table 5 connect IPS (RPS) Transaction Fee Schedule Effective from January 15, 2023**

Transaction Fee			
S. N.	Industry	Per Transaction	Remarks
1	Fund Transfer	Slab Based (Rs. 2-8)	Liability on Debtor
2	Special Creditors/Merchants	Slab Based (Rs. 2-8)	Liability on Debtor or Creditor*
3	GoN Payments including Tax	Slab Based (Rs. 2-5)	Liability on Debtor

**General Transaction Fee Slab Based (Rs. 2-8)**

S. N.	Transaction Amount (Rs.)	Transaction Fee (Rs.)
1	Upto - 500	2
2	Above 500-5,000	4
3	Above 5,000	8

**GoN Payment Transaction Fee Slab Based (Rs. 2-5)**

S. N.	Transaction Amount (Rs.)	Transaction Fee (Rs.)
1	Upto - 10,000	2
2	Above 10,000	5

Source: Nepal Clearing House Ltd. (NCHL). connect IPS (RPS) Transaction Fee Schedule Effective from January 15, 2023, 2023, [https://nchl.com.np/storage/uploads/Download\\_fees\\_and\\_charges\\_of\\_connectIPSe-Payment\[Updated\].pdf](https://nchl.com.np/storage/uploads/Download_fees_and_charges_of_connectIPSe-Payment[Updated].pdf)

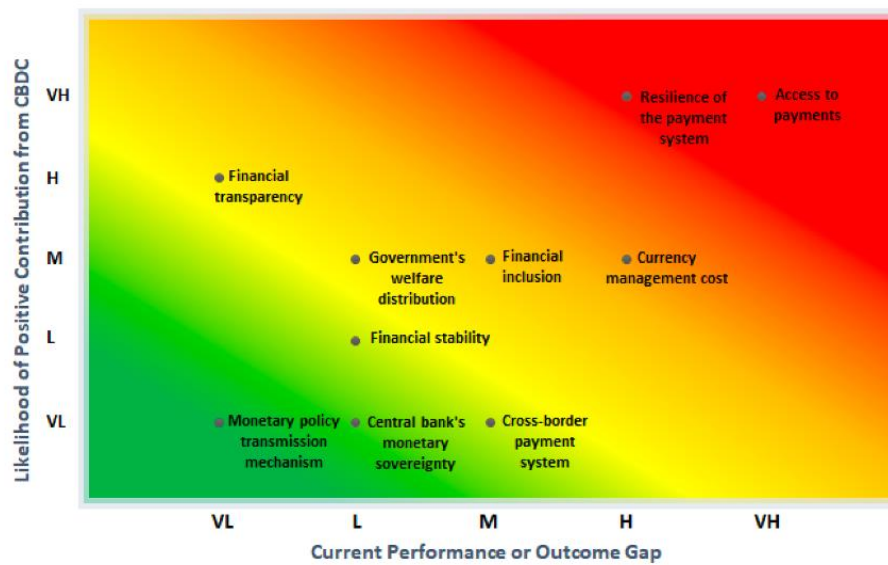
#### 2.4. Need for Introduction of CBDC Platform in Nepal

Key policy objectives that motivate central banks to consider CBDC include:<sup>13</sup>

1. Improving access to payment
2. Enhancing resilience of the payment system
3. Promoting financial inclusion
4. Supporting government for welfare distribution
5. Reducing currency management costs
6. Safeguarding the central bank's monetary sovereignty
7. Promoting financial transparency
8. Enhancing the efficiency of the cross-border payment system
9. Improving monetary policy transmission mechanism
10. Promoting financial stability

Among the above key policy objectives, the NRB has two indicators: whether the current payment and settlement infrastructure can achieve the policy objectives, and whether the introduction of CBDC against the policy objectives can achieve the policy objectives. Likert scale of stages (very low (VL), low (L), medium (M), high (H), very high (VH) etc.). Based on the evaluation, policy targets are plotted in two dimensions and a heat map is created.

<sup>13</sup> Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation), 2022



Source: Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation), 2022, P.54

**Figure 4 Heat map of the policy goals for CBDC**

This heat map shows more the red, the more important and urgent NRB has the priority.

The top four policy objectives are improving access to payments, enhancing resilience of the payment system, promoting financial inclusion, and reducing currency management costs. The CBDC defined by NRB is the same definition of the project JICA and GVE are pursuing.

The evaluation and examination of the above four policy goals are explained as below in their CBDC report.

### 2.4.1. Improving access to payments

**Table 6 Banking presence in Nepal**

Indicators	2018 Mid-Jul	2019 Mid-Jul	2020 Mid-Jul	2021 Mid-Jul	2022 Mid-July
No. of BFIs (A, B, C, E) <sup>7</sup>	86	81	70	63	60
No. of MFIs (D) <sup>8</sup>	65	90	85	70	65
No. of Branches of BFIs (A, B, C)	4202	5057	5708	5998	6394
No. of Branches of MFIs (D)	2448	3629	4057	4685	5134
No. of Branchless Banking Centers	1285	1530	1574	1706	1548
No. of ATMs	2791	3316	4106	4325	4602

Source: Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation), 2022, P.41

The table shows the BFIs presence in recent years. As of July 2022, some municipalities still do not have banking services, and ATMs exist in only 332 areas. Even in areas where there are ATMs, ATM failures occur frequently, and in some cases, payment is hindered. Thus, it cannot be said that the current payment and settlement infrastructure has achieved these policy goals, and the need to introduce CBDC is considered to be very high.

NTA, the government-owned telecommunication service provider, reports that its 4G/LTE service has reached 720 local levels from the 77 districts till mid-July 2021.

As of September 2021, NTA announced that the number of Internet subscribers was 33.45 million, the number of mobile phone subscribers was 39.99 million for 2G/3G, and 12.17 million for 4G, and the mobile phone subscription rate was 139.4%.<sup>14</sup> Similarly, Ncell, a private carrier, had a rural internet connectivity rate of 58.92% and 1,576 subscribers as of July 2020.<sup>15</sup> Population coverage rate of 4G is 58%, population coverage of 3G is 59.46%. Nepal's rural population is 23,725,239. Since CBDC uses digital platforms for payment transactions, it is considered to be very likely to contribute to facilitating access to payments as digitalization progresses in Nepal.

All of these data show that the use of the mobile phone as the users' device would make sense for Nepal improving access to payments.

<sup>14</sup> ITU World Telecommunication. ICT Indicators Database, 2015, <https://www.soumu.go.jp/g-ict/country/nepal/detail.html>

<sup>15</sup> Ncell. Ncell Sustainability Report FY 2019-2020, 2020,

[https://webapi.ncell.axiata.com/upload/SustainabilityReport/Sustainability\\_and\\_National\\_Contribution\\_Report\\_for\\_FY\\_2019\\_2020.pdf](https://webapi.ncell.axiata.com/upload/SustainabilityReport/Sustainability_and_National_Contribution_Report_for_FY_2019_2020.pdf)

### 2.4.2. Enhancing resilience of the payment system

Elastic payment systems are needed to ensure seamless transfer of funds between trading parties. The current electronic payment system, power sector infrastructure, increasing bank branches and ATMs, and private digital payment services in Nepal support maintaining the resilience of the entire payment system, but are highly dependent on the quality and functioning of the infrastructure in the private sector. Some of these infrastructures are frequently server down, and NRB's safes are not accessible 24 hours a day, but only during business hours.

By contrast, the mobile network seems to be more reliable than the power sector to operate 24 hours a day, 7 days a week and throughout the 365 days for each year. This means that mobile phone payment is likely to be more reliable and resilient as payment system than card or cash payments using ATMs.

According to the Chief of the Cyber Crime Bureau, Police Agency, Superintendent Nabinda Aryal, over 10,000 cybercrimes per year are reported. As the most of these attacks are from overseas, they need a higher level of security.

It is already recognized and understood that EXC platform will contribute to further enhancing the elasticity of payment systems.

### 2.4.3. Promoting financial inclusion

**Table 7 Financial access indicators of Nepal**

Indicators (related to A, B, and C)	2018 Mid-Jul	2019 Mid-Jul	2020 Mid-Jul	2021 Mid-Jul	2022 Mid-July
No. of Deposit Account	23544859	27866505	32454204	37770985	44971969
No. of Loan Account	1301010	1439648	1544059	1702195	1829044
No. of Branchless Banking Customers	130660	168307	193607	230154	283480
No. of Mobile Banking Customers	5086069	8347187	11306797	14194839	18307255
No. of Internet Banking Customers	834302	917344	1031227	1160321	1684310
Population Per Branch of BFIs	6859	5776	5255	5065	4566

Source: Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation), 2022, P.44

Financial inclusion indicators have progressed gradually over the past five years. It is estimated that 67.3% of Nepal's population has at least one bank account, and the increase in the number of deposit accounts is due to the government's bank account opening campaign, the need for bank accounts to receive social security benefits, the expansion of bank branches to rural areas, and the expansion of

bank branches. This is due to factors such as the need for a bank account to trade stocks in the stock market.<sup>16</sup>

A 2019 NRB survey reported that 39.1%<sup>17</sup> of the population was unbanked.

The NRB's 2022-2026 Strategic Plan sets out a resilient and inclusive financial system as the bank's strategic direction, and in accordance with this strategic plan, it plans to implement several financial inclusion initiatives in the next five years.

Once CBDC is introduced, financial institutions can use the CBDC platform to efficiently deliver financial services to their target audience at low cost and also help identify target groups to provide financial services. (See Chapter 5)

Although access to financial services is becoming more widespread, CBDC is expected to promote further financial inclusion.

#### 2.4.4. Reducing currency management costs

The circulation of banknotes in Nepal is increasing every year.

