



Study of Growth Potential and Labour Resource Requirement for Economic Recovery in Industrial Corridors

Madhesh Province
August 2022



In collaboration with





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Acronyms

CBS	Central Bureau of Statistics
CCMC	COVID-19 Crisis Management Centre (CCMC)
DoFE	Department of Foreign Employment, Nepal
FDI	Foreign Direct Investment
FY	Fiscal Year
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GNI	Gross National Income
GoN	Government of Nepal
GVA	Gross Value Addition
HACCP	Hazard Analysis and Critical Control Points)
Ha	Hectare
ICT	Information and Communications Technology
ILO	International Labour Organization
IOM	International Organization for Migration
LGOA	Local Governance Operations Act
MoF	Ministry of Finance
MoFA	Ministry of Foreign Affairs
MoU	Memorandum of Understanding
MoLESS	Ministry of Labour, Employment and Social Security
MSME	Micro, Small and Medium Enterprises
NLFS	Nepal Labour Force Survey
NPR	Nepalese Rupees
NRB	Nepal Rastra Bank
SDG	Sustainable Development Goals
SEP/ सीप	Skills for Employment Program
SEZ	Special Economic Zones
USD	United States Dollar

Executive Summary

The COVID-19 pandemic has severely impacted global economies. After rebounding to an estimated 5.5% in 2021, World Bank's baseline forecast envisions a 4.1% contraction of global GDP in 2022—reflecting continued COVID-19 flare-ups, diminished fiscal support, and lingering supply bottlenecks. Global growth is projected to decline further to 3.2% in 2023. Growth in South Asian economies is projected to accelerate to 7.6% in 2022, with a forecasted economic contraction in 2023. In Nepal, a total of 979,000+ Covid-19 cases have been reported with 11,900+ deaths, as of April 2022. The lockdown, border closures, and resulting lack of demand have slowed the economy - it is estimated that COVID-19 will create a loss of NPR 200 billion¹ to the economy and an estimated 1.1 to 3.7 million job losses to the formal economy. This does not account for more than 80% of the economically active population currently engaged in the informal sector². The economic growth rate of all provinces except Karnali and Far West province was negative in the fiscal year 2019/20 due to the pandemic whereas the growth rate of rest of the provinces was estimated to be higher than 3.5% in the fiscal year 2020/21. The continued risks of newer Covid-19 waves and higher-than-projected inflation rates have made the goal of achieving the provincial estimated growth targets of the current fiscal year more challenging.

This report focuses on Madhesh Province as it contributes 13.2% to the Gross Domestic Product of Nepal with estimated economic growth rate of 4.82%³. With a gradual resumption of international tourism, real GDP is projected to grow in the year 2022. Though it has been nearly five years since the formation of provincial governments, Madhesh province is still in the early stages of fulfilling their full mandates. Key tenets of fiscal federalism have been institutionalized, as fiscal transfers, revenue sharing, and public financial management are being practiced in the province.

At this early stage, Madhesh Province's opportunity lies in the development of infrastructure and export promotion. Leveraging global markets for locally-produced goods can aid the growth of Madhesh Province by boosting exports in all major industries, with the help a special economic zone (SEZ), industry parks, and special export promotion areas. To sustain and accelerate the sector specific growth, enabling environment and firm level intervention are required in the province. Thus, this report provides a comparative study of provincial planning, budgeting and public financial management systems in Madhesh province. Strategic analysis is also conducted to gauge the labour resource requirement across the priority sectors i.e., Agriculture, Manufacturing/Construction, ICT, and Tourism.

This study also analyses and consolidates presentation of key gaps, challenges (borne out of COVID-19 and otherwise), growth potential areas, and job creation potential in Agriculture, Manufacturing, Construction, ICT and Tourism sectors of Madhesh province. Priority has been placed on conducting a comparative analysis of both existing and emerging economic corridors in the province. The analysis was conducted via a combination of desk research and Key Informant Interviews (KIIs) across all sectors. The desk research entailed extracting relevant and up-to-date information and data from publicly available reports from key private and public stakeholders (e.g. Ministry of Finance's Economic Survey 2020/21, Nepal Rastra Bank reports, Confederation of Nepalese Industries reports, and development programmes/donor reports) to assess and understand the present context and future direction of sectors. The desk research was subsequently complemented by KIIs with key stakeholders from each sector, including with cross-cutting stakeholders, to validate the findings from the desk research.

Insights from the report will continue to guide the thinking on strategic direction, operations, and partnerships—existing and planned—with key counterparts in the federal- and provincial-governments and private sector including gauging future labour resource requirements across the priority. These will also feed into the deliberations around provincial development plans and budgeting exercises that are underway at the national and federal level.

¹ <https://www.reuters.com/article/health-coronavirus-nepal-economy-idUSL4N2DH1B1>

² https://www.ilo.org/wcmsp5/groups/public/@asia/@ro-bangkok/@ilo-kathmandu/documents/publication/wcms_113778.pdf

³ http://pc.p2.gov.np/public/images/contents/1612443281_1.pdf

1. Objectives of the Report

The analysis was conducted via a combination of desk research and Key Informant Interviews (KIIs) across all sectors. The following points summarize the overarching objective of this report:

- Review the macroeconomic figures and its underlying relationship with the structural economic transformation of Madhesh province
- Analysis of key gaps, challenges (borne out of COVID-19 and otherwise), growth potential areas, and job creation potential in Agriculture, Manufacturing, Construction, ICT and Tourism sectors
- Evaluate market accessibility in special economic zones with an emphasis on labour resource requirement across economic corridors
- Comparative analysis of the provincial plans and budgets to identify competitive and comparative advantage, with a focus on export promotion and import substitution
- Frame a vision for the growth of the province with insights from other successful models (such as China, India, Vietnam, and Bangladesh)
- Devise strategies for sector specific growth with enabling environment interventions and firm level interventions

2. Overview of the Current Situation

2.1 Macro-economic Analysis: Global Context

The impact of the COVID-19 pandemic has severely impacted global economies. After rebounding to an estimated 5.5% in 2021, World Bank's baseline forecast envisions⁴ a 4.1% contraction of global GDP in 2022—reflecting continued COVID-19 flare-ups, diminished fiscal support, and lingering supply bottlenecks. Global growth is projected to decline further to 3.2% in 2023. Growth in South Asian economies is projected to accelerate to 7.6% in 2022, with a forecast economic contraction in 2023. Even if the output rebounded in advanced economies and many middle-income countries, income in emerging market and developing economies (EMDEs) is expected to stay significantly below the pre-pandemic trend. Various bottlenecks, such as new variant COVID-19 outbreaks, heightened inflationary pressures, spillovers from prospective advanced-economy monetary tightening, and financial stress in the setting of record-high debt levels, showcase the global picture.

In Nepal, a total of 979,000+ Covid-19 cases have been reported with 11,900+ deaths, as of April 2022. The lockdown, border closures, and resulting lack of demand have slowed the economy - it is estimated that COVID-19 will create a loss of NPR 200 billion to the economy and an estimated 1.1 to 3.7 million job losses to the formal economy. This does not account for more than 80% of the economically active population currently engaged in the informal sector. The economic growth rate of all provinces except Karnali and Far West province was negative in the fiscal year 2019/20 due to the Covid-19 pandemic whereas the growth rate of all provinces is expected to be higher than 3.5% in the fiscal year 2020/21. The rapidly spreading second wave of Covid-19 in recent times has made the goal of achieving the provincial estimated growth targets of the current fiscal year more challenging.

2.2 Macroeconomic Status of Madhesh Province

Madhesh Province (see Figure 1) was formed after the adoption of the Constitution of Nepal (2015) and is formed by eight districts: Saptari, Siraha, Dhanusha, Mathottari, Sarlahi, Rautahat, Bara and Parsa. With an estimated area of 9,661 km square and a population in excess of 6.1 million⁵ in 2021, Madhesh Province is the most densely populated in the country. Its provisional capital city is the sub- metropolitan city of Janakpur (159,468 inhabitants) while Birgunj is its largest city, with 240,922 inhabitants.

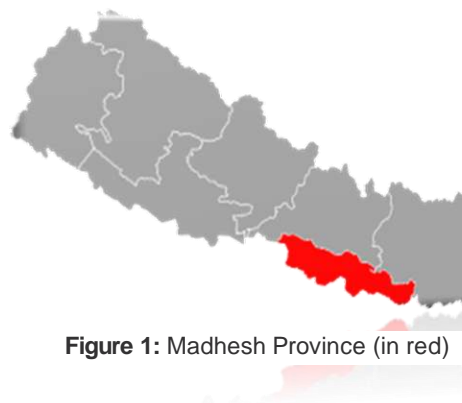


Figure 1: Madhesh Province (in red)

⁴<https://www.worldbank.org/en/news/press-release/2022/01/11/global-recovery-economics-debt-commodity-inequality>

⁵ <https://censusnepal.cbs.gov.np/Home/Index/EN>

This province has a strong economic foundation due to its fertile land and industrial base, presence of tangible and intangible cultural heritage and natural resources for tourism, as well as a large labor force and thriving SME community in the country's most densely populated region. It is one of the top three agriculture and industrial hubs in Nepal with the largest irrigated area (393,582 hectares) and highest proportion (74%) of irrigated land, and largest number of industries (501). Although the province has the greatest GDP production per province in manufacturing (34%) and fisheries (55%), income per capita (Purchasing Power Parity \$922) is disproportionately low, and disparities across districts show that the economic advantages of high output and Gross Value Addition are concentrated and not evenly dispersed. Madhesh province's comparative economic and tourist advantage is reinforced by its strategic location along the Indian border, the Birgunj Dry Port, the projected international airport in Nijgadh, and the Kathmandu – Terai fast track.

This might sustain large-scale agricultural and industrial outputs if occupations are diversified and improved mechanisms for income transfer are implemented. Economic development in the three key sectors should prioritize inclusive growth by a) expanding innovative industrial production by identifying economic proximate sectors (through technological transfer); b) improving agricultural productivity through smart agriculture (i.e., upskilling and focusing on efficient irrigation); and c) focusing on alternative forms of tourism that engage communities and villages. Madhesh province's connectivity and strategic location are important in establishing the province as a 'natural zone,' with a homogeneous economic potential centered in two primary nodal centers on strategic axes, supported by surrounding productive areas. There is a lot of opportunity for intermodal expansion with satisfactory progress in the power, water supply, and ICT.

The following table shows the gross value added by various sectors in the province:

Industrial Classification	Madhesh Province		
	2018/19	2019/20	2020/21
Agriculture, forestry and fishing	164,492	180,152	191,909
Mining and quarrying	3,134	2,923	3,079
Manufacturing	27,311	24,733	26,829
Electricity, gas, steam and air conditioning supply	2,034	2,480	2,744
Water supply; sewerage, waste management and remediation activities	3,742	3,818	3,886
Construction	23,178	20,345	21,053
Wholesale and retail trade; repair of motor vehicles and motorcycles	66,579	63,406	71,393
Transportation and storage	27,830	23,086	26,136
Accommodation and food service activities	3,623	2,407	27,86
Information and communication	12,571	13,087	13,738
Financial and insurance activities	13,395	15,714	17,165
Real estate activities	12,432	13,328	14,802
Professional, scientific and technical activities	1,769	1,905	21,48
Administrative and support service activities	1,745	1,863	1,946
Public administration and defence; compulsory social security	31,284	39,520	41,146
Education	41,428	47,450	49,468
Human health and social work activities	6,242	7,566	8,107
Arts, entertainment and recreation; Other service activities; and Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	1,756	2,092	2,241
Gross Domestic Product (GDP) at basic prices	444,546	465,873	500,575

Table 1: Gross value added⁶ by various sectors (in NRs. Million)

Agriculture, forestry, and fishing contribute the highest in the Gross Value Addition of the Province (Table 1). The contribution made by Wholesale and Retail Trade, Transport and Storage and Financial Services has also increased over the last three years. The following figure provides a snapshot of the composition of the annual GDP in Madhesh Province:

Index: AFF: Agriculture, forestry, and fishing, MQ: Mining and Quarrying, E & E: Electricity and Energy, WG: Water and other remediation activities, T & S: Transportation & Storage, A&F: Accommodation & food services, I & C: Information and Communication, FA: Financial Activities, REA: Real estate activities, PST: Professional, Scientific and Technical Activities, AS: Administrative and support service activities, PAD: Public Administration and Defense, Edu: Education, HHS: Human Health and Social Work Activities, AE: Arts, & Entertainment, etc.

Composition of Annual Gross Domestic Product: Madhesh Province

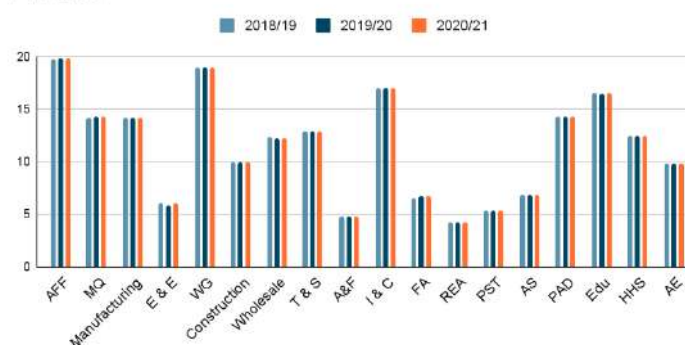


Figure 2: Composition of Annual Gross Domestic Product by Madhesh Province (in %)

According to Economic Survey (2020/21)⁷, this Province contributes 14% to the national GDP. Approximately, there are 534 commercial banks, 78 development banks, 34 finance companies, and 928 Microfinance companies in this province. Similarly, there are 263 life insurance and 123 non-life insurance companies and their branches in the province. As of mid-march, of fiscal year 2020/21, of the total industries approved for foreign direct investment, 85 were small industries, 36 were medium industries and 41 were large industries in Madhesh Province.

The following figure shows the economic growth rate⁸ of Madhesh province:

Based on the policy of establishing industrial villages at all local levels, proposals for the establishment of 45 industrial villages were approved in the fiscal year 2019/20. As of March 13 of the fiscal year

⁶ DoFE Annual Migration Report

⁷ [https://www.mof.gov.np/uploads/document/file/1633341980_Economic%20Survey%20\(English\)%202020-21.pdf](https://www.mof.gov.np/uploads/document/file/1633341980_Economic%20Survey%20(English)%202020-21.pdf)

⁸ <https://cbs.gov.np/province-statistics/>

2020/21, 29 industrial villages have been established and 74 are in process of approval. Of the total industrial villages declared during the mid-March of the fiscal year 2020/21, 6 proposals are from Madhesh province. Access to electricity has reached 99.05% in 2020/2021 from 79.77% in the fiscal year 2018/2019. Likewise, the distribution of schools in Madhesh province is 11.7%, and the school enrollment rate has reached 74.7%.

The following table shows Social and Economic Indicators⁹ for Madhesh Province:

Administrative and Demographic Situation	
Local Levels (in Numbers)	136
Population (in %)	20.4
Area (in %)	6.6
Economic and Social Sector	
Economic Growth Rate (Basic Price) in %	3.52
Province-wise Contribution to GVA (%)	13.2
Registration of Industry (in Numbers)	564
Small and Cottage Industries (in Numbers)	66,654
Investment in Industry (Rs. in Billion)	119
Hydroelectricity Generation (in MW)	13
Local Road Network (in KM)	5,965
Number of Schools	4,164
Financial Sector	
Number of Banks and Financial Institutions	1,574
Population Per Branch	4,035

Table 2: Socio-Economic Indicators for Madhesh Province

As reflected in Table 3, the unemployment rate was high in Madhesh province at 20.1%. Gender differences were evident as the unemployment rate was higher among females than among males. The labour force participation rate and employment-to-population ratio was higher among males than among females.

Key Labour Market Indicators: Madhesh Province						
	Working Population	Age	Employed	Unemployed	Not in the labour force	Labour Force
Total	3973		1261	317	2395	1578
Male	1785		857	155	773	1012
Female	2188		404	162	1622	566

Table 3: Key Labour Market Indicators: Madhesh Province

⁹ Economic Survey 2020/2021

In terms of migration context, from the period from 2008 to 2017, Madhesh sent the second highest number of migrant workers from the country for foreign employment (24% of total labour migrants) with five of the top ten sending districts of Nepal's 77 districts located in Madhesh Province (Dhanusa, Mahottari, Siraha, Saptari, Sarlahi). A significant trend- increase of labour migration from Bara, Parsa and Rautahat is also evident in the data50. The Gulf Countries and Malaysia account for 85% of the 3.5 million labour permits issued from 2008 to15 the majority of the migrant from Madhesh province headed to GCC countries, Malaysia, and India. Even if there are other emerging migration corridors for Nepali migrants such as Jordan, Mauritius, Maldives, etc., migration flow from this province in high or medium skilled occupations is very low. Reforms including skills training and financial literacy expansion are required to reverse the trend of migration in this province.

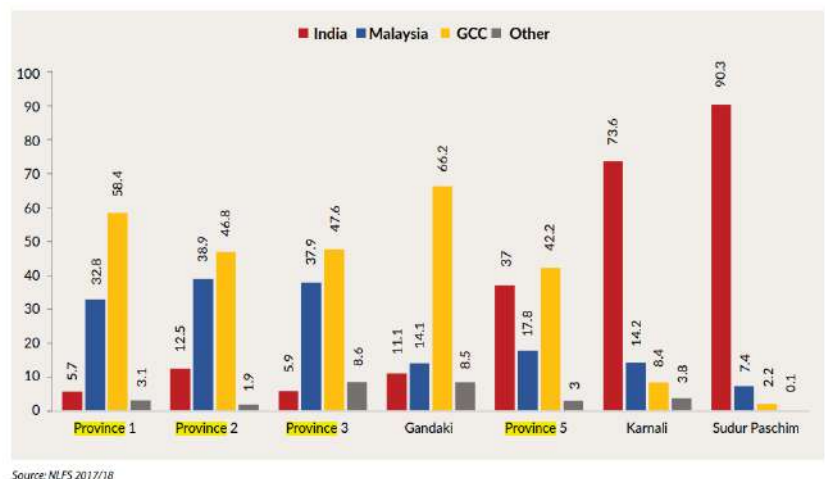


Figure 3: Last migration destination of returnees by Province (in percentage%)

Figure 4 shows the district wise labour permits, total with re-entry in 2020/2021. With re-entry, Dhanusha, Mahottari, and Siraha received the highest number of labour permits in 2020/2021 in Madhesh Province. From the total labour permits issues without reentry, major migrant flows took place from Dhanusha, Mahottari, Siraha and Sarlahi followed by Dang, Rupandehi, Rolpa, Kapilvastu, and Banke.

As many migrants have shown interest in going to destination countries from Madhesh province, it is important to renew the focus and plan strategies for the “upskilling” Nepali migrant workers. Unskilled workers are inherently more vulnerable to difficult working conditions and exploitation. Skilled or semi-skilled work would also increase the potential amount of remittances from any stint working abroad. The Nepal Planning Commission's 15th Plan Approach Paper aims to increase number of workers who are trained in the technical and vocational sectors from 25 per cent to 60 per cent. It is also essential to maximise the potential contribution of returning female migrants. Nepali women are returning from overseas work with additional skills, resources and abilities which, in general terms, are not being properly recognized or utilized. This demographic could make a significant contribution to Madhesh province’s development and some consideration and planning needs to be devised to benefit from this.

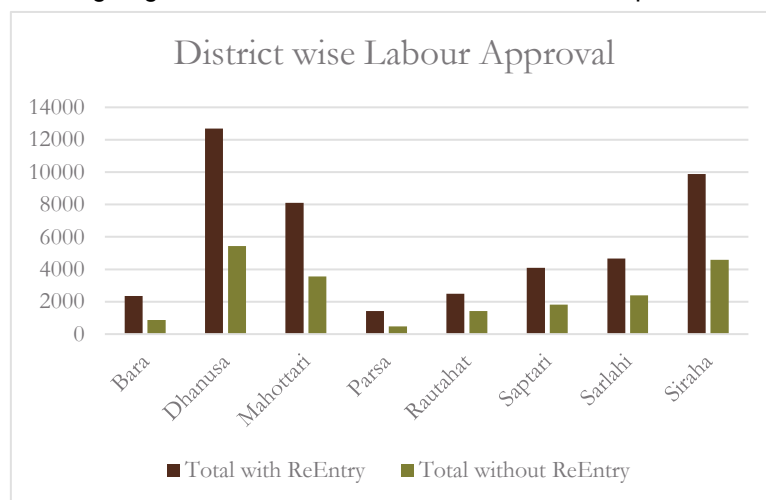


Figure 4: District wise labour approval: Madhesh Province

3. Structural Economic Transformation

After the provincial governments were formed in the last quarter of 2017/18, the federal government transferred nominal fiscal equalization grants to each province, totaling NPR 7.14 billion for all seven provinces. In 2018/19 and 2019/20, the provinces received NPR 50.3 billion and NPR 55.3 billion in fiscal equalization grants respectively. In 2020/21, the provinces were provided with a fiscal equalization grant of NPR 55.2 billion. In the last three fiscal years, provinces received over a third of

the total fiscal equalization grants transferred to sub-federal governments. Fiscal equalization for Madhesh Province was NPR 1.02 billion in 2017/2018, NPR 7 billion in 2018/2019, NPR 7.1 billion in 2019/2020 and NPR 7 billion in 2020/2021. The total budget for Madhesh province in 2019/20 was NPR 38.7 billion with NPR 1.3 billion as budget deficit. In 2020/2021, the province had the budget of NPR 33.6 billion with budget deficit of 1 billion.

In terms of Gender-Responsive Budgeting in Madhesh Province for the year 2020/21, 40.06 % are direct gender-responsive budgets, 28.1 % are indirect gender-responsive budget and 31.84% are gender-neutral budget. In the year 2020/2021, transfers from the provincial government to the local government of Madhesh province include total fiscal equalization grant of NPR 1 billion, a conditional grant of NPR 1.1 billion, a special grant of NPR 0.8 billion, a complementary grant of NPR 0.3 billion, and total Grant of NPR 3.3 billion.

All the provinces have enacted their Province Financial Procedures Act which provide the legal basis for public spending, financial reporting, and accountability. They have also introduced their Provincial Intergovernmental Fiscal Transfer Act and Revenue Sharing Act. As of December 2020, provinces have altogether enacted 333 laws (Shah et al., 2021, Feb 4), including in the areas of security, governance, economic development, social development, and infrastructure development.

Provincial Planning Commissions (PPCs) are responsible for formulating provincial plans and development policies and facilitating their implementation. They identify the resources required for economic activities in their respective provinces and guide the overall development of the provinces. In other words, PPCs perform a similar function in the provinces as that of the NPCs for the federal government. They are also responsible for monitoring and evaluating the programs and activities, and reporting to provincial governments. PPCs are chaired by the Chief Minister of the province and have provisions for the vice-chairpersons and members to be appointed by their respective provincial governments.

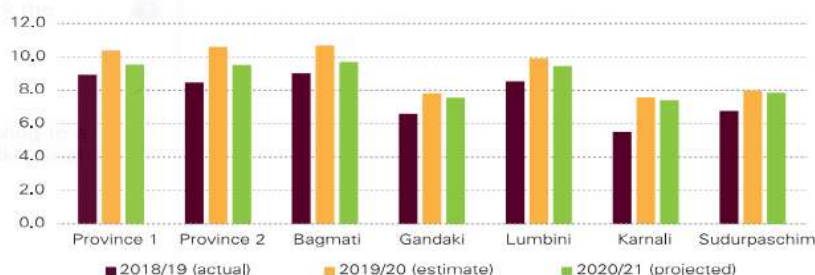


Figure 5: Revenue-sharing to sub federal levels

All seven provinces have formed their own planning institutions, some as PPCs (Province 1, Lumbini, Karnali) and others (Madhesh Province, Bagmati, Gandaki, Sudurpaschim) as Province Policy and Planning Commissions (PPPCs). Article 60 of the Constitution states that the GoN will make necessary arrangements to equitably distribute the revenue it generates from all its sources between the federal, provincial, and local levels as per the recommendations of the National Natural Resources and Fiscal Commission (NNRFC) and that revenue-sharing will be done in a “balanced and transparent” manner. Figure 6 above shows the revenue-sharing to the sub-federal level in NPR billion.

Nepal’s long-term vision, mission, and strategies for socio-economic development are embedded in its national development plan. The fifteenth national development plan has adopted the development motto of “Prosperous Nepal; Happy Nepali”. Milestones of the national plan’s long-term vision for Nepal are to graduate from the group of least developed countries by 2022, become a middle-income country by 2030, and a high-income country by 2043 (2100 B.S.). All the periodic, sectoral, and spatial plans of all three levels of government are guided by this vision. In addition to this, the national development plan is based on the perspective of sectoral plans and the implementation of the Sustainable Development Goals (SDGs). In their provincial development plans, provincial governments have embraced socio-economic development as their primary objective in alignment with the fifteenth national development plan. Provincial plans have tried to align their priorities, strategies, and targets with the national periodic plan while considering their own needs and potential. Strategies for increasing production, employment, and sustainable development in the provinces go hand in hand with federal planning strategies.

Provincial plans show considerable linkages with the longer-term vision of the GoN. Aligning with the national development plan, all seven provinces have increased expectations of private sector investment. Estimates of investments from the cooperative sector in the provinces range from 3.4 per cent to 5.8 per cent.

The following table shows the economic targets and sectoral contribution in provincial plans for Madhesh province:

Category	Contribution
Average Rate of Economic Growth (%) (NPR Trillion)	9
Projected Investment (NPR Trillion)	1.15
Sectoral Contribution to Total Investment (%)	
Public	38
Private	58
Cooperative	4
Community	-

Table 4: Economic Targets and Sectoral Contribution¹⁰ in Provincial Plans: Madhesh Province

As depicted by Figure 6, the primary source of provincial budget in Madhesh Province is internal revenue followed grant, revenue sharing, and cash balance.