**Table 8 Banknotes in circulation**

Period	Banknote Circulation		
	Total (Rs. Mn)	Growth (Rs. Mn)	Growth (in %)
2013 Jul	229,021.7	29,851.4	14.99
2014 Jul	266,890.0	37,868.3	16.53
2015 Jul	315,542.5	48,652.5	18.23
2016 Jul	381,512.0	65,969.5	20.91
2017 Jul	422,903.4	41,391.4	10.85
2018 Jul	486,214.1	63,310.8	14.97
2019 Jul	503,250.2	17,036.0	3.50
2020 Jul	579,708.8	76,458.6	15.19
2021 Jul	669,513.8	89,805.0	15.49
2022 Jul	632,470.0	(37,043.8)	(5.53)
<b>Average growth of the last 10 years</b>		<b>12.51</b>	

Source: Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation, 2022, P.46, <https://www.nrb.org.np/contents/uploads/2022/10/CBDC-for-Nepal.pdf>)

The volume of banknotes in circulation has increased by an average of 12.51% per year over the past decade. It is the NRB's legal obligation to supply banknotes in sufficient quantities throughout Nepal

<sup>16</sup> Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation), 2022, P.44

<sup>17</sup> Nepal Rastra Bank. State of Financial Inclusion in Nepal, 2019

and to ensure a safe and sound payment system. However, NRB does not have banknote printing facilities and outsources them to Chinese vendors. Therefore, it is not possible to inspect the counterfeit money on its own. Banks pay millions of rupees each year to print banknotes, and in addition to printing costs, they also pay huge sums each year for insurance, transportation, labor, and security arrangements to manage the movement of currency to banknote depositories operating throughout the country.

**Table 9 Note printing and distribution expenses of NRB**

Fiscal Year	Note Printing Cost (Rs. in Mn)	Fund Transfer Cost (Rs. in Mn)	Total Cost (Rs. in Mn)	Growth Rate of Total Cost (%)
2017/18	947.4	47.3	994.8	1.03
2018/19	853.8	46.3	900.1	-9.52
2019/20	837.7	36.4	874.1	-2.89
2020/21	1639.4	30.6	1669.9	91.06
2021/22	2403.7	32.8	2436.6	45.90
<b>Total</b>	<b>6682.0</b>	<b>193.4</b>	<b>6875.5</b>	<b>25.12</b>
<b>Annual Average</b>	<b>1336.4</b>	<b>38.7</b>	<b>1375.1</b>	

Source: Nepal Rastra Bank. Central Bank Digital Currency (CBDC): identifying appropriate policy goals and design for Nepal. A Concept Report (Released for Public Consultation), 2022, P.47, <https://www.nrb.org.np/contents/uploads/2022/10/CBDC-for-Nepal.pdf>

For the year 2021/2022, the note printing annual cost was NPR2,403.7 million and the fund transfer cost was NPR32.8 million, a total cost of NRB was NPR2,436.6 million. At NPR=USD 0.0077, the annual total cost was USD18.76 million compared with GVE’s USD2 million. Therefore, the introduction of the CBDC is beneficial even just looking at the savings NRB can make from the cash printing and circulation cost due to the increasing demand for banknotes in Nepal. The NRB does not have banknote printing facilities and does not have sufficient capacity to mint current currency with its current minting facilities, and thus the increasing cost of currency management has been an important element. With the CBDC, NRB can control its currency management cost.

## 2.5. Status of Related Legal & Tax Systems

### 2.5.1. Overview of Payment and Remittance Service-Related Matter in Nepal

#### 2.5.1.1. Existing Laws Relating to Payment and Remittance Services

The existing laws related to payment and remittance services in Nepal are as follows: -

- a) Money Laundering Prevention Act, B.S.2064 (2008) (the “Money Laundering Prevention Act”)

- b) Payment and Settlement Act, B.S.2075 (2019) (the “PSA”)
- c) Money Laundering Prevention Rules, B.S.2073 (2019) (the “Money Laundering Prevention Rules”)
- d) Payment and Settlement By-law, B.S.2077 (2020) (the “Payment and Settlement By-law”)
- e) Licensing Policy for Institution involved in Payment Related Activities, 2023 (the “Licensing Policy”)
- f) Payment System Oversight Framework
- g) Real- Time Gross Settlement System Rules,2019 (the “RTGS Rules”)
- h) Nepal Payment System Development Strategy
- i) Retail Payment Strategy, 2019
- j) Nepal Rastra Bank, Unified Directives on Payment System, B.S.2079 (2023) (the “PS Unified Directives”)
- k) Central Bank Digital Currency (CBDC): Identifying Appropriate Policy Goals and Design for Nepal

A brief summary of above laws is provided below:

**Table 10 Brief summary of the existing laws and regulations relating payment and remittance services**

S. No	Name of the Law or Regulation	Brief Summary
1.	Money Laundering Prevention Act	Money laundering Act is major statutory law enacted made to prevent and control laundering activities of criminally earned money or assets. It requires Banks and Financial Institutions to maintain record of customer and transactions data for at least 5 years from the date of transaction. Money Laundering Act also provisions for the investigation of any doubtful transactions or transactions above the specified threshold. Further, it also imposes obligation on banks and financial institutions to report suspected transactions to the Financial Information Unit under NRB.



2.	PSA	<p>PSA is the major legislation that is enacted with the aim to develop, regulate, supervise, inspect and oversee the payment system in Nepal. This legislation provisions for the establishment of PSO and PSP. It also lays down the liability of PSOs and PSPs and provides that PSO and PSP needs to be affiliated with National Payment Switch or Payment Gateway and keep record with security. PSA mentions that no entity can operate its business as PSO and PSP without obtaining the license from the NRB. Further, this act also provisions from the RTGS for large payments. The PSA also provisions for the establishment of National Payment Board, which plays the role of facilitator, mediator and dispute handler for a safe and efficient payment system.</p>
3.	Money Laundering Prevention Rules	<p>The Money Laundering Prevention Rules is the delegated legislation formulated under the Money Laundering Prevention Act. The Money Laundering Prevention Rules mentions that any institutions involved in financial activities needs to suspend transacting with any entity whose name has been published on the website of money laundering department. Similarly, the Money Laundering Prevention Rules also mention that money laundering department can inspect the institution which is involved in financial activities to verify whether the institution has complied with the laws relating to money laundering prevention.</p>
4.	Payment and Settlement By-law	<p>This Payment and Settlement By-laws provides more details to the provision of the parent legislation i.e., PSA. The Payment and Settlement By-laws sets out the requirements for establishment and licensing of institutions involved in payment systems along with rules for payment transactions, transaction limits and fees. Similarly, it provisions for customer protection, mandates minimum security and privacy as per standard. It has also made provisions for the mergers and acquisitions of such organizations – the organizations include both PSPs and PSOs It mandates the issue of at least 20 % (twenty percent) share to the general public incase such company is listed as a public company.</p>

5.	Licensing Policy	<p>This Licensing Policy has been formulated by the NRB to issue license for the institutions/mechanism operating payment related function and their related instrument and transaction. Provisions of the Licensing Policy apply to both institutions established in Nepal and operating abroad as well as to those established abroad and operating in Nepal. The Licensing Policy sets out the requirements for obtaining letter of intent, license, renewal of license. Further, the Licensing Policy also states that the paid-up capital requirement of the PSP operating business through other payment instrument except card is 50,000,000NPR (Fifty million) and PSP operating business through all payment instrument including card is 250,000,000NPR (Two hundred Fifty million). Similarly, the Licensing Policy mentions that minimum paid-up requirement for the PSO is 400,000,000NPR (Four hundred million) and for PSO which is also operating payment transaction outside Nepal through the payment instrument issued in Nepal minimum paid-up capital requirement is 800,000,000NPR (Eight hundred million).</p>
6.	Payment System Oversight Framework	<p>The Payment System Oversight Framework is a standard formulated by the NRB, for payment system institutions with a resolution-based approach to ensure safety, efficiency and reliability to promote financial stability. NRB is responsible for overseeing and regulating payment systems in Nepal as per international standards. NRB supervises such institutions through off-site supervision, on-site and special inspection. The oversight actions to be taken by NRB to ensure public confidence includes issuing warnings, imposing penalties, revoking licenses and taking legal actions in case of non-compliance.</p>

7.	RTGS Rules	<p>The RTGS Rules are the set of regulations formulated by NRB and they must be abided by the participants of the RTGS provided by NRB. The RTGS Rules provide that any financial institution to be become an RTGS participant must apply to NRB. Similarly, the RTGS Rules mention that any bank and financial institution can participate in RTGS as direct participants, indirect participants and special participants.</p> <p>Further, the RTGS Rules supersede all previous rules and practices related to settlement of systemically important and urgent payments. This RTGS Rules define the rights and duties of the participant and address normal processing of transfers and the handling of certain important exceptional conditions. The RTGS Rules are revised and updated by the NRB, and each version is published in advance to allow participants to adapt their organization and operations.</p>
8.	Nepal Payment System Development Strategy	<p>The Nepal Payment System Development Strategy outlines the strategy for developing Nepal's National Payments System (the “NPS”) in a safe and efficient manner and it recognizes that payment systems are vital for the country's financial system and economic growth. The NPS proposes the NRB strategic approach to NPS development and outlines the envisaged future state of the Nepal NPS. In NPS, internationally accepted principles and practices are highlighted and elaborated from the perspective of specific circumstances. This strategy mentions that the NRB is committed to ensuring the soundness of the NPS, which consists of payment instruments, payment infrastructures, electronic book-entry securities systems, financial institutions, non-financial institutions, market arrangements, laws, standards, rules, and procedures. This strategy further describes the nine pillars to cover various aspects of the NPS, including legal framework, settlement mechanisms, retail payment systems, government transactions, securities depository, clearing and settlement, money markets, international remittances, oversight, and cooperation.</p>

9.	Retail Payment Strategy, 2019	The NRB has developed a Retail Payments Strategy with the help of the World Bank Group. This strategy aims to create an enabling framework for the development and widespread use of digital payment services in Nepal. The key components of this strategy is strengthening the legal and regulatory framework, deepening digital retail payment systems, facilitating government and remittance payments to transaction accounts, settlement in central bank money, enhancing financial awareness, overseeing endpoint security, and coordinating with relevant authorities.
10.	PS Unified Directives	The NRB has issued the PS Unified Directives with the aim to regulate all the institutions who have obtained license to carry out payment related work. The PS Unified Directives makes provisions in relation to (a) operation of electronic payment cards, (b) operation of financial services in local currency through telecommunication networks, (c) security arrangements to be followed while providing electronic payment system, (d) settlement bank, I transactions limits and duties through electronic means, (f) taking approval before publishing annual financial statements, (g) operation of RTGS System, (h) branchless banking services; (i) statistical information, (j) corporate governance, (k) risk management, (l) protection of customer interest, (m) money laundering and prevention of financial investment in terrorist activities, and (n) other various arrangements.

11.	Central Bank Digital Currency (CBDC): Identifying Appropriate Policy Goals and Design for Nepal	The exploration of CBDC has gained momentum globally due to the Covid-19 outbreak and the rise of cryptocurrencies. NRB has also formed a high-level committee to conduct a preliminary study on CBDC, and a study task force has prepared a report that reviews the motivations driving most central banks to explore CBDC, the foundational issues to be resolved, challenges likely to emerge, and available design choices. The study identifies policy goals underserved in Nepal and provides forward guidance. The literature recommends creating favorable circumstances on the key foundational issues, such as legal and regulatory frameworks, capacity development, infrastructure development, and convenience for public adoption. The Bank for International Settlements has recommended three key foundational principles that all central exploring CBDC should follow: not harming other policy mandates of the central banks, not replacing other forms of monies, and promoting broader innovations and efficiency in the overall payment system. CBDC shall support public policy objectives without impeding central banks' ability to fulfill their objectives. The study analyzes the current performance level on ten key policy goals, identifies the underserved policy goals, and measures the likelihood of a positive contribution from CBDC to those goals in Nepal.
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**2.5.1.2. Business Structure of GVE**

GVE aims to develop a real time system which provides a platform for digital transactions. As per our understanding, GVE will be involved in the business of providing secured cloud-based platform to the banks & financial institutions and digital wallets for the digital transactions. In order to carry out this business, GVE will carry this business out using mutual identification function, authentication function and E-money function (Digital Banking) through the platform.

**2.5.1.3. Overview of Payment and Remittance Services in Nepal**

The aforementioned existing laws are the major statutory and delegated legislation that regulate the payment/settlement and remittance services in Nepal. The Government of Nepal, NRB and other concerned authorities has formulated the existing laws in order to develop, expand, promote, supervise and regulate the payment and settlement system in Nepal. It is also pertinent

to note that the existing laws related to payment/settlement and remittance services are focused to regulate domestic transactions rather than cross border transactions.

In accordance with the existing laws, any entity by obtaining license to operate as PSO and PSP can operate in Nepal. Meaning thereby that if the entity is operating its business as PSO, it needs to obtain license of PSO and if the entity if operating its business as PSP, it needs to obtain license of PSP The PSO/PSP operating its business in Nepal by obtaining a license needs to comply with requirements of the existing laws.

#### **2.5.1.4. Business of GVE**

Section 2 (L) of the PSA defines PSP as the organization which provides payment service to the customer and it also includes the organization which makes payment between any institution and customer in the activities related to goods, service, property and other liabilities; domestic and international transfer of money or payment from the electronic means. Further, Licensing Policy also mentions that “Institution that are classified as a PSP for this purpose are those institution who provide payment activities through electronic means, those institution carrying out domestic money transfer business, and those institution established with the objective of paying bills of both goods and service, and in providing those payment related services, also have direct relationship with customers.”

Similarly, Section 2 (K) of the PSA defines PSO as the organization which is involved in the activity related to operating, management and clearing of payment and it also include organization which operate clearing house, electronic card or other online/digital payment system. Section 2 (j) of PSA defines payment system as system to make payment, clearing or settlement and of any claims or liabilities between customers, institution or bank through payment instruments. Furthermore, Licensing Policy also mentions that PSO means institution which is involved in operation, management and settlement of payment related activities and it also includes settlement house and institution operating electronic card or other online payment network.

In this context, as mentioned above, GVE is involved in the business of providing secured cloud-based platform to the banks & financial institution and digital wallets for the digital transactions. The cloud based platform will be considered as online/digital system and further because business of GVE indicates that it will be involved in management and clearing of payment, therefore the business of GVE will be considered to fall under the category of Payment Service Operator.

### **2.5.1.5. Licensing Requirement**

The existing laws of Nepal related to the payment and settlement broadly categorize institutions involved in payment and settlement activities into two categories. The two categories are (a) Payment Service Provider and (b) Payment Service Operator. Any entity which is willing to operate as either PSP or PSO needs to obtain the relevant license from NRB.

As discussed above, GVE's proposed business activities would classify it under the category of PSO, and so GVE would need to obtain the license of PSO to commence its business operations. Section 5 of the PSA mentions that no entity is allowed to carry out its business as PSO without obtaining the relevant license from the NRB. Similarly, Section 6 of the PSA requires that a company should be incorporated to obtain the license to operate as PSO.

It also pertinent that Section 7 of the PSA, Rule 6 of the Payment and Settlement By-law and Clause 6 of the Licensing Policy mentions that letter of intent must be obtained to operate as PSO by the proposed company, before its incorporation. Once the proposed company obtains the Letter of Intent from the NRB, then proposed company needs to be incorporated in accordance with the Company Act, B.S.2063 (2008). Further, the Licensing Policy also mentions that entity which is being incorporated to conduct the business of PSO should maintain the minimum paid-up requirement for the is 400,000,000NPR (Four hundred million), if the PSO is only operating domestic transactions and 800,000,000NPR (Eight hundred million), if PSO which is also operating payment transaction outside Nepal through the payment instrument issued in Nepal.

Once the Company is incorporated, then the entity needs to obtain the license of the PSO. In order to obtain the license of PSO, the entity needs to make an application on prescribed format to NRB, along with the documents as mentioned in the Licensing Policy.

In brief GVE can obtain license of PSO as follows:

**Table 11 Steps for GVE to obtain a PSO license**

STEPS	DETAILS
STEP-1	<p>GVE needs to obtain Letter of Intent (the “<b>LoI</b>”) from the NRB. In order to obtain LoI, GVE needs to submit and application in the prescribed format along with the following documents:</p> <ul style="list-style-type: none"> <li>a) Proposed payment related activities in accordance with Annex-2 of Licensing Policy,</li> <li>b) Document as prescribed in Annex 3 of Licensing Policy,</li> <li>c) Personal details of promoters as prescribed in Annex-4 of Licensing Policy.</li> </ul> <p>Authority letter.</p> <ul style="list-style-type: none"> <li>d) Fit and Proper Test along with self declaration for both the promoter and director as prescribed in Annex-5 of the Licensing Policy;</li> <li>e) Other details and documents as prescribed by NRB from time to time.</li> </ul>
STEP-2	<p>Once GVE obtains LoI from the NRB, GVE can then incorporate the Company under the Company Act, B.S.2063 (2008) of Nepal (the “<b>Company Act</b>”). In order to incorporate a Company, GVE needs to file an application at the Office of Company Registrar.</p>
STEP-3	<p>After incorporating the company, GVE needs to obtain license of PSO from the NRB. In order to obtain license of PSO from the NRB, GVE needs to file an application to NRB in prescribed format along with following documents:</p> <ul style="list-style-type: none"> <li>a. Documents as mentioned in Annex 8 of the Licensing Policy,</li> <li>b. Details relating to technical infrastructure as mentioned in Annex 9 of the Licensing Policy,</li> <li>c. Personal details of promoters as prescribed in Annex-4 of Licensing Policy,</li> <li>d. Fit and Proper Test along with self declaration for both the promoter and director as prescribed in Annex-5 of the Licensing Policy,</li> <li>e. Other documents as required by NRB.</li> </ul>

**2.5.1.6. AML/CFT Compliance Fulfillment**

Rule 21 of the Payment and Settlement By-laws, provides that licensed PSP/PSO, agent of PSP/PSO or other entity appointed for outsourcing are required to abide by anti-money laundering laws of Nepal and shall prevent illegal transactions and shall not be involved in any



terrorist activities through the same. In this context, licensed PSO needs to fulfill the AML/CFT compliances as required by the Money Laundering Prevention Act, PSA and PS Unified Directives.

Section 23 of the PSA and Section 7(A) and 7(L) of the Money Laundering Act makes the provision for maintaining the records of detail information of customers by the PSO who conduct payment and settlement activities through it. The PSA has made provision that the PSP/PSO is required to keep detailed records of customers by including name, address, account number, transaction date, transaction amount, type of amount transfer, detail of amount, account number to which amount is being transferred, order issued customer to make transfer and other information as prescribed by the NRB.

In accordance with the Money Laundering Act, institutions have obligations to correctly identify and confirm the customer by taking the following details and information, before transferring any currency or any amount through wire transfer:

- a. the name of the originator,
- b. the originator's account number and, in the absence of an account, a separate identification number that may identify the transaction,
- c. the address of the originator or, in its absence, his date of birth and place of birth or citizenship number or national identity card number or customer identification number,
- d. the name and account number of the beneficiary and a separate code number in which the transaction can be identified in the absence of an account,
- e. other details or information specified by the regulatory body.

Furthermore, Directive No. 14 of the PS Unified Directive also requires PSO to fulfill some compliances such as formulation and implementation of policies and procedures to abide the provision of Money Laundering Prevention Act and Money Laundering Prevention Rules; Reporting of suspicious activities, transaction and threshold transaction financial information unit and submission of risk evaluation report of the payment system department.

#### **2.5.1.7. Regulatory Obstacles**

##### **(1) Related to Mobile Companies**

The existing laws of Nepal related to payment and settlement focuses to regulate the entity which has obtained the license of PSP and PSO. Further, the existing laws of Nepal focuses to regulate the entity which is involved in payment and settlement activities or create a system for payment and settlement. In this context, the existing laws of Nepal does not make legal provision to regulate mobile companies in relation to payment and settlement activities.

## (2) Related to Service of GVE

It is pertinent that laws and regulation relating to payment and settlement in Nepal is still evolving and the existing laws of Nepal might not be able cover all the technological advancement in the payment and settlement activities.

Further, the existing laws relating to payment and settlement is basically enacted by focusing domestic transaction rather than cross border transaction. In this context, GVE will face regulatory obstacles on the retail cross border outbound transactions. The outbound transactions is regulated by strict foreign exchange control laws which will make it difficult for payments outside of Nepal.