Sources of provincial revenue

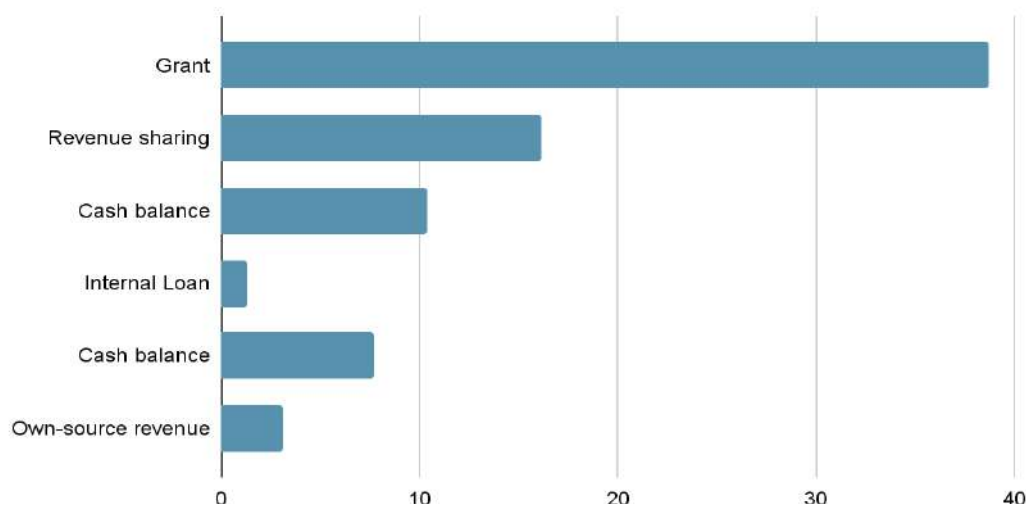


Figure 6: Sources of provincial budget, 2020/2021

According to NLFS¹¹, within the formal sector, 3,000 (0.2%) are employed in agriculture, and 270,000 (21.4%) are employed in non-agriculture of Madhesh Province. In the informal sector, 447,000 (35.4%) are employed in agriculture, and 526,000 (41.7%) are employed in non-agriculture. Formal employment in Madhesh Province stands at 8.1% while informal employment stands at 91.9%. For 756,000 approximate employees, the median monthly earnings for the bottom 5% is NPR 5,000, bottom 10% is NPR 6500, the median is NPR 14,000, top 25% is 18,250, top 10% is NPR 24,333 and top 5% is NPR 30,000.

Key priority areas laid out by the provincial government in Madhesh Province are as follows:

1. COVID-19 control initiatives have been incorporated in the provincial government's plans, as well as 'Beti Bachao, Beti Padhao (Save daughter, Teach daughter),' and 'Where there is road, there is development, and constituency development. The key emphasis is placed on improvements in living standards through high economic growth, including expansion of

¹⁰ Compiled from NPC (2020) and provincial periodic plans

¹¹ https://cbs.gov.np/wp-content/uploads/2019/04/NLFS-III_Final-Report.pdf

- physical infrastructure, increase in the production budget, development of infrastructure, manpower, and capacity in the health sector, and increased public access to health services.
2. On the health front, the province has prioritized the setup of a new hospital by adding health workers, building health infrastructures, establishing COVID emergency centers and regular transit with India, expanding the provincial hospital's capacity to 500 beds, and providing health insurance to health workers.
 3. The government hopes to transform Janakpur into an education hub by establishing one library in each district and one technical school in each state constituency in the upcoming FY.
 4. The government is launching the Chief Minister's Youth Employment Enterprise Development Program for COVID-affected youth with the support of UKaid SEP. Agricultural insurance, agricultural electrification, agricultural irrigation, and tax exemption for midsize agro-industries will also be provided.
 5. The provincial government has focused on uplifting disadvantaged groups. It has also laid out scholarships and ration cards, hostels, and senior citizen housing program for the underserved communities under the current plans and policies. Focus is placed on the development of agriculture, industry, infrastructure, and human resource.
 6. In the context of the COVID-19 pandemic, priority is placed on harmonized health services including a suite of health facility assessment tools to support rapid and accurate assessments of the current, surge, and future capacities of health facilities throughout the different phases of the COVID-19 pandemic. Health service workers are encouraged to work in less-developed areas.
 7. On the education front, vocational, technical and skill-based education is being emphasized along with curriculum development, and formulation of provincial education policy.

Overall, the goals and programs of Madhesh Province are aimed at the revival of the economy that has been crippled by the COVID-19 pandemic. These goals must be led with competent implementation and monitoring, particularly at a time when most Nepali citizens and businesses are dissatisfied with the government's sluggish approach to economic management.

In 2021/2022, Madhesh Province presented a budget of NPR 33.79 billion. Out of the total allocation, NPR 15.63 billion has been set aside for recurrent expenditure and NPR 18.58 billion for capital expenditure. The budget has given priority to the protection of the lives of the citizens through prevention, control, and treatment of coronavirus infection. NPR 200 million has been allocated for the purchase of essential medicines, kits and other health items for Covid-19 prevention and control. NPR 120 million has been allocated for the purchase of 35 dialysis machines for kidney patients, NPR 20 million for scholarships tailored towards families of martyrs and deprived or poor people, NPR 35 million to promote the one school one nurse programme. NPR 80 million has been allocated for the employment of poor families and NPR 150 million for youth self-employment programmes. The province has allocated NPR. 80 million for the conservation of the Chure area. Overall, the goals and programs of Madhesh Province are aimed at the revival of the economy that has been crippled by the COVID-19 pandemic. These goals must be led with competent implementation and monitoring, particularly at a time when most Nepali citizens and businesses are dissatisfied with the government's sluggish approach to economic management.

The Provincial Government of Madhesh Province has identified key sectors for structural transformation of the provincial economy and job creation. These include: i) tourism, ii) ICT, iii) agro-processing, iv) construction/infrastructure and v) light manufacturing. It has aimed to propel growth in these selected priority sectors through expanded access to employment, quality skills training, and investments in skilling infrastructure. The Provincial Government has also sought to harness the benefits of migration for the provincial workforce and economic development by demonstrating a number of cost-effective models to increase migrants' skills; lower financing and other costs of traveling abroad; and, increase savings and investment of remittances.

Madhesh province has formed its planning institutions and started formulating its own periodic plans with Province Planning Commission. Budgetary rules, priorities, and schedules have been adopted by prioritizing the provincial projects and programs. In theory and objectives, there is coherence between federal and provincial plans and budgets. The province has followed the federal approach in developing and implementing budgets and programs while matching its periodic plans and approach papers with the national development plan's objectives and tactics. Madhesh Province has also begun to carry out large-scale initiatives on its own, primarily in the area of physical infrastructure development.

However, the provincial plans made for Madhesh province would benefit from transformational policies and programs, rather than resemble national plans with the vision for quick transformation to increase economic growth and job prospects. Participatory planning is also weak with the lack of a step-wise bottom-up process incorporating all stakeholders with local bodies formulating process with discussions in settlements, wards, village/municipal councils, service areas, and district councils. Budgeted programs are performed without adequate planning and have failed to produce substantial returns. Inter-agency collaboration is ineffective, resulting in difficulty in implementing programs and obtaining results. There are no links between the SDGs and provincial programs. Despite the fact that most provinces' provincial plans list the SDGs as one of their priorities, provincial plan documents of Madhesh Province have not broken down the SDGs into provincial targets and indicators in provincial plans.

4. Economic Growth Corridors/Districts in the Province

Given the strategic location of Madhesh Province, accelerated industrialization can be promoted in different corridors by facilitating trade with market accessibility in special economic zones. The province is a 'natural region' with homogeneous economic potential concentrated in two main nodal centres located on strategic axes and supported by surrounding productive areas. There is high potential for inter-modal development and relatively good electrification, water access, and ICT.

4.1 Existing Growth Corridors/Industrial Districts

4.1.1 Bara-Parsa Industrial Corridor

The Bara-Parsa region has become an industrial hub with 3,500 large, medium and small-scale industries—50 to 100 industries added every year. After the inception of the Birgunj Sugar Factory and Agricultural Tools Factory, around six decades ago, other industries were established in the Birgunj-Pathlaiya Industrial Area and Birgunj-Kalaiya Road. Their massive industrialization has decreased the number of residential areas with increasing number of industries taking over the empty spaces including cultivable land in the corridor.

Major industries in this region are flour, oil, rice, biscuits, vegetable ghee, textiles, medicines, and beverages. Industries including cement, poles, concrete, glass, and aluminum are also under operation. Large industries, including Surya Nepal; Jaya Spinning Mills; Triveni Spinning Mills; Dabur Nepal; Britannia; Nepal Cable; Hulas Steels; Jagdamba Steels; Hama Iron; Saakha Steel; Ashok Steel; and Shalimar Cement are located in the province, including the Bara-Parsa Industrial Corridor. Patanjali Industries, Narayani Plastic Industries, and Reliance Sugar Industries are also present. Other industries include lubricants and plastics with emerging industries in Pathlaiya-Birgunj, Kalaiya-Birgunj, and Kalaiya-Piluwa Road.

The Patanjali Industry, established two years ago at Parwanipur with an investment of Rs 1.5 billion, in the construction of Britannia and Kalaiya-Birgunj Road sections, has further increased the industrial attraction in the region. As such, around 500,000 people from Madhesh province and other parts of the Nepal and India have received employment opportunities from this massive expansion of industries.

4.1.2 Dry Port

The Birgunj Inland Container Depot (ICD) which is also known as Dry Port, is located in the Parsa district of Madhesh Province. The nearest city, Birgunj, is at a distance of 8 km from the dry port, and the nearest airport in Simara is 23.4 km away. The Integrated Check Post (ICP) is located next to the ICD on the Nepal-India border.

The Birgunj ICD is connected by road and train to seaports in India and it also operates as a centre for transshipping and importing cargo to inland destinations across Nepal. The Dry Port of Birgunj is the only dry port in Nepal that is connected to Indian seaports in Kolkata and Vishakhapatnam by railways via Raxaul in India.

The Birgunj ICD had been constructed over 38 hectares of land, with a capacity to store up to 1,568 Twenty-Foot Equivalent Unit (TEU). The port also has six full-rake railway sidings. It facilitates the movement of over 20,000 TEU containers and breakbulk cargo annually. The ICD has two warehouses, a 7,000 sq.m container freight station shed and a 10,000 sq.m goods shed is divided into a 300 metre long walled section and a 400 metre long unwalled section.

4.1.3 Integrated Check Post (ICP)

The ICP Birgunj was inaugurated on 7 April 2018. Even though it is relatively new, Birgunj ICP is currently handling 70 % of the commerce passing through the Birgunj customs point. The ICP, which is spread across 29 hectares, has only two warehouses, 1374 square meter on the import side and a 692 square meter on the export side. Based on the first six months report of 2020/21, Birgunj Customs contributes the largest to the tax collection in the country.

An addition at the Birgunj ICD is the Integrated Check Post (ICP) to facilitate the customs clearance activities. The purpose of the ICP is to integrate efficient customs clearance processes at the authorized border crossing points to facilitate the clearance of cargo, and staff supporting the trade activities, between Nepal and India. The ICP is connected to the Indian border by road and it facilitates the integration of efficient customs clearance processes and cargo clearance.

4.1.4 Gajendra Narayan Singh Industrial District

Extended over an area of around 15 hectares, the industrial estate in the Saptari district is named after a national leader from Terai Late Gajendra Narayan Singh. Some of the notable infrastructure, built with India's support, are developed lands, boundary walls, electricity distribution network, drainage system, industrial sheds, and warehouse.

This estate was developed in 1986 A.D. with the objectives of encouraging investment in agro-based industries and targeting the export market of India. The investment made the private sector in this industrial district is more than 3.5 crores, while the investment made by the government sector investment is 4.86 crores.

This industrial estate currently houses only four industries and only two of them are in operation. The rest of the sheds, buildings, and large tract of the industrial estate have remained unutilized. The boundary wall has deteriorated due to lack of repair and maintenance rendering the place suitable for cattle rearing.

4.1.5 Special Economic Zone (SEZ)

Special Economic Zone (SEZ) has been established in Simara with A, B, C, D, and E blocks spread over 833 bighas facilitated by internal roads, water, electricity, security, weighbridges, banks, customs, insurance, administrative buildings, and other physical infrastructures.

SEZs serve as the Export Processing Zone with the objective of developing the competitive capacity of export-oriented goods and services in the international market. The primary aim of this initiative is to attract Foreign Direct Investment (FDI), and bring domestic & foreign capital along with advanced state-of-the-art technology in the province. At present, there are 68 plots in A block and proposals have been received for nine industries in 27 plots including soybean drink, oil, palm oil, metal products, plastic processing and lead with an investment of around NPR 2.5 billion. Public inquiry has also been published for the remaining 41 plots.

The infrastructure and production capacity of SEZ do not support export in the first and second year. From the third year, 20% is estimated to be the exported from this zone. In the fifth year, the industry will have the capacity of expanding 60% of its production. Industries located in SEZ will have to pay a land fee of NPR 10 per square meter—these industries do not have to pay export and customs duty for two years.