### **2.5.2. Memo on Overview of Foreign Investment Laws and Procedure in Nepal**

This section was prepared on the basis of the prevailing laws on foreign direct investment (the “FDI”) of Nepal as on 11 April 2023. The existing foreign investment related laws of Nepal includes the statutory laws, delegated legislations, policies, guidelines, strategy and related documents formulated by the Government of Nepal, NRB and other concerned authorities.

#### **2.5.2.1. Existing Laws Relating to Payment and Remittance Services**

The existing laws related to payment and remittance services in Nepal are as follows: -

- l) Company Act
- m) Industrial Enterprises Act, B.S.2076 (2020) (the “Industrial Enterprises Act”)
- n) Company Directive B.S.2079 (2022) (the “Company Directive”)
- o) Public-Private Partnership and Investment Act, B.S.2075 (2019) (the “PPPI Act”)
- p) Public-Private Partnership and Investment Regulation, B.S.2077 (2020) (the “PPPI Regulation”)
- q) Foreign Investment and Technology Transfer Act, B.S.2075 (2019) (the "FITTA")
- r) The Licensing Policy
- s) Foreign Investment and Technology Transfer Regulation, B.S.2077 (2020) (the "FITTR")
- t) Foreign Exchange (Regulation) Act, B.S.2019 (1962) (the “FERA”)
- u) Nepal Rastra Bank Foreign Investment and Foreign Debt Management Rules, B.S.2078 (2021) (the “NRB Foreign Investment and Foreign Debt Management Rules”)

**Table 12 Brief Summary of the existing laws**

S. No	Name of the Law or Regulation	Brief Summary
1.	Company Act	This legislation is a result of economic liberalization to promote investment, trade and business sectors. This legislation regulates incorporation, operation and dissolution of companies. It provides the definition of a company as a separate legal entity that can own property, sue or be sued, and it sets out various types of companies that can be incorporated in Nepal. The legislation provides for the duties, rights and responsibilities of directors and shareholders. Therefore, the legislation regulates the corporate sector in Nepal.
2.	Industrial Enterprises Act	This legislation aims to promote and facilitate the establishment of industrial enterprises in Nepal. It defines various types of industries. The legislation mandates all industrial enterprises to register with the Department of Industry (DOI) within six months from commencement of operations. The legislation provides for incentives, tax exemptions, financial assistance and access to land and infrastructure and the government's role in providing such support and in facilitating foreign investment.
3.	Company Directive	This directive was brought in to fill the gaps in its parent legislation i.e., Company Act. It elaborates more on the board formation of Public limited company and its conversion into a Private limited company. It further provides provision for transfer of share in case of death of shareholder and death of foreign citizen who was a shareholder in a company registered in as per the law of Nepal. It also provides for the record keeping, updating records, the username and password of the company.

4.	FITTA	FITTA is the statutory law enacted in Nepal with the aim to improve the country's economy by attracting foreign investment, technology, and capital. It consolidates existing laws related to foreign investment and technology transfer to create an investment-friendly environment. FITTA seeks to promote industrialization, increase productivity, and develop infrastructure to achieve sustainable economic growth and create employment opportunities in the country. It categorizes the sector where foreign investment is allowed and outlines the process for foreign investment approval.
5.	FITTR	FITTR allows foreign investors to invest in Nepal through various means, such as buying assets or shares, leasing equipment, or establishing new industries. The amount of royalties and fees that can be repatriated by foreign investors is limited, and the details of the investment and transfer of rights must be recorded with the body approving foreign investment. The foreign investors must bring in the sanctioned investment amount within 1 (one) year of receiving approval and must invest at least 70% of the amount before starting commercial production. They must also make the remaining 30% within 2 (two) years of the commencement of the business. The regulation specifies the application process for foreign investors, including the electronic submission of details and documents.
6.	PPPI Act	This legislation aims to promote and regulate the investment by domestic or foreign private sector in infrastructure as well as service sector. It envisions to manage the projects to be conducted in public private partnership and consolidates the legal provisions related to investment. It regulates foreign investment for amount Six Billion NPR and above.

7.	PPPI Regulation	PPPI Regulation is the delegated legislation enacted to frame the necessary procedures in relation to implement of projects in public private partnership model It envisions the arrangements related to officers and investment board, arrangements related to projects implemented in public private partnerships, investment acceptance and private investment, project agreements and implementation, facilities, incentives and protection provided to investors. It includes the procedures and documentation required for the implementation of PPPI Act.
8.	The Licensing Policy	The Licensing Policy was enacted by the NRB to regulate PSO and PSP. It provides provision for foreign institutions which have been involved in payment related activities, their investment in Nepal, share transfer and licensing of such institutions.
9.	FERA	FERA in Nepal aims to regulate foreign exchange transactions and promote the use of foreign exchange for foreign trade, investment, and loan while maintaining the economic interests of the public and the balance of payment. The Act requires obtaining a license for foreign exchange transactions and imposes restrictions on payments, securities, lending, and investing in foreign countries. It also authorizes NRB to specify the operation of foreign currency accounts and investigate violations of the Act while maintaining secrecy.
10.	NRB Foreign Investment and Foreign Debt Management Rules	NRB has issued the Foreign Investment and Foreign Debt Management Regulations, B.S.2078(2021), which provide guidelines for accounting of foreign currency transfer for foreign investment, return on foreign currency earnings, approval of foreign loans, and proper presentation of foreign loan principal and interest in foreign currency. The regulation aims to facilitate foreign investment and promote economic policies in Nepal. The regulation has been formulated under the powers of Section 12 of the Foreign Exchange (Act), 2019 and Section 110 (2) of the Nepal Rastra Bank Act, B.S.2058 (2002) to create a conducive environment for the nation.

### **2.5.2.2. Business Structure of GVE**

The GVE aims to operate its business in Nepal by bringing FDI and incorporating the Company in Nepal. Once the GVE incorporates the company, it aims to operate as a PSO by developing a real time system which provides a platform for digital transaction. As per our understanding GVE will be involved in business of providing secured cloud-based platform to the banks & financial institution and digital wallets for the digital transactions. In order to carry out this business GVE will carry this business out mutual identification function, authentication function and E-money function (Digital Banking) through the platform.

### **2.5.2.3. Overview of Corporate Law**

The major corporate laws that are related to the business structure of GVE Ltd are the Company Act, Industrial Enterprises Act and FITTA. In accordance with the Company Act, following corporate entities can be incorporated in Nepal for the purpose of carrying out business:

**Table 13 Types of companies**

S. No	Type of Company	Feature of Company
1.	Private Company	<ul style="list-style-type: none"> <li>a. Minimum shareholder is 1(One) and maximum shareholder is 101 (One Hundred and One).</li> <li>b. It must add 'प्रा. लि]' at the end of the company name.</li> <li>c. Title and security can be transferred only after certain procedures are fulfilled. They cannot be transferred freely as shares of the listed company.</li> <li>d. No minimum paid up capital prescribed by the Company Act.</li> <li>e. Permission from the Office of Company Register is not required to commence business.</li> <li>f. Board of Directors have unlimited tenure.</li> <li>g. Publication of prospectus is not required.</li> </ul>
2.	Public Company	<ul style="list-style-type: none"> <li>a. Minimum shareholder is 7(seven) and maximum of any number.</li> <li>b. It must add ' लि]' at the end of the company name.</li> <li>c. No restriction with share transfer but can only be done after the first general meeting.</li> <li>d. Minimum paid up capital of 10 million NPR.</li> <li>e. Permission from the Office of Company Register is required to commence business.</li> <li>f. Board of Directors have a four-year tenure. With minimum 3 directors and maximum of 11 directors.</li> <li>g. Publication of prospectus is required.</li> </ul>

Further, the GVE can incorporate its subsidiary company in Nepal, such subsidiary company can be incorporated in either by holding direct or indirect control over the formation of the board of directors or by holding majority shares in the company. Beside this arrangement, Section 154 of the Company Act also provisions for the branch office and liaison office of the foreign company.

Furthermore, Section 8 of FITTA also provides that any industry incorporated in a foreign country may make foreign investment by establishing or expanding its branch industry in Nepal. Similarly,

Rule 6 of FITTR provides that if any industry incorporated in a foreign country wishes to establish or expand its branch industry in Nepal, then such foreign industry can establish or expand its branch in Nepal by approving foreign investment in accordance with FITTA and registering industry in accordance prevailing laws.

#### **2.5.2.4. Stages for Obtaining Foreign Investment and Incorporation of Company in Nepal**

The existing laws provides different approaches for obtaining foreign investment from the concerned authorities. If the entity is willing to bring foreign investment below NPR 6 billion, then it needs to obtain FDI approval from Department of Industry and if the foreign investment is 6 billion NPR or more, then entity needs to obtain FDI approval from Investment Board of Nepal. In this note we assume FDI amount is 6 billion NPR or more, and GVE needs to obtain FDI approval from Investment Board of Nepal as the MOU was signed between JICA and Investment Board of Nepal.

Section 4 of the PPPIA mandates Investment Board of Nepal to implement a project of 6 billion NPR or above. In this context, foreign investment of 6 billion NPR or above in Nepal by way of equity investment and incorporation of company is essentially a seven-stage process:

1. Foreign investment approval from the OIBN.
2. Incorporation and registration of Company at the Office of the Company Registrar (the "CRO").
3. Tax Registration.
4. Registration of industry again at DOI.
5. Miscellaneous stages.
6. NRB Process.
7. Foreign Investment Certificate from a Bank in Nepal.