5. Sector Wise Growth Prospects

5.1 Agriculture: Overview of the Sector

Madhesh Province has a relatively high GVA, with all eight districts ranking in the top 22 nationally, attributed to the province's large labor force, greatest area (393,582 hectares), and highest share (74%) of irrigated land. In addition, existing agriculture and research centers such as the Regional Agricultural Research Station in Parwanipur, the Agriculture Implementation Research Station in Parsa, the Agricultural Research Station in Belchhapi, Dhanusha, and the Agriculture Machinery Testing and Research Centre in Nawalpur, Sarlahi all contribute to overall agricultural output.

Only one district (Bara) outperforms the national median in terms of GVA per capita, indicating low productivity. Similarly, according to data from the Ministry of Agriculture and Livestock, it has the

largest paddy area in the province. 61 Crop yields (particularly for paddy and sugarcane) have decreased over the last decade and are significantly lower than in Bangladesh and India. Given the fairly flat terrain and climatically favorable conditions, Madhesh Province should be highly productive in agriculture.

The cause of low productivity isn't well understood in the literature or data. However, consultations in Janakpur and Birgunj revealed a number of potential causes, including a lack of year-round irrigation, small landholdings that limit economies of scale, low mechanization, the use of modern farming methods, overexploitation of the land, which has reduced soil fertility and crop yields, a lack of genetic diversity in crop and animal inputs, and a lack of fertilizer.

The subtropical to the tropical climate of this province is suitable for growing major cereal, oilseed, and pulse crops; commercial tropical and sub-tropical fruits; and vegetables. The climate also supports fish farming and animal husbandry. Rice, wheat, and maize are the major cereal crops in this province. Agriculture is the main occupation providing livelihood opportunities to the majority of people. Farmers in the province are cultivating in less than one hectare of land and modern agricultural machinery has not been optimally utilized.

According to the Agricultural Census 2068, around 78% of the agricultural land is cultivated for food grains, 11% for pulses, 4% for cash crops, and 3% for oil crops. Out of the total production in the country, around 21.61% of food grains, 20.7% of fruits, and 25.88% of vegetables are produced in the province. The Chure region located in the province is also a major source of herbs. As a seasonal fruit, 68% of the total mango production in the country is produced in Madhesh Province. Out of the total 64,483 hectares under sugarcane cultivation, 1,26,776 metric tons of sugar are cultivated in this province. About 23,205 tons of fish are also produced.

Employment available in agro-based industries is the major source of livelihood. In addition to paddy production, sugarcane is the major cash crop. In terms of production, the province is self-sufficient in food and vegetables and it has the potential to supply food to other provinces. Ministry of Land Management, Agriculture and Cooperatives has been established for enabling farmers to own and control, on a democratic basis, business enterprises for procuring their supplies and services (inputs), and marketing their products (outputs).

The province produces 20% of the total national food production and it has the capacity of becoming the major food supplier in the country. Of the total 565,091 hectares of irrigable land, 65.8 % is irrigated through Koshi West, Kamala, Bagmati Irrigation Canal, and other small streams. Around 50% of total fish production in the country, comes from Madhesh Province. According to the Fisheries Development Training Center, Janakpur, 60% of 50,000 tons of fish produced in the country, comes from Madhesh province—4,000 ponds are used for fishing in the province¹². According to the Ministry of Land Management, Agriculture, and Cooperatives of Madhesh, 62,306 hectares of land, producing 800,000 tons of food, have been cultivated in this province, However, there is a demand of 112,000 tons more than the food grains produced here.¹³

5.1.1 Challenges and Growth Prospects

Lack of mechanization in agricultural crop production, as well as difficulties in increasing production and productivity, are the major challenges of the agricultural sector in this province. Cheap imported agricultural products are imported from India making it difficult for local farmers to compete in the market. Adequate research has also not been conducted to advance varieties of seeds and increase cultivation. The lack of modern agricultural systems poses another major challenge.

As Chure and other forests are being eroded, the groundwater levels are declining in the province. Heavy use of land for industrial purposes and overuse of agricultural land for construction has shrunk the agricultural land.

Major challenges faced by the agriculture sector of Madhesh Province are as follows:

- Modernization and commercialization of traditional subsistence farming
- Less market competitiveness due to the subsidy provided by neighboring countries to farmers
- Fragmentation of arable land and unavailability of all-round year irrigation facilities
- Low attraction of youths and skilled human resources in agriculture
- Inadequate industrialization for livestock/fish production and agricultural sub-sectors value chain

¹² http://pc.p2.gov.np/public/images/contents/1612443281_1.pdf

¹³ <https://molmac.madhesh.gov.np/#/pages/category/type?slug=agricultural-development-strategy>

- Volatile market price of inputs and agro-commodities
- Informal import from the cross border without quarantine check-up
- erosion or inundation of agricultural lands due to floods in the lower coastal areas (the productivity of the Chure region has been decreased by soil erosion and flooding)

There are opportunities to attain sustainable prosperity through land reform, modernization, and the commercialization of agriculture in this province. The overarching goal for irrigation is to achieve year-round irrigation in a sustainable manner through the combined use of surface and groundwater that contributes to increased agricultural productivity. The specific areas of improvement are as follows:

- Increase production and productivity through improved agricultural technologies
- Commercialize the production and export of products through their scientific production and improved post-harvest management practices
- Improve resource productivity through cost minimization and efficient utilization of resource
- Increase production of agricultural and forest-based products while reducing impacts of climate change—analyze the potential for riverside farming
- Provide assured irrigation in 20,800 ha of irrigated land through improvement and modernization of existing irrigation schemes of surface and groundwater system
- Provide assured irrigation in 91,000 ha of agricultural land through groundwater development in the water-scarce area of new and existing irrigated land
- Conserve the biodiversity of indigenous crops and livestock

All in all, output in the agricultural sector can be increased by investing in the construction of large capacity cold storage in the different districts of Madhesh Province. Increasing competitiveness can facilitate import substitution by replacing large-scale imports of agricultural commodities. Due to the existence of sugar mills and various agro-based industries, it is possible to take advantage of industrial cash crops. Industries can also be established to make different varieties of dishes from fruits and vegetables produced in the province. After the operation of the Nijgadh-Kathmandu Expressway and East-West Railway, the production of cash crops, fruits, vegetables, milk, and eggs will increase significantly.

5.2 Industry: Overview of the sector

The contribution of Madhesh Province to the total industrial production in the country is 24.0%. The industrial city of Birgunj is located in this province with many prominent industries operating in the Birgunj-Pathlaiya corridor. 3,500 large, medium and small-scale industries are located in Bara-Parsa – 50 to 100 industries are added every year.

Major industries in this region are flour, oil, rice, biscuits, vegetable ghee, textiles, medicines, and beverages. Industries including cement, poles, concrete, glass, and aluminum are also open. Large industries including Surya Nepal, Dabur Nepal, Britannia, Nepal Cable, Hulas Steels, Jagdamba Steels, Hama Iron, Saakha Steel, Ashok Steel, and Shalimar Cement are located in the Bara-Parsa corridor. Other industries include Patanjali Industries, Narayani Plastic Industries, and Reliance Sugar Industries. Industries manufacturing lubricants and plastics are functioning and emerging industries are also being added along the industrial corridors Pathlaiya-Birgunj, Kalaiya-Birgunj, and Kalaiya-Piluwa Road.

Out of 1,23,342 domestic and small-scale industries registered in the fiscal year, 2070/71 to 2074/75 B.S. (2013 to 2017), 12.8% or 15,727 industries have been established in Madhesh province. Of the total 4925 industries registered under agriculture and forestry, 7,979 are registered in Parsa, 5,838 in Dhanusha, and 559 in Siraha. Gajendra Narayan Singh Industrial Zone, as well as Readymade Garments Special Economic Zone, have also been established. The contribution of the industry sector to the GDP of the province is the highest. The state of industrial security has improved in the province.¹⁴

Foreign trade from Birgunj has increased significantly in the first eight months of the current fiscal year. According to the Customs Office, foreign trade has increased by 60% this year as compared to the same period of the previous fiscal year 2077/78. Goods worth Rs. 539 billion have been imported from July to February of the current fiscal year. In the corresponding period of the previous fiscal year, the import was Rs. 331 trillion.

¹⁴ http://pc.p2.gov.np/public/images/contents/1612443281_1.pdf

The province has an economically active population. Abundant fertile land is available for the production of raw materials for agro-based industries and the Indian market is available for promoting exports. Raw limestone is accessible for cement production in Sindhuli and Udayapur of neighboring provinces. Road and air transport networks .¹⁵

The Dry Port Customs Office has collected revenue of Rs. 33.56 billion in the first eight months of the current fiscal year. Industrialists registered in this office have expressed frustration because of the indifference shown by the government regarding the proper management of industries. Even if this port has high economic potential, the provincial government is yet to leverage its full capacity. Infrastructural development is also lagging behind even if this region is known as the industrial capital of the country. The two largest customs checkpoints are located in Birgunj but the development of customs infrastructure has not been substantial in comparison to other cities in the country.¹⁶

The province government formulates favorable policies and laws for the promotion of industrial production but these policies are yet to be fully implemented. Out of the total 4,477 industrial establishments operating in Nepal with foreign investment, 35 establishments are located in Madhesh Province (Parsa and Bara: 117 establishments).

5.2.1 Challenges and Growth Prospects

Madhesh Province demonstrates considerable variation in absolute GVA with two distinct tiers of high and low districts within the province: Bara, Parsa and Dhanusa are in the top ten nationally while all other districts are below the national median (Figure 25). This can be attributed to the industrial hubs of Birgunj and Janakpur, and the prominence in particular of manufacturing in these urban centres. On a per capita basis, Madhesh province demonstrates significant competitive advantage with three districts in the top six, and all eight districts in the top 26, nationally (Figure 22). Bara, Dhanusa and Parsa still lag behind Kathmandu but can be considered part of the most productive and innovative industrial areas in the country. These districts, and Bara in particular, are best placed to drive economic growth by concentrating on industrial activity, assimilating technology transfer, increasing income per capita and harnessing innovation rents.

In the context of Bara-Parsa and other emerging corridors of the Madhesh Province, there is a shortage of energy supply and various raw materials thereby limiting the ability of the province to produce quality goods at competitive prices.

Other major challenges are as follows:

- Lack of a well-defined structure and system of financial institutions
- High-interest rates and cumbersome registration process
- Lack of availability of raw materials required for the production in both existing and emerging industries
- Lack of establishment of industries that can utilize locally produced raw materials
- High investment outlay is required due to exorbitant land value making it difficult for bringing funds to the industrial projects—thereby limiting investment in the manufacturing industries
- Unavailability of reliable and high-quality electricity supply with frequent power cuts that limits the operation of business
- Lack of enterprise and corporate culture downgrades the quality of production thereby limiting the competitiveness of the firms
- Difficult to access concessional loan
- Traffic congestions at the border checkpoints
- Spillover effects due to policy changes in neighboring countries
- Volatile international market price of raw materials
- Unpredictable interest rate of financial institutions
- Supply chain disruptions due to Covid-19 pandemic, natural calamities and open border

Opportunities lie in establishing Free Trade Area in Special Economic Zone to increase timber and non-timber industrial production. Railways at Janakpur and Birgunj can be connected to major cities of India to facilitate exports. India's industrial cities can be connected to the province via land, water, and air. Looking at the state of forest production, there are opportunities for fruit and vegetable-based industries, herb processing centers, production of organic manure, reopening of closed factories, construction of cold storage, etc. The Nijgadh International Airport and the Nijgadh-Kathmandu fast track are expected to help in the promotion of trade. Water transport services are

¹⁵ <https://customs.gov.np/birgunj>

¹⁶ KII with different stakeholders of the Bara-Parsa Industrial Corridor

possible in Koshi and Bagmati. Through appropriate policies, there is a large opportunity of increasing the competitiveness of the industrial sector in Madhesh Province.¹⁷

Key opportunities lie in the following areas:

- Develop a necessary strategic and regulatory framework for the industrial development of the Province
- Develop physical infrastructures for enabling investment climate in the province; Promote micro, cottage, and small industries (MCSIs) and help them to be the driver of growth and prosperity
- Prioritize key industrial sectors that are of importance from national perspectives; Focus on creating enabling environment for investment (supported by skill development program and appropriate institutional infrastructures)
- The development packages for industry focus on concentrating the innovation potential of industry around Birgunj
- The localization economies and specialization achieved in Birgunj should be encouraged and promoted to drive innovation- based growth. However, as firms develop and the industry matures, opportunities exist for stages of the value chain to move out to other locations, e.g. Rautahat. Development packages also include consolidation of existing routes into industrial corridors with connective multi-modal transport infrastructure and a variety of measures to address the inequitable distribution of jobs and opportunities across Madhesh province.
- The development packages for the industry highlight the need for policy and regulatory interventions as well as connective and distributional infrastructure across Karnali to improve the enabling environment.