First stage – Foreign Investment Approval from OIBN

(1) Foreign investor seeking to invest more than NPR. 6,000,000,000 (Nepali Rupees Six Billion only) have to submit an application to OIBN<sup>18</sup> as prescribed in PPPI Regulation either in English or Nepali Language.<sup>19</sup> Prior to the submission of the application form, the foreign investor has to deposit NPR. 150,000 (Nepali Rupees One hundred and fifty thousand only) in the bank specified by the OIBN and

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<sup>18</sup> Rule 31 (1), PPPI Regulation

<sup>19</sup> Schedule 7, PPPI Regulation



the foreign investor has to submit the deposited evidence to the OIBN with the application form.<sup>20</sup>

(2) Along with the application form mentioned (1), following documents needs to be submitted to OIBN for the foreign investment approval.<sup>21</sup>

**Table 14 List of documents that need to be submitted to OIBN**

S. No.	Documents	Number of Copies
1.	Project’s Name, nature, address, and concept.	1
2.	Details of the estimated cost of the project.	1
3.	Details of Proposed financial sources of the project including the percentage of domestic or foreign investors debt and equity.	1
4.	Project’s business plan.	1
5.	Project implementation timeline.	1
6.	Updated share structure of the company.	1
7.	Any other documents.	As per OIBN’s request

<sup>20</sup> Rule 31(2), PPPI Regulation

<sup>21</sup> Rule 31 (3), PPPI Regulation

(3) Furthermore, FITTR has mentioned that following additional documents needs to be submitted to OIBN for getting approval for foreign investment from OIBN as provided in the table below:<sup>22</sup>

**Table 15 List of documents required by PPPI Regulations to obtain approval for foreign investment**

S. No.	Documents	Number of Copies
1.	Project proposal with investment action plan.	2
2.	Joint investment agreement in case of more than one investor.	2
3.	A copy of passport and persona detail if foreigner is a natural person (bio-data).	1
4.	Company registration certification, management letter, rules, operators, shareholder opening documents, company profile if an investment made is a foreign investor company. The decision of the board of directors in case an investment is made in Nepal.	1
5.	If it is a foreign investor firm, then the registration certificate of such firm. If it is a partner, the disclosure document and the decision between the partners and the profile of the firm regarding investment in Nepal.	1
6.	Documents confirming whether the foreign investor is a foreign national of Nepali origin or a Nepali citizen living abroad.	1
7.	If the foreign investor is an international organization, the constitution of such organization, the identity card of the operator, the profile of the organization and the institutional decision regarding the investment in Nepal.	1
8.	If the foreign investor is unable to attend in person, a copy of the authorization letter issued by him/her and the identity card of the authority.	1
9.	Financial Credibility Certificate issued by a bank to a foreign investor.	1
10.	Any other documents and details requested by the body that approves foreign investment.	As per OIBN's request

Within 15 days after the application and documents have been received by the OIBN, the approval shall be provided.<sup>23</sup> OIBN shall provide the license to the foreign investor within 7 days of receiving

<sup>22</sup> Rule 8 (1), FITTR

<sup>23</sup> Rule 31(5), PPPI Regulation

the approval of foreign investment from the Board of the OIBN.<sup>24</sup>

#### Second Stage – Registration of Company

The second stage begins after receiving the approval of foreign investment from OIBN. In the second stage, the investors have to submit the following documents as set out in the table below to the CRO for a company registration.

**Table 16 List of documents for registration of a company**

S. No.	Documents
1.	Copy of foreign investment approval (license) issued by OIBN
2.	Copy of Citizenship certificate of Nepali Promoters
3.	Copy of passport of the foreign investors-promoters
4.	Copies of company's proposed Memorandum of Association and Articles of Association in Nepali language <i>Note: Articles and Memorandum have to be submitted in Nepali language.</i>
5.	The project proposal that was sent to DOI/OIBN
6.	Application of reserved company name (obtained from CRO or online at <a href="http://www.ocr.gov.np">www.ocr.gov.np</a> )
7.	Authorization letter or power of attorney (for representatives)

The registration fees depend upon the type of the company and authorized capital.

Registration of company can take between three days and a week with the law authorizing up to 15 days. At the end of the process, a Certificate of Incorporation is issued.

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<sup>24</sup> Rule 31(6), PPPI Regulation

### Third Stage-Tax Registration

**Table 17 Documents required for tax registration**

S. No.	Documents	Number of Copies
1.	Copy of the Certificate of Incorporation	1
2.	Copy of Certificate of Memorandum and Articles of Association	1
3.	Copy of the Citizenship certificate (or passport in case of foreign national) who signs the application	1
4.	Passport size photo of the individual who signs the application	2
5.	Hand drawn sketch of the business location of the applicant	1
6.	Power of Attorney	1

### Fourth Stage - Registration of Industry at DOI

After getting foreign investment approval and incorporation of company, the industry is required to get registered at DOI within 35 days. The following documents will have to be submitted:

- a. Prescribed application form.
- b. A copy each of the Certificate of Incorporation, Memorandum and Articles of Association of Company.
- c. Environmental Impact Assessment (EIA) Report or Initial Environmental Examination (IEE) Report.

### Fifth Stage – Miscellaneous

Patent, design and trademark registration has to be done at DOI.

### Sixth Stage – NRB Process

In case of foreign investment not involving sale and purchase of shares, after obtaining the foreign investment approval from the OIBN, it will not be mandatory for the foreign investor to obtain prior approval from the NRB to send or remit such foreign currency to Nepal. However, after the foreign investment is approved, before remitting or sending foreign currency, written information must be given to the One Stop Service Center as per the format prescribed in Schedule 2 of the NRB Foreign Investment and Foreign Debt Management Rules.<sup>25</sup>

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<sup>25</sup> Rule 4, NRB Foreign Investment and Foreign Debt Management Rules.

#### Seventh Stage – Foreign Investment Certificate from Bank

Foreign investors are also required to receive a Foreign Investment Certificate from a licensed "A" or "B" Class banks of Nepal.

After receiving permission from the government of Nepal to establish business in Nepal, the investor bringing investment is required to maintain clear record of the share of the amount of Equity Capital that has been received in Nepal.

For this purpose, the related bank should collect an application enclosing the following documents:

**Table 18 List of documents required to obtain a Foreign Investment Certificate**

S.No.	Documents	Number of Copies
1.	Application regarding the deposit of the foreign investment amount	1
2.	Copy of Minute of Board of director's decision or decision of authorized person	1
3.	Copy of foreign investment approval	1
4.	Evidence of not black listed in Credit Information Bureau	1
5.	In case the foreign investor is a corporate foreign body: <ul style="list-style-type: none"> <li>i. Copy of documents relating to company incorporation and registration,</li> <li>ii. notarized copy of last fiscal year audit report (in case of foreign investment up-to 10 million USD or less, the copy of notarized audit report is not required),</li> <li>iii. documents related to the information of ultimate beneficiaries (in case the company is listed in Securities Board of Nepal then information of ultimate beneficiaries is not required),</li> <li>iv. document evidencing the legitimate source of investment,</li> <li>v. minute of board of director or authorized person relating to foreign investment.</li> </ul>	1
6.	In case the foreign investor is a foreign person: <ul style="list-style-type: none"> <li>i. Notarized copy of passport, and</li> <li>ii. document evidencing the legitimate source of investment.</li> </ul>	1
7.	In case the foreign national remitting foreign investment amount is not a foreign investor approved by OIBN: <ul style="list-style-type: none"> <li>i. Notarized copy of passport,</li> <li>ii. document evidencing the legitimate source of investment, and</li> <li>iii. notarized copy of the documents establishing relationship with the foreign investor.</li> </ul>	1
8.	Copy of application submitted to NRB regarding the remittance of foreign currency after obtaining the foreign investment approval from OIBN.	1

#### **2.5.2.5. Material Regulatory Obstacles to Foreign Investments in Service Providers**

Section 2 (J) of the FITTA defines of foreign investment as investment made by a foreign investor in an industry or company by investing on shares or assets of company incorporated in Nepal. Similarly, Section 2 (g1) of the FERA define foreign investment as investment made by foreigner in any firm or company in form of share, deposits and loan. In this context, it is pertinent that foreign debt is not considered as foreign investment under FITTA and foreign debt and equity investment both are considered as the foreign investment under FERA.

Section 3 of the FITTA provides that a foreign investor may make foreign investment in any industry and derive gains from such investment provided that foreign investor cannot make investment on the industry referred in the schedule. Further, schedule of the FITTA provides number of industries to which foreign investment is restricted in Nepal. However, the schedule of FITTA does not include the payment and settlement industry. In this context, there is no broad restriction to make equity investment by the GVE.

It is also pertinent to note that Clause 13 of the Policy provides that any entity involved in the activities related to payment can bring foreign investment by obtaining approval from the NRB and such investment should not exceed 15% (Fifteen Percent) of the paid-up capital of the company that is brining foreign investment.

#### **2.5.2.6. Regulatory Obstacles in Foreign Debt Investment**

The NRB Foreign Investment and Foreign Debt Management Rules is major delegated legislation that regulates the foreign debt in Nepal. In this context, the NRB Foreign Investment and Foreign Debt Management Rules provides that foreign debt is not allowed on the industries listed on the Schedule of FITTA. Beside the industries listed on the Schedule of FITTA, there is no restriction to make foreign debt investment in Nepal. Since, the payment service business is not listed on the Schedule of FITTA, Foreign Investment is allowed in this case.

Further, it also pertinent to note that foreign company or non-banking/financial institutions are only allowed to make foreign debt investment to the company having equity investment. It means that foreign company non-banking/financial institutions are not allowed to make foreign debt investment in Nepali company, if they do not have any equity investment to the Nepali company.

FERA is the major statutory law that regulates the foreign currency exchange in the Nepal. Section 3 of the FERA mentions that any person, firms, company or bank who intends to carry on foreign

exchange transaction shall obtain license from the NRB. Similarly, Section 3 (4) of the FERA also provides that the NRB may give necessary order or directives to the licensed person, firms, company or bank on time-to-time basis and it shall be the duty of licensed entity to abide by such an order or directives. In this context, there is no such material regulatory obstacles to foreign currency exchange, however the entity involving in foreign currency exchange must obtain license from the NRB and abide by the order or directives issued by the NRB. Also, discussed in paragraph above the equity FDI should not exceed 15% (Fifteen Percent) of the paid-up capital of the company that is bringing foreign investment.

#### **2.5.2.7. Material Regulatory Obstacles to Inward/Outward Foreign Currency Exchange**

The existing laws of Nepal does not impose material regulatory obstacles to inward/outward foreign currency exchange. However, it also pertinent to note that the existing laws of Nepal does not allow for the outward retail transaction. Further, while carrying out inward/outward foreign currency exchange, the entity involved in carrying out inward/outward foreign currency exchange must comply with requirement of anti-money laundering laws of Nepal.

#### **2.5.3. Memo on Overview of Tax System in Nepal**

The existing laws related to company, foreign investment and foreign exchange in Nepal are as follows: -

- a) Income Tax Act, B.S.2058 (2002) (the “Income Tax Act”)
- b) Value Added Tax Act, B.S.2052 (1996) (the “VAT Act”)
- c) Fiscal Act, B.S.2079 (2022) (the “Fiscal Act”)

The brief Summary of existing laws are as follows:



**Table 19 Brief summary of existing laws**

S. No	Name of the law	Brief Summary
1.	Income Tax Act	This legislation aims to regulate the taxation imposed on income. The legislation provides for the tax liability of individuals, companies and foreign companies whose income is derived from Nepal or from the company's permanent establishment. It sets out tax applicable on various types of income, deduction, exemptions and also sets out penalties for non-compliance of the same. It also provides for taxation from dividends, interests, royalties and fees for technical services with a withholding tax rate of 15 (fifteen) percent unless otherwise specified in any treaty between Nepal and any other country.
2.	VAT Act	This legislation was introduced to regulate the implementation and collection of Value Added Tax (VAT) in Nepal on the sale and purchase of any goods and services. The legislation provides for the procedure of registration, payment, returns, refunds, exemptions, zero-rates, tax credits. It further provides for the procedure and tax rates to be followed for import and export of goods and services. It imposes thirteen percent (13%) VAT on the sale of goods and services by an entity.
3.	The Fiscal Act	The total budget of 1.793 trillion NPR (14.7 billion USD) was announced for the financial year B.S. 2079/2080. The budget aims to revive the economy and enhance infrastructure development by increasing revenue collection. It also aims to promote foreign investment by lowering the minimum limit of foreign investment to 2 million NPR and arrange for direct approval of foreign direct investment up-to 100 million NPR through automated system. Therefore, the aim of the new budget is to promote economic growth in the country.

### **2.5.3.1. Overview on Applicable Tax on the Business of GVE**

#### **(1) Corporate Business Tax**

Section 3 of the Income Tax Act provides that tax shall be levied on the income of the person who has

taxable income in any income year. Similarly, Section 2 (ap) of the Income Tax Act defines person to include an “entity” and Section 2 (x) of the Income Tax Act includes a “company” within the definition of ‘entity’. Further, Income Tax Act includes the income earned through the business as the taxable income. In this context, as GVE incorporates a company/legal entity in Nepal tax shall be levied on the income made by GVE.

Further, in accordance with the Schedule of Income Tax Act, thirty percent (30%) tax shall be levied on the income made by bank/financial institution, Money Exchanger, Communication/Internet Service Provider.

**(2) Dividend Tax**

Section 2 (an) of the Income Tax Act defines dividend as the distribution to be made by an entity. Similarly, Income Tax Act incorporates the dividend as income. Further, Section 54 of the Income Tax Act provides that if dividend is distributed to the shareholder of any company or partner of any partnership firm, tax shall be imposed as per the mode of final tax deduction. In this context, Section 88 (2)(a) of the Income Tax Act provides that while making payment of dividend, five (5%) on the paid dividend shall be taxed.

**(3) Withholding Tax**

Section 87 of the Income Tax Act provides that employer should withhold tax when making payment of income derived by any employee or worker, each resident employer shall deduct (withhold) tax at the rate as below:

**Table 20 Tax rates of the withholding tax**

<b>Annual Income</b>	<b>Tax Rate</b>
<u>Access as an Individual</u>	
First 500,000	1%
Next 200,000	10%
Next 300,000	20%
Next 1,000,000	30%
Remaining above 2,000,000	36%
<u>Access as a Married Couple</u>	
First 600,000	1%
Next 200,000	10%
Next 300,000	20%
Next 900,000	30%
Remaining above 2,000,000	36%

Similarly, Section 88 of the Income Tax also provides that while making payment by an entity/company for interest, natural resource, rent, royalty, service charge, commission, sales bonus, retirement payment and other any consideration having source in Nepal, the entity/company shall withhold tax at the rate of fifteen percent (15%) of the total amount of payment.

#### (4) Value Added Tax

GVE receives service charge while carrying out its business, then thirteen percent (13%) VAT will be levied on the service charge taken by GVE.

#### (5) Other Tax

As per our understanding, GVE aims to operate in Nepal by bringing in foreign investment. In this context, while making repartition of income derived from foreign investment, tax shall be levied at rate of five percent (5%).

In so far as the payroll taxation is concerned, it has been detailed out in Para 6.3.

#### (6) Available Incentives

Retail Payment Strategy, 2019 formulated by the NRB mentions that NRB would explore with the Government on providing tax incentives for making and receiving payments digitally. However, as of now Government of Nepal has not provisioned for specific tax incentives to the institutions involved in payment related activities.

### 3. Project Overview

#### 3.1. Overview

The project's initial goal is to achieve the financial inclusion by 2030<sup>26</sup> by offering digital bank accounts to those who own mobile phone devices. As the number of the mobile phone contract exceeds 140%<sup>27</sup> of the population, GVE expects only a small number of households do not own a mobile phone handset. For those who do not own a mobile phone handset, they recommend the government distribute a basic mobile phone handset per household while allocating a new digital bank account.

The project will offer RTGS to all the stakeholders, including individual residents, merchants/shops, companies, governments, and visitors from abroad including 6.5 million overseas Nepalis who are estimated to contribute about 22.5% of GDP.<sup>28</sup>

By offering GVE's CBDC server (EXC server) to all three layers of financial institutions, Nepal is likely to be one of the first nations with complete straight through processing digital instant payment.

The financial institutions from the Central Bank as Tier 1, 28 Class A banks as Tier 2, and to other banks and financial institutions for Tier 3, are all offered to have EXC server with no monthly connection charges. This will allow the financial institutions to have two systems during the transition period with no extra costs.

The transition period becomes shorter once all stakeholders understand the implication of the digitalization of the fiat currency, which is likely to enhance user satisfaction and increase the productivity of all industries in Nepal. The project can be seen as one of the top green transformation projects in the world in the sense that all heavy cash carrying cars will be replaced by the smartphone and servers.

This project is designed to expand to the second and third projects which cover safe cross -border payments with much less cost and time burden for users, and electronic medical data. The latter can improve the healthcare service quality inside of Nepal enormously with remote diagnosis could be insight.

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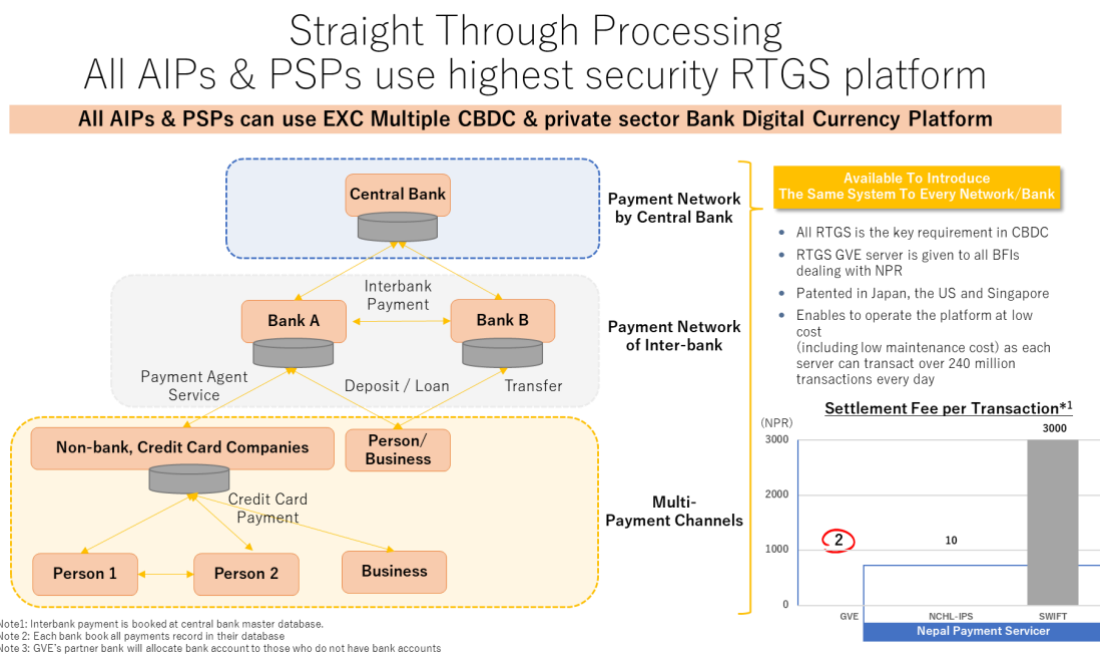
<sup>26</sup> Nepal Rastra Bank. Nepal Financial Inclusion Action Plan, 2018

<sup>27</sup> ITU World Telecommunication. ICT Indicators Database, 2015, <https://www.soumu.go.jp/g-ict/country/nepal/detail.html>

<sup>28</sup> Embassy of Japan in Nepal. Illustration Nepal Economy 2023 Illustration Nepal Economy 2022, 2022, <https://www.np.emb-japan.go.jp/files/100362590.pdf>

Other use cases include Point of Sales (POS) project where suppliers of goods and services can reduce the inefficiencies by finding out where the demand are. The POS project will enhance the digitalisation of agriculture sector enormously.

As shown in the figure below, this is a simple illustration of the current situation. The problem is that Straight Through Processing cannot be achieved because Wholesale CBDC and Retail CBDC are separated. However, the diagram demonstrates that by having the same system for the servers for all the three layer AIPs, the world's first Straight Through Processing system can be created.



**Figure 5 Straight Through Processing Project Scheme**

<Unrevealed>

### 3.2. Instant Digital Payment Project Business Operation and Maintenance Partnership between clearing house and GVE <Unrevealed>

### 3.3. Business Prospect

We have analyzed this access to finance project (the first phase project) from macro-economic data as well as micro economic data. We therefore explain the following two scenarios for the business prospect of the JV.