5.2.2 Province Industry Management Act 2077 and Draft Regulation

Province Industrial Management Act was enacted by the Province Government of Province No.2 through Nepal Gazette dated 29th Poush 2077 (2020) Province Act with the following positive aspects:

1. **Provincial law and Regulation:** With the enactment of this law, the province government has enacted provincial legislation for industrial development through competitive and effective production-based economy. The main objective of the Act and Regulation is participatory development of provincial industries as well as protection and promotion of resources in order to enhance employment opportunity.
2. **Protection of Change in Law:** Section 30 of the Act provides that any industry which has been registered under the prevailing Industrial Enterprises Act, 2020 ("IEA") but has commenced its commercial production only after enactment of the Act, shall entitle to facility and benefits provided under the Province Act. The change in law protection under the Act provides security to industries which obtained any time-bound facility and exemption before enactment of the Act.
3. **One Window Policy:** This will facilitate investors as well as industrialists to obtain required approval or recommendation as provided under the Act such as (a) registration of company, firm or industry, (b) grant and renewal of approval or license, (c) license to commence transaction, (d) enhancement of capacity and (e) cancellation of company, firm or industry (except insolvency proceedings), (f) provide foreign investment approval, (g) grant work permit and in principle approval, (h) provide visa facility, and (i) facilitate environment studies to be conducted etc.
4. **Incentive and Benefits:** In compliance with the federal law the Act and Regulation provides various facilities and exemptions including fiscal and non-fiscal incentives under chapter 6 of the Act, targeted and additional facilities to the women entrepreneurs as set under Rule 14 of the Regulation. One of the growing issues for manufactures and business has been availability of land. The Act provides for provisions of facilitation in relation to purchase of land and lease of land.
5. **No Nationalization of Industries:** Section 38 of the Province Act provides security against nationalization of industries.
6. **Provide Security to Industries:** Rule 18 envisages to provide security to the industrial enterprises as per prevailing law of Nepal.
7. **Constitute Export Committee to identify Sick Industries:** Rule 16 of Draft Regulation envisages to constitute export committee to identify sick industries and to assist sick industries to reoperate and further management.
8. **Provides Templates of Documents:** The Regulation provides readymade templates for various documents to be submitted at the industry registering authority for instance (a) application to register industry, (b) Project report, (c) sample industry registration certificate, (d) an application to obtain license, (e) sample for industry registration approval or license, (f) an application for

¹⁷ KII with representatives of Birgunj and Bara Chamber of Commerce

industry operation extension, (g) an application to transfer industry and approval format, (h) industry update detail, (i) an application to notify closure of an industry, (j) an application to notify cancellation of industry, (k) an application to change or alter fixed capital or capacity of an industry, (l) an application to avail land for an industry, (m) an application to avail land in lease, (n) an application to identify sick industry.

9. **Timeline for Industry Registration:** The Federal IEA 2020 provides 5 days' timeline to provide industry registration certificate from the date of receiving required documents. Whereas the Act provides 3 days' timeline to provide industry registration certificate from the date of receiving all details and documents. While the reduction of statutory timeline is positive, the key issue from practical aspect is timeline that actually takes to register an industry.

5.3 Information and communications technology (ICT): Overview of the sector

ICT sector is one of the emerging sectors in the province due to the increase in internet penetration brought by the expansion of 3G & 4G services. There is an increasing trend of using information technology by both public and private sectors. The use of information technology in the health and education sector has helped in knowledge transfers, skilling/upskilling as well as improvement in the quality of services. The ICT sector also has made significant progress in the logistic sectors. Online e-commerce platforms such as Daraz have expanded their services in the province. Food delivery services provided by companies such as Mote dai and Foodie Mela have shown a new trajectory for the growth of the hospitality sector in the region.

Office of Chief Minister and Council of Ministers (OCMCM) and Provincial Coordination Unit (PSU) in Madhesh Province conducted a five days Information and Communication Technology (ICT) Capacity Building Training for the IT personnel of provincial ministries and the provincial institutions in 2020.

5.3.1 Challenges and Growth Prospects

Madhesh Province has begun to invest in ICT because it sees the sector's potential to improve social and economic sustainability. Investing in ICT is a crucial economic development driver for both emerging and developed markets. Incorporating ICT into/within the government sector for public service delivery in the province can help speed up the flow of information and knowledge between government and citizens, as well as change how they interact. Creating and developing a competent system of governance and making public service delivery effective is a problem for the province. ICT may improve government efficiency and effectiveness, make government services more accessible, increase public access to information, and make government more responsible.

As ICT is emerging new sector in the province, lack of education and adaptation to the new technology especially by the older generation is the challenge. There is an absence of reliable services of ISP providers and quality mobile network coverage across the province posing significant barriers for the growth. This sector has tremendous growth potential in the province. The first step has already been taken by incorporating virtual platforms in education, e-commerce, and financial transactions. However, the online learning portal can only contribute to learning when its prime stakeholders – teachers and students – have adequate information and know-how. Concerted efforts are required to enhance the access and affordability of students and teachers to ICT both at home and in school. The efforts made in introducing online learning during the pandemic should make a meaningful contribution to improving the teaching and learning process in Nepal.

Some of the key provisions¹⁸ have already been laid out by Nepal Government Digital Framework policy, Digitalization vision highlighted by the Provincial Government in their annual and the plan of building smart and vibrant cities by the Local governments. Additional effort is required by stimulating the demand for ICT services by sponsoring a broad range of programs such as e-learning, e-health, and e-government. The e-logistics program, for example, can aim at orchestrating supply chain processes in the logistics industry, which can increase manufacturing productivity in the province. The tool can also be created to provide information in local languages to bring non-English speaking groups to the digital platforms.

Some countries have created specific ICT-based education offerings. For example, with the help of the World Economic Forum, the Jordan Education Initiative (JEI), a public-private collaboration aimed at improving education in Jordan through the effective use of ICT, was started in 2003. Partnerships with multinational corporations such as Microsoft and Cisco have enabled the establishment of 100 "Discovery Schools" across the country, complete with computer labs and high-speed Internet, as well

as the development of e-learning curricula for 50,000 students and information technology (IT) training programs for 3,200 teachers. Thus, similar initiatives can be started in the province with the help of neighbouring countries such as India and China. Under the Digital Nepal framework, eight sectors – digital foundation, agriculture, health, education, energy, tourism, finance and urban infrastructure – have been identified based on close engagement with stakeholder.

Another example is a major hospital chain in India, Apollo Hospitals. In collaboration with a leading provider of telecommunications and data communications systems, they are providing basic diagnostics (blood pressure), medical check-ups, and consultation via mobile services. This project will enable the provision of affordable and accessible healthcare to millions of people in remote areas.

5.4 Tourism: Overview of the Sector

Janakpur, the birthplace of Janaki, a center of faith for Hindus around the world, is a major tourist destination for world tourists. There is potential for both internal and external tourism along the Ramayana circuit and inter-province religious and cultural circuit in Mithila and its associated circle. Mithila Culture is a cultural bridge between Nepal and India. 115 ponds of religious and cultural importance including Ganga Sagar, Dhanush Sagar in Janakpur, and Ghadiarwa ponds in Birgunj also support tourism in the province. At present, there has been an increase in the number of hoteliers serving cultural and religious tourists in the province, especially for tourists staying and eating at private places, especially around certain places and highways.

The Parsa Wildlife reserve also belongs to Madhesh Province with attractions such as wild elephants, tigers, leopards, rhinoceroses, horse donkeys, gaurigai, etc. Similarly, Koshi Tappu Wildlife Sanctuary in the east of the province is a tourist destination.¹⁹

On a national or global basis, Madhesh has a small comparative advantage in tourism. With the exception of Parsa National Park, the Province lacks the natural conditions or features necessary to compete with neighboring provinces. Targeting the right market segment in the right subregion can help the province establish a competitive edge, such as:

- Domestic and Indian tourists interested in historical, religious, and cultural sites and festivals associated with: the diverse ethnic community (e.g. Dhanuk, Yadav, Tharu, Musahar, Koiri, Kewat, Jhangads) with unique cultural identity; popular Mithila culture extending across the Indian border and renowned Mithila capital of Janakpur; and popular festivals of Vivaha Panchami, Chath, Ram Navami; and established festivals of established festivities of Vivaha Panchami, Chath, Ram Navami
- Ecotourism in the province's west (Parsa National Park), notably towards its integration with Chitwan National Park, and east (Koshi Wetland).
- Existing and planned transportation facilities (e.g., east-west highway, Kathmandu-Terai fast track, postal highway, and Indian railway links) that make it easier to get across the province.

5.4.1 Challenges and Growth Prospects

The basic transportation infrastructure and hotel amenities are insufficient to attract recreation tourists. To cater to standardized tourists, the grade of hospitality service and talents must also be increased. The tourism industry's current flow and operation are disorganized, and destination management is inadequate. There is no institutional structure at the provincial level to coordinate product development and encourage private investment in tourism facilities. There is little coordination between tour operators, accommodation providers, and other service providers at the operational level, resulting in an ad hoc visitor profile.

Ongoing environmental degradation and uncontrolled urbanization, on the other hand, may jeopardize the biological and cultural attractions that tourism relies on. Finally, the size of industrial and agricultural development may limit the size of the competitive advantage in tourism. Some of the other key challenges faced by the tourism sector in this province are as follows:

- Poor infrastructure, including poor coverage and low quality of roads, and unreliable domestic air services, increases the costs and reduces the value captured from tourists.
- Poor availability of services such as electricity and sanitation means it is costly to provide adequate facilities and levels of services, especially in more remote parts of the province.
- Economic governance issues affect the sector, such as the poor implementation of public investment, macroeconomic problems with respect to the balance of payments, poor monitoring and enforcement of regulations around business standards and practices, and rent-seeking and corruption by political parties and others.

¹⁹ http://pc.p2.gov.np/public/images/contents/1612443281_1.pdf

- Human resource constraints, such as low levels of education and literacy, and deficiencies in vocational education and skills training reduce private sector capacity. This presents challenges to businesses looking to provide higher-quality services and also constrains poorer people from benefiting from tourist flows in both rural and urban areas.
- A poor investment environment stems predominantly from political and administrative instability, a lack of consistent planning and implementation, insufficient government support arrangements, and escalating labour disputes.
- Lack of identification of recreational activities and places to prolong the stay of tourists.
- Lack of province-level institutional mechanism to encourage multi-institutional and private sector involvement in tourism.

Some of the key opportunities for the tourism sector of this province are as follows:

- Proposed Nijgadh International Airport: After the construction and operation of Nijgadh Airport, there is an opportunity for establishing the province as a transit destination. Given the proximity to nearby Indian cities such as Muzaffarpur, Patna, Gaya, Bhagalpur, Varanasi, and Jharkhand. opportunities lie in attracting the middle-income population of border towns as weekend holiday tourists.
- Nadi tal Sarlahi, Dhanesore Mahadev of Dhanusha, Margahr Wetland and Pataura Mahadev of Rauthat, Simraungadh of Bara, Ghadiwarba Pokhari of Parsa, Chinnamasta of Saptari are listed as new destinations under Visit Nepal campaign.
- Untapped resources of Mithila cultural heritage as Mithila Parikrama, Ramayan Circuit, reliving mythology-based events.
- Leverage people to people level socio-cultural relationships existing traditionally in the neighbouring market of India.
- Operation of Integrated Check post in Birgunj, and railway track to Birgunj Sirsiya Dry port can be an international rail terminal.

6. Opportunities

6.1 Competitive and Comparative Advantage

Madhesh Province has the second largest (and comparatively young) labour force, the largest area (393,582 hectares), and the highest proportion (74%) of irrigated land in comparison to other provinces of Nepal. It also has a suitable environment for fish and livestock farming along with the potential of three harvests per year. High levels of output in numerous agricultural products, especially 57% of fish production support the agricultural capacity of this province. Existing factories (e.g., eight sugar and one tobacco) generate demand for industrial crops.

The existing and potential export capacity of this province to other provinces and internationally is also significant. Infrastructural development in this province is supported by several capital projects such as, Kathmandu-Terai fast track, and Janakpur railway. However, the lack of storage, processing, testing, certification infrastructure, and facilities is a constraint to growth.

Madhesh Province offers a number of comparative advantages, including a comparably good multimodal transportation system that benefits all sectors. With Birgunj customs port accounting for 44% of total national commerce in commodities in 2017-18, the vast Birgunj-Simara manufacturing base, the broad Pathalaya-Birgunj industrial corridor, and the highest industry GVA per capita in Bara, industry is competitive on a national and international level. Agriculture benefits from: the largest area (393,582 hectares) and highest proportion (74%) of irrigated land of any province; favorable climatic zones that produce up to three harvests per year; high levels of absolute output (e.g. 57 % of national fish production); and existing factories demand for industrial crops as Nepal's traditional "rice bowl" (e.g. sugar and tobacco). Madhesh province does not have the natural circumstances or features to compete with options in neighboring provinces, making tourism less viable.

Targeting the relevant consumer segment in the subregions will aid in achieving a comparative advantage in: business recreation, historical/religious/cultural sites and festivals; and ecological tourism in the west (Parsa National Park) and east (Savannah National Park) (Koshi wetland). It is critical that planning a) enables the multimodal and multi-sector transportation potential of current and planned capital investments; b) fosters continued innovation in industry through technology transfer; c) addresses the environmental and infrastructure constraints to low agricultural productivity; and d) protects the fragile ecological and historic/cultural assets that tourism requires to develop.