### 3.3.1. Macro-economic data approach

The World Bank estimates 3.2% of the GDP while McKinsey 2019 report estimated 3% of GDP is spent in settlement.<sup>29</sup> According to Ajay Banga,<sup>30</sup> 0.5% to 1.5% of GDP is spent for cash to be printed, secured and circulated by the central bank of each country.

Since Nepal has not achieved financial inclusion yet, the estimate domestic settlement cost by using ATMs, cash carrying, branch operations, mobile banking, card payments are likely to exceed 3% of GDP (est. USD41.7 billion<sup>31</sup>) which is USD1,251 million. Substantial costs of maintaining cash and cash carrying is born by central banks around the world. Ajay Manga, the CEO of the MasterCard and the nominee for the new President of the World Bank estimates that 0.5% to 1.5% of GDP is spent by the central bank of each country to support the cash circulation. Typically, the seigniorage revenue for the central bank cover substantial part of these costs. However, if the central bank can reduce the cost of cash circulation, this saving can be spent more wisely.

Banks want to avoid establishing branches and installing ATMs due to the high operational costs involved. Additionally, banks prefer to choose systems with lower costs and proper security measures in place over internet banking, which has higher development and maintenance costs. This is because selecting an efficient and secure system allows banks to improve customer service and reduce risks.

We hypothesize that by eliminating cash and offline card payments, it is possible to reduce payment-related costs by 70% (equivalent to 2.1% of GDP), based on the following assumptions: 1) Payment costs account for 3% of GDP, 2) Half of the payment costs (1.5% of GDP) are related to cash & coin production and circulation including the maintenance of ATMs. , and 3) Additional 40% reduction of the payment costs would be enough to convince residents and visitors to use all smartphone payments. In another words, 40 additional reduction or overall 70% reduction from the current systems would accelerate the transition from predominantly cash economy to all smartphone e-economy.

The overall 70% reduction in cost means the saving of USD 876 million over the current estimate of USD1,251million.

The AIPs and the joint venture would receive 30% of the current estimate cost. We are working on the proposal which split 1/3 to the AIPs, 2/3 to the joint venture.

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<sup>29</sup> McKinsey & Company. Global Payments Report 2019: Amid sustained growth, accelerating challenges demand bold actions, 2019, <https://www.mckinsey.com/~media/mckinsey/industries/financial%20services/our%20insights/tracking%20the%20sources%20of%20robust%20payments%20growth%20mckinsey%20global%20payments%20map/global-payments-report-2019-amid-sustained-growth-vf.ashx>

<sup>30</sup> Chairman of MasterCard and the nominee for the President of the World Bank as of March 2023.

<sup>31</sup> International Monetary Fund. World Economic Outlook Database, 2021, (Retrieved April 29, 2022.)

**Table 21 Macro-economic Data Analysis for JV Business**

Country	Population (million)		2022 est. GDP USD billion		Estimated current cost for payment(\$m)	Annual Savings(\$m)	Global payment share(%)
		% to global		% to global			
Nepal	30.39	0.38%	41.7	0.04%	\$1,251	\$876	0.06%

The risk of the business is therefore the speed of the people using it. We are actively discussion various ways to educate the residents, companies and visitors to switch from the predominantly cash economy to the digital payments.

**3.3.2. Micro-economic data approach <Unrevealed>**

**3.3.3. Cross border revenue stream <Unrevealed>**

**3.3.4. Long-term prospect of the JV business <Unrevealed>**

**4. Nepal Joint Venture Business Scheme and Finance  
<Unrevealed>**



# 5. Overview of the digital payment system

## 5.1. Digital Platform and Digital Currency – EXC platform

### 5.1.1. EXC Summary

The EXC platform is a digital platform with a distributed real-time access system architecture compliant with ISO/IEC24643.

### 5.1.2. EXC Platform Features

- The EXC Platform can handle any settlements including ETC and ticket examination at high speed (0.2 seconds) even under highest possible usage (2800 T/s) (This performance would be high enough for the Nepal given, for example, in Singapore, it can cover the whole land only at 300 T/s, while the Metropolitan Tokyo area process at 0.3 s to 0.4 s. The 2800 T/s is estimated to cover the entire settlement of 45 million population area.)
- High security: By using a dedicated module (GVE Secure Module (GSM)) for key management and a symmetric key for signing and signature verification, the system can be constructed and operated safely and securely. This protects keys and algorithms from physical attacks, and the use of symmetric keys makes the system resistant to future quantum computer attacks and enables high-speed processing and low power consumption. In addition, each account has its own key, and all transactions are signed to prevent spoofing and hacking.  
 GSM has low power consumption and low environmental impact. Low power consumption results in low CO2 emissions. In addition to fast and safe processing, GSM has a low environmental impact.
- Complete traceability: EXC Platform provides high traceability by generating and recording complete logs. Who did what can be fully logged and tracked. This allows you to monitor the entire system and detect fraud.
- High versatility: The EXC Platform architecture is based on ISO/IEC 24643. The functions, concepts, and interfaces of each function of the system are based on international standards, making the system highly versatile and allowing for easy updates and upgrades.

### 5.1.3. ISO/IEC24643 Distributed Real-time Access System

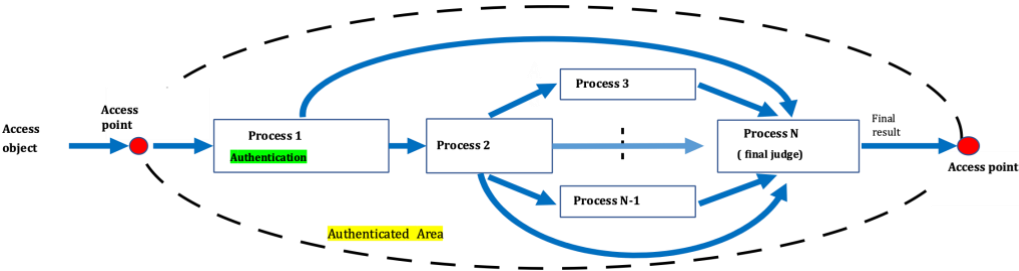


Figure 6 ISO/IEC24643 Inter-operability International Standard for online systems

International Standard to ensure inter-operability between 24hours 365 days online systems was announced on November 23, 2020. This is just after G20 Finance Ministers & Central Bank Governors (FMCBG) meeting in October where ISO 20022 is not enough to ensure the inter-operability of online systems. The G20 FMCBG meeting further pointed out that the cross-border payment systems are too expensive, too slow and not transparent implying SWIFT needs to be upgraded or replaced.

In another words, the ISO/IEC 24643 Distributed Real-time Access System was intended for a trust framework which ensure minimum requirements are met for security, privacy, and identification management. This is contrary to the World Wide Web concept where everyone can access for upload and download without checking their authority for the access.

Above figure illustrates the real time processing is possible by using Access object/device (like a smart phone handset) and the server which is circled in dotted line. By putting all processing functions into the server and the access object is kept online for 24/365, the security, privacy and identification management becomes possible.

ISO/IEC requires the Authentication function as Process 1, as the first process is required to. This should be done by mutual authentication function by checking if the person accessing to the system has the authority to access the database or other functions in the server. Payment systems including SWIFT, card companies and PayPal which had been hacked in the past, do not have the mutual authentication function. Once a system has the mutual authentication function and the KYC function, the protection level of the system achieves the trust framework level.

## **5.2. EXC Platform Architecture**

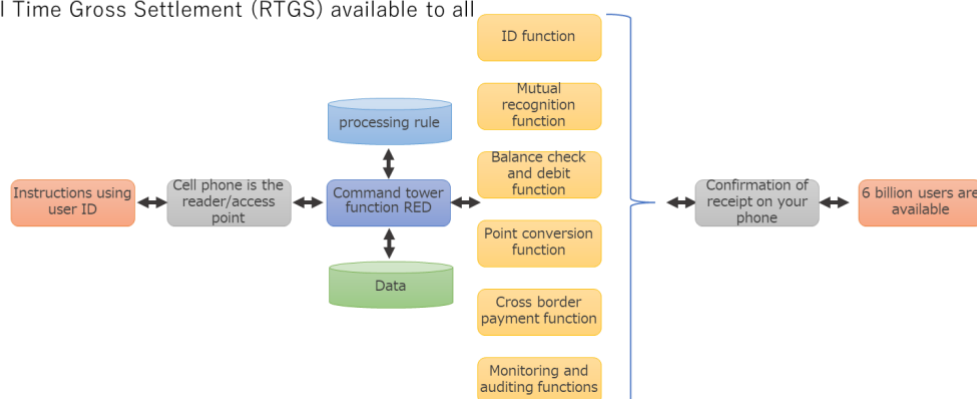
### **5.2.1. Summary**

The EXC platform architecture complies with ISO/IEC24643.

The below illustrates the GVE's instant payment digital platform or CBDC platform. This shows this platform is compliant with the ISO/IEC 24643.

## Advantages of Our EXC Payment Platform following ISO 24643

- Since each function is a module, upgrading of functions can be done at low cost
  - No legacy systems will be left behind, processing time will be shorter, and costs will be lower
  - Solve the problems the mega-payment providers faced
- Multiple pieces of information can be processed simultaneously by the embedded modules
- Over 4 billion units worldwide (Apple and Android based)
- Merchants can reduce card reader costs
- Real Time Gross Settlement (RTGS) available to all



**Figure 7 EXC Platform Design and Architecture Before and After Comparison**

<Unrevealed>

### 5.2.2. Description of 24 modules <Unrevealed>

### 5.3. Development Agenda

In the preparatory survey, Nepalese officials showed strong interest in introducing our EXC platform. As GVE introduces the EXC platform over the next few years, 1. Alignment of requirements required by the Nepalese side, 2. Confirmation of specifications of existing systems developed and provided by a clearing house, 3. Customization of EXC platform for Nepal is expected to occur as three issues.

In implementing the digital payment platform in Nepal, the plan is to implement the platform in phases rather than implementing all features simultaneously.

#### 5.3.1. Requirements Definition

The EXC platform is a system developed to enable the implementation of CBDC in multiple countries. In countries where CBDC is to be implemented, it will be possible to provide payment services by linking the modules of the EXC platform with existing systems and developing additional applications as needed.

There are multiple modules under development, it is necessary to define the requirements of the

necessary modules and discuss the introduction schedule in each country.