6.2 Prioritization of Specific Sectors

The spatial development strategy focuses on consolidating the three nodes within the province (Birgunj, Janakpur, and potentially Rajbiraj) where comparative advantage can be exploited in each

sector with connective elements (e.g. potential SEZ in Siraha) and infrastructure (physical and administrative); increasing people's serviceability and increasing economic linkages within the province; and extending serviceability of people and increasing economic linkages within the province. Other priorities should be to strengthen functional links along the Mahendra Highway (H1) on the East-West axis to maximize connectivity across the two nodes (Birgunj and Janakpur) while enabling the development of a mixed-used third pole around Rajbiraj; and strengthening connectivity along the North-West axis of the H2 (Tribhuvan Highway) and H6 (Banepa Bardibas Highway) to strengthen the intranodal function of Birgunj and Janakpur but also consider infra-nodal connectivity (between the main nodes) along the feeders to/from India to the H1, i.e. F7 and F6 as well as F5 and F4 to the east, particularly to support the development of Rajbiraj as a third pole.

The Special Economic Zone of Simara should be developed to ensure that adequate infrastructure and professional operators are available for optimally harnessing the benefit of SEZs. The manufacturing and industrial base can be enlarged in certain sectors, e.g., cement and sugar, and expanded in other sectors (e.g., intermediate manufactured goods).

Conflicts between industry, workers, and locals have always been caused by trade unions and unorganized settlements. There is a risk of clashes if the government does not come up with a clear policy on industrialists, farmers, and land mafia.

Further, basic transport infrastructure and accommodation facilities are inadequate to attract tourists. There should be an institutional mechanism to encourage private investment in tourism to maintain a certain standard of hospitality service and upskill staff involved in the hospitality sector.

7. Learnings from Other Provincial Models

7.1 Economic Transformation of Gujarat

Gujarat model refers to a period from 2002-03 to 2011-12 during which Gujarat experienced a quantum jump in its growth rate. The growth strategy included three major components: a quantum leap in infrastructure to facilitate the inflow of corporate investment; improvisation in governance to address the requirements of corporate units; and an unprecedented increase in incentives and subsidies to the corporate sector for attracting investment. Roads, airports, and power were prioritized in infrastructure development, with 24-hour power availability achieved through reforms in policies.

In the 1990s, Gujarat was highly dependent on subsistence agriculture and had limited economic diversity. There were also limited opportunities for the huge diaspora to invest back productively in the State except in a few sectors such as real estate. Over the years, priority was placed on sectors including Textiles and Apparel, Chemical and Chemical Products, Auto and Auto Components, Engineering Goods, Port-based industries, Banking, and Financial Services, Transportation and Logistics, Retail, and IT/ITES.

Governance focused on the single window for quick disposal of investment offers, easy access to bank loans, and if needed, other escort services for corporate units and their core staff. To promote investment flows, the concerned departments were aggressive in expediting procedures. Expanding global markets also aided the expansion. Gujarat boosted exports in all major industries, including petrochemicals, chemicals, pharmaceuticals, textiles and garments, leather, machine tools and electronics, gems and jewelry, and agricultural crops, by establishing a number of special economic zones (SEZs), industry parks, and special export promotion measures.

Gujarat also saw substantial agricultural growth (7-8%) due to abundant rain and government initiatives on improved seeds such as Bt cotton and extension through Krushi Rath, modern agricultural practices, and 24-hour electricity for farmers. To expand growth in this state, the State & district government offered great connectivity and reliable infrastructure, along with competitive commercial real estate rates in comparison to other states in India. Gujarat was amongst the first states in India to set up an industrial park. The Government of Gujarat, to improve soil management and introduce farmers to new technology, started a project which involved giving every farmer a Soil Health Card, Horticulture, Water Harvesting, Drip Irrigation, etc.

The concept of PPP is very popular in Gujarat – the new ports and terminals are set up in collaboration with the private sector. The Gujarat Infrastructure Agenda presents the state with a coherent and comprehensive Action paper for integrated development across all infrastructure sectors. The agenda develops a prioritized 'shelf of projects' for inviting and attracting private participation in infrastructure development in the state, and identifies the policy initiatives needed by the state to facilitate the same. Investment in infrastructure has a high potential payoff in terms of economic growth. The facilities such as high-quality power, efficient ports, a well-developed road network, telecommunication, industrial

parks, industrial water supply, and sewerage will attract the industrial development needed to sustain the economic growth.

To prioritize Skills Development, Gujarat has focused on Gujarat Skill Development Mission²⁰, with flexible MoUs between the government and the industry, for coordinating the State level strategy and programs for skill development leading to employment. GSDM act as an apex body for monitoring, coordination, and convergence related to Skill Development & Entrepreneurship activities leading to employment in Gujarat. The aim of this mission is to collect information with a complete picture of all the skill development programs in the state, by analyzing the skills, areas, and beneficiary groups of the candidates under various schemes and creating employment opportunities.

7.2 Economic Transformation of Bihar

Bihar is a state in India's eastern region with Nepal to the north, West Bengal to the east, Uttar Pradesh to the west, and Jharkhand to the south. Because of its proximity to the enormous markets of eastern and northern India, access to ports such as Kolkata and Haldia, and raw material and mineral reserves from neighboring states, the state has a distinct position advantage. Between 2015-16 and 2019-20, Bihar's Gross State Domestic Product (GSDP) increased at a CAGR of 13.27%. Bihar's per capita net state domestic product has increased significantly. Between 2016 and 2021, the state's per capita NSDP expanded at a CAGR of 13.41% (in Indian Rupees) at current prices.

Bihar is one of the most powerful agricultural states²¹ in the country. Over 80% of the population is involved in agricultural production, which is significantly more than the national average. It is India's fourth-largest vegetable producer and eighth-largest fruit producer. Some of the state's fastest-growing businesses include food processing, dairy, sugar, manufacturing, and healthcare. The state has planned initiatives for developing of other sectors such as education, tourism, information technology and renewable energy.

The state has a large base of cost-effective industrial labour, making it an ideal destination for a wide range of industries. According to the Department for Promotion of Industry and Internal Trade (DPIIT), the cumulative FDI inflows in Bihar were valued at US\$ 50.62 million between October 2019 and March 2021. The 16th Bihar Economic Survey Report (ESR) 2021-22 has described the growth performance of the state as "better" than the national average. Agriculture and allied sectors grew at a pace of 2.1% during the last five years (2016-17 to 2020-21) in the state. The Gross Cropped Area was 79.97 lakh hectares in 2019-20, with a cropping intensity of 144%. Among the sub-sectors, livestock and fisheries have grown at a pace of 10% and 7% respectively.

The Industrial Investment Promotion Policy²² was created by the State Government to focus on supporting infrastructure development, prioritizing core sectors such as advanced technology, skill development, a modified structured package of assistance, and balanced regional development, which entails uniformly extending investment benefits to all geographical areas of the state. This policy also aims to help women entrepreneurs and socially marginalized groups by providing a special package of assistance. For entrepreneurs, the policy contains well-defined procedures for effective implementation, monitoring, and grievance redressal. The Government of Bihar has also promulgated a series of regulations and policies to attract investment and invite more long-term, capital-intensive, high-tech projects in more sectors of the economy and hence to reap the maximum benefit from spillovers of skills and expertise garnered from corporate presence.

7.3 Economic Transformation of Ba Rai-Vũng Tàu, Vietnam

The province of Ba Ria-Vung Tau (BRVT) has become a developing economic centre²³ in Vietnam. It serves as the international commercial entry point for the wider Ho Chi Minh City Metropolitan Region, which has a population of 21 million people. BRVT is the fourth most popular foreign investment location in Vietnam. Pre-2000s, the province suffered from the inflow of domestic migrants as Ho Chi Minh was the main urban center receiving immigrants from other provinces. The economy was struggling due to the dominance of low-value activities such as subsistence agriculture, cottage industries, etc., and limited global exports. Over the years, four key sectors were promoted by the government in this province including hi-tech manufacturing, logistics, tourism, and high-tech commercial agriculture.

²⁰ <https://skills.gujarat.gov.in/>

²¹ <https://documents1.worldbank.org/curated/en/624671468035374716/pdf/328190IN0Bihar1report11June200501PUBLIC1.pdf>

²² <http://www.udyogmitrabihar.in/policies/bihar-industrial-investment-promotion-policy-2016/>

²³ https://perthusasia.edu.au/events/upcoming-events/pu-223-vietbrvt_report_web.aspx

The following strategies were implemented by the government in this province to expand economic growth:

- District governments focused on investment in building their infrastructure (traffic roads, system of electricity and water supply, and telecommunications). The time associated with investment evaluation and licensing time (50% of the national average) was reduced.
- The provincial government attracted foreign investment through the development of 15 Industrial parks, with an average occupancy of 47%, and promoted exports by setting up Quality control and encouraging factories with international standards, such as HACCP.
- Private sectors introduced innovative ideas such as eco-tourism, and new technologies including modern machines for fishing, and brought in additional investment in the province. The advanced status of the province's infrastructure, its international connectivity, and its industrial base justify a serious examination of the province as an investment destination. BRVT has an additional feature uniquely justifying Australia's attention: Australian businesses have had a presence in the province for the past three decades.
- Focus on Skill Development: Private sector and government worked together to upgrade the 31 vocational institutions with market-led curricula and training alongside the support of universities – to produce more than 26,000 skilled industry-ready graduates per year.

BRVT is a coastal province with a large network of deepwater seaports, making it a major hub for international trade in south-eastern Vietnam. The Cai Mep-Thi Vai international port complex benefits from a strategic location in Southeast Asia, with easy access to the region's major shipping routes. The port complex is connected to other provinces by a network of roadways, and the government is planning to build a railway connecting it to Bien Hoa, a nearby industrial province. The port complex has an annual capacity of 6.8 million twenty-foot equivalent units (TEUs), a unit of cargo capacity based on intermodal container standard sizes. The Thi Vai River has a natural depth of 14 meters, enabling huge ships to access those smaller ports, such as Cat Lai, a Ho Chi Minh City inner-city river terminal, cannot. The port complex's capabilities assist BRVT's fifteen industrial zones, many of which are located near the port complex.

New projects in and around BRVT are making it a more attractive investment destination for Australia. The development of port facilities and the construction of a new international airport in a neighboring province is expected to improve the province's international connectivity. The province also houses a national LNG import infrastructure, which is expected to grow as Vietnam's energy system modernizes.

While the industry is a prominent component of BRVT's economic landscape, it is by no means the province's exclusive focus. With a 300-kilometer coastline, BRVT is a popular beach destination for both local and international visitors, with about 2 million visits in the first half of 2017. The province also includes the Con Dao Islands National Park, and because of these attributes, BRVT is swiftly establishing itself as a desirable tourism destination, with investments in world-class hotels to fulfill domestic and international demand. The tourism industry is expected to drive long-term economic transformation and support jobs in the province as income continue to rise.

The coastline of BRVT supports around 6200 hectares of aquaculture production. Through incentivizing and implementing regulations to establish high-tech aquaculture models, the provincial Agriculture and Rural Development Department has fueled the expansion of sustainable fishing. Farmers have welcomed HDPE floating cages and nets with anti-fouling coatings based on Norwegian technology, which can utilize the deeper and cleaner waters off the coast¹⁴. The province's expansion in this sector is well-positioned to continue, making it a regional aquaculture centre.

7.4 Economic Transformation of Yunnan, China

China has risen to become the world's second-largest economy in the last three decades as it is shifting from an investment-led, high-carbon growth model to a consumption-led, low-carbon growth model that is increasingly reliant on technology and innovation. Skills development has been a fundamental aspect of China's exceptional prosperity, and it will continue to be crucial in the country's ongoing economic reform.

Yunnan is a medium-sized Chinese province with significant natural resources and cultural variety, located on China's southwestern border. In the 1990s and 2000s, about 10 million people lived below the poverty line in this province as it was heavily dependent on agriculture and the rural economy. The labour force had low levels of skills. Over the years, Yunnan has enjoyed tremendous economic growth and is predicted to sustain a 10% annual growth rate or higher. It has also been positioned as a critical

gateway in the South6est area by the recent national Bridgehead Strategy, which has opened up significant new potential for its growth.

In the early years, the bulk of Yunnan's labor force had completed nine years or less of obligatory schooling. Skills certification rates were also low among professional and technical workers and operative frontline workers. Professional and technical personnel, as well as operative frontline workers, had low certification rates. Only 24% of professional & technical workers and 12% of operative frontline workers had received skills certification or professional ranking in non-public firms. As a result, Yunnan workers earned lower wages and had worse productivity than the national average²⁴.

In Yunnan, policy changes, as outlined in Yunnan's 12th Five-Year Plan, boosted the demand for skills. Economic growth was fueled by the increase in demand for workers in the secondary and tertiary industries, as well as structural changes within and between sectors. More crucially, the effective implementation of the Bridgehead Strategy, helped Yunnan accelerate its growth and open up to neighboring countries nations, and provinces with an abundant supply of highly skilled professionals and technical workers. Yunnan's TVET legal framework is closely aligned with Chinese national laws and regulations. A rather comprehensive collection of legal instruments assures that all individuals have access to education and training, and provides direction for governance and management, quality assurance arrangements, financing of TVET, and collaboration with enterprises.

Further, emphasis was placed on export-oriented sectors such as agriculture, manufacturing (automobile, fertilizers, textiles), logistics, mining, tourism, services, and hydro-power. The government concentrated on a strategic format that includes a well-developed network of regional economic zones to facilitate economic growth. The "one economic ring, one economic belt, six urban agglomerations, and seven corridors" strategic plan is being implemented. The focus is on connecting Yunnan with Bangladesh, Myanmar, Laos, Cambodia, Thailand, Malaysia, Singapore, and India.

The government also prioritized sector-specific policy for developing of Industrial Zones and building pathways for collaboration with international partners such as Myanmar/Laos. Together, such initiatives can help to strengthen regional integration and economic development by expanding border trade initiatives; (ii) improving the quality of logistic services and trade capacity in the region; and (iii) strengthening the local economy and promoting export-oriented development as a result of the growth of trade and logistic sectors, improved business development opportunities, and enhanced cross-border supply-chain linkages.

Developing tourism infrastructures and improvements are significant factors in attracting more tourism. The private sector in the Yunnan region has brought innovative ideas to boost tourism prospects in the country such as adventure tourism with improved quality of tourism products, accessibility, infrastructure, etc. to facilitate tourist access to the concerned destination.

In 2018, Yunnan introduced a total of 14 RMB one-billion-level industrial projects and signed strategic agreements with Huawei, CRRC, Jingrun Huachuang Tech, and Beijing University of Chemical Technology. Meanwhile, Yunnan has continuously carried out programs dedicated to the "Three Hundred" 2 industrial transformations and upgrading, smart manufacturing demonstration, and a new round of 1,000 technological transformations. The clustering of leading projects helps drive Yunnan's manufacturing industry smarter, greener, and more service-oriented.

²⁴ https://edmsp1 ilo.org/edmsp1/groups/skills/documents/skpcontent/ddrf/mte4/~edisp/wcmstest4_118855.pdf

8. Learning and Proposed Vision

The Government of Nepal is committed to the inclusive economic development of the country. Though the country is primarily agrarian, the contribution of the secondary sector i.e., industries, to the inclusive economic development is of equal importance so Nepal has already taken a series of measures to further improve the investment climate in the state and envisages achieving a substantial industrial development growth rate.



Figure 7: Vision for Madhesh Province

At this early stage, Madhesh Province's opportunity lies in the development of infrastructure and the concentration of this activity in export promotion. Expanding global markets can aid the growth of Madhesh Province by boosting exports in all major industries with a special economic zone (SEZs), industry parks, and special export promotion measures.

Further strategic investment in the vocational education and training (VET) sector can have significant trickle-down effects on the province's economic growth. Access to a skilled workforce trained to international standards simplifies recruiting and would offer yet another advantage for the Nepali industry seeking to establish operations in the province. As such, it is important to connect education and training providers, promote sister school arrangements, and ensure cooperation on curriculum delivery. An apex body can also be created for monitoring, coordination, and convergence related to Skill Development & Entrepreneurship activities leading to employment in Madhesh Province. Focus can be placed on gathering data on all the province's skill development programs by examining the skills, areas, and benefit groups of applicants under various schemes, and connecting them to employment opportunities in Nepal and abroad.

The Madhesh province should also establish policy frameworks to direct investment to the emerging economic corridors. These multilateral frameworks can be leveraged for further trade development between Nepal and other countries. The reform areas of particular importance to companies investing in Nepal are designated monopolies, investment, labor, environment and transparency, and anti-corruption with consistent standards required to lower the risks of doing business in the province. These investment provisions can include the establishment of a province Dispute Settlement mechanism to help improve investor confidence.

There are also opportunities for Nepal's small and medium-sized enterprises to gain exposure to the Indian market through operations in strategic locations of the province. This can be made possible by facilitating business-to-business links, exchanging annual trade delegations, and defining well-structured agreements between the government and industry agencies.

At the provincial level, foreign companies should have incentives to invest in Special Economic Zones with corporate income tax incentives for investment in specific districts and in priority sectors. For instance: Corporate income tax incentives in Tan Thanh District, Vietnam, which includes Phu My Industrial Zone, include a 2-year exemption for newly established enterprises from the first year in which a company generates taxable income. Australian companies presently have approximately USD \$254 million in investments in the Tan Thanh District.

Some of the key priorities to prioritize key sectors and leapfrog economic development for Madhesh province are as follows:

1. Madhesh Province should prioritize i) establishment of market-aligned policy incentives and mechanisms that cost-effectively lead to productive workers, inclusive jobs, and enhanced

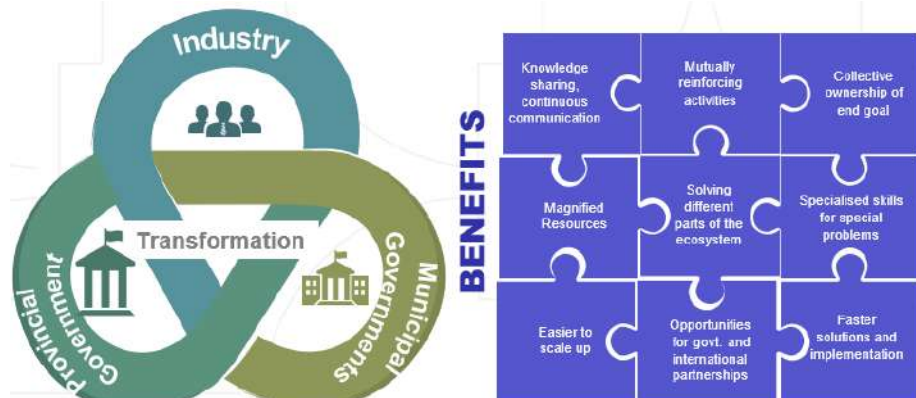


Figure 8: The Essence of the Government and Private Sector Partnership

- sustainability/growth of priority sectors, and ii) limit constraints that help eliminate administrative bottlenecks faced by Nepali firms.
2. The province should focus on the development of industrial parks and promotion of exports through Quality control and adherence to international standards, such as HACCP. Provision can also include an investor-province dispute mechanism to enforce provisions; minimum standard of treatment, compensation if the investment is appropriated; and ensure safeguards including copyright, trademarks, geographical indications, patents, industrial designs, confidential information, plant variety protection, as well as civil, border, and criminal enforcement. Members must establish and uphold domestic laws and regulations. District governments should focus on investment in infrastructure such as traffic roads, electricity, water supply, and telecommunications.
3. Bridge gap in SME credit with reforms to improve SME access to financial and non-financial services; linkages with investors and anchor firms that can lead to increased productivity; and an improved business enabling environment that promotes investment in targeted sectors of the province.
4. Many SMEs in the province lack documents related to registration, income, compliance, and operating performance which makes it difficult for FIs to make informed credit decisions. Thus, alternate financing sources should be created (e.g., innovative debt financing, venture capital, private equity). In terms of access to non-financial services, returns should be provided for increasing investment in non-financial services, including embedded BDS support, and diverse incubators, accelerators, and other service providers (e.g., packaging) should be developed.
5. Aggregate demand-based SME Diagnostic studies can be conducted that use data-driven analysis to facilitate strategic local/regional, with India, anchor firm alliances that allow SMEs to better economize on production and research costs, strengthen market presence (e.g., sharing sales and distribution outlets), and access intangible assets (e.g., managerial skills, market knowledge). These linkages must be driven by demands within and across the border, opportunities arising from government deregulation and liberalization reforms, and fast-changing technological advances.
6. Intervention is also required for impeding regional trade issues such as perineal congestion and high transit times at Integrated Check Posts on India-Nepal border, and Non-Electronic Data Interchange (EDI) land custom stations catering to India-Nepal trade. We must identify and recommend appropriate solutions that can improve cargo tracking and tracing.
7. Following the pandemic, Madhesh province will need to modernize its tourist business to match shifts in demand and consumer preferences. Investments in better planning, conservation, and robust infrastructure will help the sector recover quickly and sustainably. It will also require working with the private sector to update skills and create ecologically friendly nature-based tourism, which has the potential to boost job creation and equitable growth.
8. Amidst the COVID-19 pandemic, the foreign labour market will need skilled labour in new and emerging job occupations, and skilling of aspirant migrants aligned to the needs of the international market would be important. Madhesh Province should prioritize upskilling migrants in higher-paying jobs and introduce a policy on mandatory skilling (aligned to the market demand) and certification of migrants. Digital literacy should also be one of the province's top goals and it is possible to generate practical content, select trainers and provide digital awareness in the province. Private sector and government can work together to upgrade the vocational institutions with market-led curricula and training alongside the

support of universities – to produce skilled industry-ready graduates every year. Domestic labor laws can be enforced effectively, and forced or compulsory labor can be removed from supply networks.

9. The lack of quality standards and certifications significantly constrain Nepal's Agri-exports. Many traders undergo costly and time-consuming rounds (up to 5 weeks) of inspections at accredited labs in India. The unavailability of laboratories for pesticide residue tests (ginger) and fumigation facilities at clearing points (coffee) severely limit exports. Madhesh Province will need to work with trade bodies, including via collective advocacy to unlock public and private co-funding, to establish labs or enhance existing infrastructure at existing labs at target trade locations (e.g., installation of High-Performance Liquid Chromatography mass spectrometer to detect illegal dyes in herbal powders; packaging and labelling equipment at trade generating locations).
10. Intervention is required from the provincial government to support financing, e-learning, contract farming, and overall economic recovery. Liquidity and credit measures need to be implemented by easing macroprudential policies with enhanced refinance facilities and concessional loan programs to support entrepreneurs, MSMEs, and affected businesses including in the tourism industry. Priority should be given to (i) improving infrastructure for private sector-led growth, (ii) improving access to devolved services, and (iii) promoting environmental sustainability and resilience.
11. Providing support for various partner industries on a viable, scalable approach to bolstering organization capabilities for sustained and increased investments in shared goals. These come from: i) demand-driven sector development; working with the most promising anchor firms to drive chain (process, product and functional) improvements, ii) workforce upgrading strategies predicated on growth plans and organizational capability to absorb process-based knowledge derived from in-depth knowledge on post-COVID trajectories for upgrading their sector/sub-sector; and iii) improved inclusion and worker retention rates for increased productivity by transforming how firms approach employee management (from mobilization, recruitment, skilling, to safeguarding) and adapt to the future of work with more-flexible work environments and diverse workplaces
12. Infrastructure Development: The main strategy for achieving growth in this province is to focus on infrastructure development by prioritizing core priority areas such as ICT, and balanced regional development, which entails uniformly extending investment benefits to all geographical areas of the province. This should also include policies to help women entrepreneurs and socially marginalized groups by providing tailored assistance. For entrepreneurs, the policy should contain well-defined procedures for effective implementation, monitoring, and grievance redressal.
13. The following policy reforms should be adopted for Special Economic Zones (SEZ) in Madhesh Province:
 - As Special Economic Zones (SEZs) have been established to liberalize economic regulation in a country and promote economic development, progressive export thresholds should be adopted— with increasing thresholds i.e. 10%, 20%, and 30% on year-on-year basis.
 - To ensure a quick and easy registration process, and to create a favorable, predictable and friendly investment environment, SEZ should be equipped with the “One-Stop Service Center”. This Center is a place where investors can get all of the necessary approvals and registration complete in one place.
 - Lease rates were high earlier but it has been reduced drastically with current reforms. The same rate should be maintained for incentivizing business growth and sustainability.
 - Many private sectors have excess equipment that they are willing to take into the Special Economic Zone Authority (SEZA) for enhancing the production but SEZA is not allowing private sectors to relocate any equipment.
 - Liberal policies should be adopted for hiring and firing workers under the industrial relations code. Thus, this policy should be reformed for facilitating easy relocation of equipment.
 - A provision should be introduced to allow the private sector to manage operations of the SEZ through a Public-Private Partnership model.
14. The following are the key areas where changes in the Province Industry Management Act 2077 will be essential to expedite private sector and other stakeholder interest- immediate, medium and long term: 4.2.2 Province Industry

Draft Rule Citation	Context	Changes recommended
Section 7 and Rule 6 (3)	Industry Operation Extension Timeline	Current provision provides industry operation extension for a maximum period of one year, which is not enough for all category of industries. Therefore, there should be unlimited or multiple extension operation for long term projects. The provision should be drafted in such a way that it provides multiple extension of industry operation until an industry comes to actual operation.
Rule 5 (6)	To file application to register industry after obtaining approval from the Board.	Rule 5 (6) provides 15 days timeline to file an application for industry registration after granting approval from the Board. It is recommended to edit timeline as "30 days" instead of 15 days to provide adequate time for completing the registration process.
Rule 3 (1) (h), Rule 7 (1)(b), Rule (Rule 17 (2)(g)	Requirement to obtain recommendation from the local body	The requirement of obtaining recommendation from the local body in addition to obtaining an approval from the local body is causing delays and affecting the overall project operation cycle. It is thus recommended to remove this rule for ease of doing business in Nepal.
Rule 7(5)	Restriction in Transfer of industry	Rule 7(5) imposes restriction on transfer of industry which acquire land more than the stipulated land ceiling. This is also applicable to industries established in the Special Economic Zone ("SEZ"). This restriction should be removed to enable industries the freedom to relocate including in location outside of the SEZ.
-	Automatic Route and Digitalization	Strengthen market-based initiatives that prepare SMEs for the digital economy by improving their digital capacity, skills, and linkages to effectively participate in digital transactions (B2C and B2B).
-	Contract Manufacturing	As Federal IEA provides contract manufacturing of auxiliary products, there is limited clarity on the approval mechanism of contract manufacturing arrangement made by the industries registered in in the province.
-	CSR Sectors as per Province Requirement	The Province Act and Draft Regulation does not provide any provision on CSR expenditure. The Draft Regulation should allocate CSR funds as per the requirement of each province.