In the future, hold discussions with a clearing house and other businesses and government officials and proceed with the definition of requirements for the necessary systems and modules in Nepal and the development and introduction schedule for the realization of CBDC.

### **5.3.2. Confirmation of specifications of existing systems**

For systems such as RTGS provided by a clearing house, since the overall picture of the system configuration and the main functions were only confirmed at the preparatory survey stage, it is necessary to grasp the detailed specifications and proceed with the development of modules and system linkage necessary in the future.

### **5.3.3. Customization for Nepal**

As mentioned above, the EXC platform is not a system that corresponds individually to Nepal. After confirming the system requirements required in Nepal and the specifications of existing systems, customization for Nepal is required.

## **5.4. Development Plan <Unrevealed>**

## **6. Considerations for full-scale investigation and trends of related parties**

### **6.1. Overview**

This section identifies the challenges which will be faced during the implementation of a Central Bank Digital Currency (CBDC) in Nepal, and the manner in which they can be addressed.

The solution involves the integration of GVE's EXC platform into an existing infrastructure, which is currently executing a range of business functions to certain levels of integrity, performance and reliability.

The overall objective of the project is to extend and improve the national banking and transactional frameworks of Nepal, to achieve 100% inclusivity. Accordingly, the provided solution will need to:

1. Execute the current business functionality to the same or better levels of integrity, performance and reliability, and,
2. Extend the current business functionality to newly agreed functionality, operating at newly agreed levels of integrity, performance and reliability.

In this section, the elements of an overall project phasing are identified, and those recommended for execution during the proposed Full-Scale Survey are listed.

### **6.2. Challenges**

#### **6.2.1. Introduction**

As with any international project, the challenges associated with the implementation of a CBDC in Nepal are broadly:

- Organizational,
- Geographical,
- Solution-related

#### **6.2.2. Organizational**

The Nepal CBDC project will require a GVE project team, and a counterpart Client project team, for:

- the exchange of information,
- the resolution of issues as they arise,
- the creation and acceptance of specifications,
- the execution and witnessing of testing, and,
- the commissioning and formal acceptance of the system.

Accordingly, the personnel of the GVE project team are being selected to bring skills in:

- project management,
- business analysis and documentation,
- software development and testing,

- integration and commissioning.

### **6.2.3. Geographical**

The GVE project team is being selected from around the world; in some cases, from individuals who have worked together, previously, on other successful international projects.

These days, communications:

- Internally, within the GVE project team,
- the GVE project team and the Client, and,
- the GVE project team and third-party developers,

can be achieved, globally, via reliable video link, and, locally, via face-to-face meeting.

GVE plans to ensure that there is in-person representation in Nepal at all stages of the project involving the Client; especially, those phases where information gathering, and issue resolution are paramount.

### **6.2.4. Solution-related**

The solution-related challenges, can be summarized as:

1. Understanding the requirements,
2. Creating the solution, and,
3. Integrating the solution into the local infrastructure.

These high-level challenges are met by implementing a phased approach to the project, as described below.

## **6.3. Overall Project Phasing**

### **6.3.1. Introduction**

The high-level solution-related challenges are met by executing a phased approach to the project.

The project, itself, may, actually, involve a number of ‘Stages’; each of which comprises a set of ‘Phases’.

Note that in a multi-staged project, it is quite common for the early phases of a new Stage to overlap the later phases of a previous Stage; for example, Requirements Analysis for the next Stage may be performed in parallel with Commissioning of the prior Stage, especially as the skill sets of the personnel involved are different.

### **6.3.2. Requirements Capture and Analysis**

This activity involves:

Identifying:

1. the functionality which is currently operational, and which needs to be replicated in the new

- solution, and,
2. the new functionality, which is to be added,
  3. Identifying the integrity, performance and reliability levels which are to be achieved across the system,
  4. Identifying any compliance requirements which the system will be obliged to meet.

This phase is normally conducted in the Client's geographic region, and involves:

- Face-to-face discussions with the Client,
- Collection and examination of Client reference documentation,
- Collection and examination of 'compliance' documentation, and,
- Preparation of a Requirements Specification for the relevant Stage of the project, for review and approval by the Client.

### **6.3.3. System Design**

The 'design' of the system is the process, by which:

1. the individual elements of the business functionality to be achieved, are broken down into constituent parts, and their detailed processing steps identified,
2. the hardware and software impacts of the 'performance' objectives of the solution are identified, and,
3. the hardware and software impacts of the 'resilience' (i.e., recovery from component or sub-system failure) objectives of the solution are identified.

A significant element of this phase is the development of 'interface' specifications.

This phase can be conducted in the Client's geographic region, or in the Contractor's geographic region, and involves:

- further discussion with the Client, to elaborate the high-level business requirements,
- preparation of Business Architecture and Technical Architecture documents for the relevant Stage of the project, for review and approval by the Client, and,
- Preparation of an Interface Specification (for the interface between the GVE deliverables and third-party systems).

In the case of the Nepal CBDC project, it is likely that GVE personnel will be working mainly at the Contractor location, with a smaller business-focused representation team at the Client location.

### **6.3.4. System Development**

During the 'development' phase, the Contractor proceeds to implement the design.

This phase is normally conducted in the Contractor's geographic region, and involves:

- the preparation of 'Functional' specifications, based upon the Business Architecture, for each element of the solution,
- the preparation of 'Unit Test' specifications, based upon the 'Functional' specifications, for each

element of the solution,

- the development of the Unit software components,
- the selection and introduction of the production-level hardware elements,
- the repeated execution of the ‘Unit Tests’ as each the software unit matures, and,
- the progressive preparation of ‘System Test’ specifications, based upon the planned interaction of the solution units.

Note that GVE’s generic EXC platform is already well-advanced.

### **6.3.5. Integration Preparation**

During this phase, both Contractor and third-party system providers prepare their systems for interaction.

This phase involves:

- the development (by GVE) of simulators (for use by GVE) which will provide data, in accordance with the Interface Specification, to test the GVE deliverables for throughput (through bulk data submission), and for resilience against faulty data (through prepared ‘bad data’ messages).
- the development (by GVE) of a simulator (for use by third-party system developers) to test third-party systems’ handling of all messages and message responses received back from the GVE system(s). This simulator will allow third-party developers to input specific message data to trigger the full range of responses which the GVE deliverables can provide
- the development of a suite of ‘Integration Tests’ which implement all of the triggers from the simulators; such tests to include transactions representative of both the ‘range’ and the ‘rate’ (i.e., volume per unit-time) of data to be encountered during live operation,
- the planning for ‘integration’ security key management, and ‘live operation’ security key management; including policy decisions on:
  - the location and manner of execution of ‘key ceremonies’ (where security keys are injected into the system’s HSMs), and,
  - the storage of ‘master’ key-parts (the ultimate protection against key compromise),
- the identification of the locations where ‘System Integration’ (the next phase) is to take place, and the preparation of those sites; such preparation including:
  - Computer rooms (appropriately cabled and air-conditioned),
  - Hardware (including Hardware Security Modules (HSMs)),
  - Networks (including firewalls).

The ‘development’ components of this phase are normally conducted in the Contractor’s geographic region; however, the ‘decision and planning’ elements are, most likely, to occur at the Client’s location.



### **6.3.6. Integration Testing**

This phase involves:

- the installation of the GVE and third-party equipment (and its software) identified in the previous phase, at the site(s) identified in the previous phase, and,
- the execution of the Integration Tests.

During this phase, the 'Integration Tests' are enhanced to incorporate tests for all new use cases discovered during Integration Testing, which were not foreseen in the system design.

Successful completion of Integration testing requires that:

- all end-to-end functionality has been proven,
- the 'performance' objectives have been met, and,
- the 'resilience' objectives (including fail-over to a Disaster Recovery site and fail-back to the primary site) have been met.

It is common for Client representatives to be present at such testing for the purpose of formal 'acceptance'.

A further element of Integration Testing is 'Certification'; which involves the execution of tests, provided by any authority which has 'compliance' requirements, which the system is obliged to meet.

Such tests may be required to be:

- witnessed by a representative of the Certifying Authority, and/or,
- performed in the Certifying Authority's test laboratories.
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### **6.3.7. Commissioning**

The 'Commissioning' phase will be required if the Integration Testing environment and/or equipment, is different from the 'production' environment.

During Commissioning:

- All hardware and infrastructure are established in its 'production' environment, and,
- Integration tests are repeated.

Successful completion of Commissioning requires the same success as was achieved in the successful completion of Integration Testing.

### **6.3.8. Parallel Running**

During 'Parallel Running', the live data feeds from third-party infrastructures are directed to both:

- the system being replaced/upgraded, and,
- the new Stage of the GVE system.

The Parallel Running phase requires both Client and Contractor teams to provide analysts capable of analyzing the reports which are produced by both systems and ensuring that there is no loss of integrity from the new system.

### **6.3.9. Live Operation**

Once the objectives of ‘Parallel Running’ have been achieved, then, ideally, the ‘Live Operation’ phase of the system commences by simply switching off the data feeds to the old system.

‘Going Live’ should be an anti-climax (i.e., there should be no surprises), in that:

- everything has already been tested,
- the integrity, performance and resilience of the new system have been proven, and,
- the new system has been in ‘de facto’ operation since the point in Parallel Running where no issues remained to be resolved.

### **6.4. Full-Scale Survey**

This section discusses the next Stage in moving towards ‘Project Kick-off’.

At this point in time, an MoU has been signed, and a Preparatory survey completed.

The next Stage is the conduct of a Full-Scale Survey, in which the following objectives are to be met:

- Confirm the scope and expected duration of Phase 1 of the Nepal CBDC project,
- Establish the success criteria for Phase 1,
- Identify the existing business systems (and their suppliers) which are currently operating, which are relevant to Phase 1,
- Discover and document the functionality provided by these systems,
- Identify all new business functionality to be introduced in Phase 1,
- Identify and document the interfaces which third-party systems currently use, which will need to be duplicated or upgraded in order to [a] incorporate the new functionality, [b] interface with the new EXC platform, and [c] achieve the required ‘performance’ and ‘resilience’ objectives of Phase 1.