Table 5: Changes recommended in the Province Industry Management Act 2077

The following table provides a snapshot of the key intervention required in every sector of the Madhesh Province:

Sector	Enabling Environment Intervention	Firm Level Intervention
Agriculture	Promoting investment through concessional loans, subsidies linked to production/ productivity.	Enhance technical skills and know-how on farm management, animal health care and agriculture extension services.
	Minimum support price for agro-commodities to farmers/producers' associations.	Product diversification and value addition by establishing axillary industries along the value chain such as Dairy sub-sector; Cattle farming, Dairy industry, Organic Fertilizer production, Biogas production, Silage production industries.
	Strengthening Market Linkages for stable market players (retailers/ wholesalers, exporters)	Organic agro-production and export through cargo flights to GCC countries. Improve traceability with innovative technology such as IoT and Blockchain.
	Introduce/operate custom hiring system to promote mechanization of agriculture.	Establish/strengthen agricultural market infrastructures including collection centres, warehousing and storage facilities.
	Improvement of existing irrigation schemes (surface scheme) including modernization of system infrastructures to ensure assured irrigation in 16000 ha of existing irrigated land.	Establish Agriculture College and Technical Training Centres: Operate at least two agriculture colleges in the province providing higher education in crop farming and livestock care; Support schools and polytechnic institutions for inclusion of agriculture in their curriculum; Arrange refresher trainings to technical persons at regular

Sector	Enabling Environment Intervention	Firm Level Intervention
Industry	<p>Ground water development in surface irrigation to supplement water in dry period (October to June) and / or new area of irrigable land to ensure assured irrigation in 91,000 ha of agricultural land.</p> <p>Completion and operation of trade facilitation infrastructure. Swift import of raw materials from border custom points for industries such as pharmaceuticals.</p> <p>Create fund for supporting the women, disadvantaged groups and the poorest of the poor (targeted group for entrepreneurship development).</p> <p>Risk mitigation and cushion support for challenges created by external factors such as Liquidity crunch, international supply chain disruption, pandemic, natural disaster, and others.</p> <p>Attract investment in new sectors/new products through different policy measures such as Tax rebate/ exemption for innovative/ pioneer industries for certain period, concessional loan, priority in the industrial districts etc.</p> <p>Concessional loan/lower interest rate for import substituting and export promoting industries.</p> <p>Address the skill gap by supporting the apprenticeship model skilling at the industries. For example, pre-spinning, spinning, Dhaka weaving job roles</p> <p>Introduce policy of preferential treatment for procurement of quality national products</p> <p>Creation of baseline data, resources profiling, formulation of industry and trade related policies and regulations: Develop Industrial policy including for FDI, formulate provincial enterprises Act and regulations.</p> <p>Feasibility study and land acquisition at Aurahi municipality in Mahottari for developing provincial industrial zones: Obtain permission from the Government of Nepal/Ministry of Forest for possession of the land by the provincial government to develop industrial zones.</p>	<p>interval to keep them up to date on changing modern technologies and techniques.</p> <p>Scientific soil management/improvement with mobile soil lab: focusing on the importance and need for soil-fertility management, a soil- testing mobile van program can be introduced for farmers to get their soil tested for nutrient deficiencies and fertilizer requirements at their doorsteps.</p> <p>Operation in full capacity for production cost minimization; New technology and mechanization; Introduce corporate culture in the industries/factories of the province.</p> <p>Use of digital tools and ICT for enhancing market intelligence and promoting export.</p> <p>Skilling/upskilling of HR with practical knowledge of taxation, accounting and Nepal Government policies and programs across different industry sectors.</p> <p>10 years of policy stability for private sector self-reliance. Integrated Industrial Facilitation Strategy should be formulated and implemented.</p> <p>Branding and marketing of products with the potential of generating high exports, for example coffee, Palpali Dhaka, noodles, cement, pickles, and juice.</p> <p>Gradual shift towards semi/automatic, automatic plants for enhanced productivity.</p> <p>Establishment and operation of New Industrial district with one window policy, reliable supply of electricity and other services. Operation of SEZ, Simara in full capacity.</p> <p>Develop Special Incentive package in consultation with private sector investors to attract investment, and encourage for supply of standard facilities needed to tourists as Cultural heritage boutique resorts, thematic fun parks, and recreational amenities.</p> <p>Industrial villages in each municipality: Develop operation and maintenance modality in consultation with stakeholders, particularly with municipalities and local chambers. d. Allocate budget for construction and development.</p> <p>Detailed feasibility study to develop Jatahi-Dhalkebar and Inarwa (Dhanusa) - Bardibas (along the railway line) and Lahan-Thadi as the second and third industrial corridor of the province; Establish integrated agriculture services centres in unified pocket areas which has been declared the site for the commercial production of a particular agricultural product--feed several types of inputs including seed, fertilizer, other</p>

Sector	Enabling Environment Intervention	Firm Level Intervention
Information and Communications Technology	<p>Establish provincial level skill development and training centre at Birgunj, Janakpurdham and Rajbiraj.</p> <p>Prioritize Information and Communication Technology as it will be a key driving force in transforming Madhesh province into knowledge and information-based society and strengthening the pursuit of equality and sustainable growth.</p> <p>Promote digitalization of key economic sectors such as agriculture, tourism, industries</p> <p>Facilitate the mobilization of investment and resources required for development of national telecommunications infrastructure backbones with particular focus on expanding access to broadband, as well as the full implementation of this policy.</p> <p>Strengthen science and technical education as the basis for laying the foundation for human resource and skills development. Tools to provide information in local languages thereby bringing non-English speaking groups to the digital platforms.</p>	<p>agrochemicals, agricultural implements, feed and veterinary services.</p> <p>The current plan of the province should focus on developing or upgrading at least five farm to market road at each district over a period of five years.</p> <p>Enhance technical skills and know-how for reliable service delivery.</p> <p>Branding, sensitization, and marketing of the available services.</p> <p>Stimulating the demand for ICT services by sponsoring a broad range of programs such as e-learning, e-health, and e-government.</p> <p>The e-logistics program, for example, can aim at orchestrating supply chain processes in the logistics industry, which can increase manufacturing productivity in the province. Under the Digital Province framework, eight sectors – digital foundation, agriculture, health, education, energy, tourism, finance and urban infrastructure – should be prioritized via close engagement with stakeholder.</p>
	<p>Improving Accessibility; Road and Air Network</p> <p>Development of specific tour circuits, e.g., religious tours, cultural tours, alternative tours as eco-tours, farm tours, village tours, Chhath/Holi Event tours etc.</p> <p>Provide concessional loans for tourism sector enterprises</p> <p>Develop day tour destinations, e.g. horticultural centre, village/farm visit, industrial centres, international border visit, art centre etc.</p> <p>Security arrangements for tourism enterprises operating 24/7.</p> <p>Tourism Circuit Development and Marketing For instance: linking Bardia National Park and Chitwan National Park, linking Pashupatinath, Muktinath and Sworgadwari, developing a quadrilateral tourism circuit linking Kathmandu, Pokhara, Chitwan and Janakpur.</p> <p>Rural and Remote area centered skilling of youths in tourism development activities.</p>	<p>Increase the number/capacity of domestic flights by airlines to Pokhara, Bharatpur and Nepalgunj for enhancing connectivity and increasing the length of tourist stay. Initiate to conclude Agreement between outbound operators of India and Inbound operators of the province to facilitate standardized tour operation and joint publicity in the market</p> <p>Tourism Package development by Tours and travels/hotels, Fixed departure package/tours, Targeted hill stations packages.</p> <p>Design extended tours and circuits with neighboring provinces for conducting regular discussion with related agencies and private tour operators. Explore combined tour packages with India.</p> <p>Explore availability and enlist public land to provide to developers of tourism facilities on longer term lease.</p> <p>Promote and facilitate in organizing unique events annually on indigenous themes such as ethnic food festivals, meditation camps etc.</p> <p>Diversify tourism products and international marketing by developing standard Partnership policy with private agencies for creation of tourism related activities and amenities.</p>

Sector	Enabling Environment Intervention	Firm Level Intervention
	<p>People, Public and Private Partnership (PPPP) for tourist destination development and management with the capitalization of existing facilities and structured plan for skill development.</p> <p>Historical or religious themes can be presented to attract domestic, and international tourists and to increase the duration of their stay: Rangabhumi, Dhanushadham, and Salahesh garden are identified as location where sound and light shows can be held as these sites are spacious and is of historical significance.</p>	<p>Prepare detailed inventory of key tourism sites/activities/ events; Restore, renovate, and preserve heritage and ponds with beautification getting support of landscape architecture; Develop implement standardised signage for tourist sites in province including local language Parikrama road enhancement with the provision of Bishramsthal (rest houses).</p> <p>Identify and develop partnerships for (co)investments to enable a diverse ethnic community and marginalized groups foray into tourism.</p>

Table 6: Sectoral Recommendations

9. Conclusion

To sustain and accelerate sector-specific growth, enabling environment and firm-level interventions are required in the province. While there are many initiatives taken by the Government to create an enabling environment for both private and public sector, the same need to be expedited. Emphasis should be placed on priority sectors such as ICT, and balanced regional development, which entails uniformly extending investment benefits to all geographical areas of the province. This should also include policies to help women entrepreneurs and socially marginalized groups by providing credit facilitation. For entrepreneurs, the policy should contain well-defined procedures for effective implementation, monitoring, and grievance redressal.

Madhesh Province's challenges lies in the development of infrastructure and enhancing exports. Expanding global markets can aid the growth of Madhesh Province by boosting exports in all major industries with special economic zones (SEZs), industry parks, and special export promotion measures. Further strategic investment in the vocational education and training (VET) sector can have significant trickle-down effects on the province's economic growth. As such, it is important to connect education and training providers, promote sister school arrangements, and ensure cooperation on curriculum delivery. An apex body can also be created for monitoring, coordination, and convergence related to Skill Development & Entrepreneurship activities leading to employment in Madhesh Province. Focus can be placed on gathering data on all of the province's skill development programs by examining the skills, areas, and benefit groups of applicants under various schemes, and connecting them to employment opportunities in Nepal and abroad.

In the long term, the building blocks of growth are savings, investment, and productivity along with human capital, demographics, the external sector (external debt, FDI, Current Account Balance), inclusion, and labour force participation by gender. This has also been showcased in the Long-Term Growth Model (LTGM)²⁵ of the World Bank that prioritizes the objectives of eradicating extreme poverty and increasing shared prosperity. Higher GDP growth nearly always necessitates quicker total factor productivity growth, therefore improving economic efficiency should be at the top of the Madhesh province's priority list. With this vision, the future of economic development and innovation will not be linear, and this province could possibly leapfrog the development stages.

²⁵ <https://www.worldbank.org/en/news/feature/2022/02/15/charting-a-path-to-future-prosperity-with-the-long-term-growth-model>

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Annex I: Bibliography

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The study is aimed at facilitating policy development leading to a demand-driven, high-quality, and equitable education and training system conducive to lifelong learning. The experience of Yunnan also sheds light on skills development in China, as the analysis in this report situates Yunnan in the broader national context.

Annex II: Key Informant Interview Questionnaire

KII Questionnaire

1. Name of Interviewee:
2. Name of Company:
3. Sector:
4. Where do you think the sector is headed?
5. What are the key existing/emerging challenges/pain points for your sector/firm?
6. What are some of the main barriers to expanded jobs; increased revenue; enhanced trade facilitation and improved productivity?
7. What are the key investment and growth-opportunities in your sector? Are you or do you know of others in your sector who are expanding production and increasing investments?
8. What is driving those growth decisions?
9. What job roles do you see growing over the next 2-5 years?
10. Which industries are more likely to grow faster than others, and why?
11. As we come out of the third wave of COVID, what is the real impacts – existing and in the future -- in your industry?
12. What has changed over the last 4-5 years in terms of industry outlook, and what triggered those changes (other than COVID)?
13. Can you connect us to 1-2 companies in your network who'd be willing to also talk to us, and provide the insights we're looking for?
14. Can you provide a projection of the number of HR needs in your firm/industry over the next 2-5 years?

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