

Review of local level policies: Dhulikhel Municipality, Nepal

August 2020

Report prepared for Political Capabilities (PolCap), UKRI-GCRF

Authors: Dilli Prasad Poudel and Anushiya Shrestha

Southasia Institute of Advanced Studies (SIAS)

Kathmandu, Nepal

To cite this report: Poudel, D. P. and Shrestha, A. (2020). Review of local level policies, Dhulikhel Municipality, Nepal. August 2020. Southasia Institute of Advanced Studies (SIAS), Kathmandu, Nepal.

Table of Contents

1. Introduction:	1
1.1 Dhulikhel Municipality	1
2. Urban priorities of Dhulikhel Municipality:	3
2.1 Review of volume 2 – physical development plan	5
2.2 Review of Vol. 4 – social development plan	9
2.3 Review Vol 8 – municipal transport management plan	11
2.4 Review of Vol 9 – disaster risk reduction plan	11
3. Kavrebhanjyang, Ward 9 of Dhulikhel Municipality, a potential Study site for PolCap	12
4. Summary and Conclusion	13

1. Introduction:

This report presents the reviews of municipal level policies and strategies of Dhulikhel municipality of Kavrepalanchowk district and Thimi municipality of Bhaktapur district. Both districts belong to Bagmati province of central Nepal. Since the municipalities are considered as cities or urban areas by the government (see Planning Norms and Standards 2013, p.2), this review analyses the “urban development priorities” of these municipalities focusing on infrastructure development, social development and economic development. This report has two parts. In the first part, we review the urban priorities of Dhulikhel municipality, with a short note on Kavrebhanjyang, the potential study site. In the second part, we review the priorities of Thimi municipality. This report presents only the reviews of local level policies of Dhulikhel Municipality.

1.1 Dhulikhel Municipality

Dhulikhel Municipality (DM) was established in 1987 with 9 wards. It was expanded in 2017 by merging the adjoining village development committees (VDCs) and now comprises of 12 wards (see figure 1). Unlike Dhulikhel town, which was a typical Newari town, DM now has diverse social composition, including Newars, Brahmins, Chhetris, Tamangs and Dalits (IUPD, Vol. 7, p. 13). The total population of Dhulikhel is approximately 33,000 (see table 1). However, the figures are not consistent in different municipal documents.¹ It is the administrative headquarter of Kavrepalanchowk, the Kavre district of Nepal. Hosting the Dhulikhel Hospital and Kathmandu University, DM is health and education hub of Kavrepalanchowk district. DM neighbors Kavre V.D.C to east, Panauti Municipality to south, Banepa and Panchkhal Municipality to north and Banepa Municipality to west.

The origin of the historic Newari Dhulikhel town dates back to the 5th century (IUPD, Vol. 7, p. 14). Dhulikhel is an emerging tourist destination. It is also known for its drinking water supply and treatment plant, which was initiated in early 1990s, with the help of the German Technical Cooperation. However, with urbanization and growing population, water supply has become a major problem in this municipality (Byanju et al., upcoming).

¹ According to the Dhulikhel Municipal profile (Vol. 13 of the IUDP) the population of Dhulikel Municipality is 32,712 and area is 55.91 sq. km. (IUDP, Vol. 13, p. 5). According to the IUDP, Vol. 4, its population is 33,681, which includes 16,956 (50.43%) men and 16,723 (48.65 %) women and 2 (0.01%) are others (IUDP, Vol. 4, p. 10).

Working report. Information included in this report is subject to change, correct, and edit.

Table 1: Number of households in different wards of Dhulikhel Municipality

Ward no.	Village name	No. Households (HH)	Population (Pop ⁿ)	Janjati		Dalit		Other Caste		Landless	
				HH	Pop ⁿ	HH	Pop ⁿ	HH	Pop ⁿ	HH	Pop ⁿ
1	Devitar	550	2240	165	672	49	201	335	1362	1	5
2	Rabi Obi Gaun	621	2527	150	600	43	215	421	1684	7	28
3	Dhulikhel	524	2096	300	1200	10	40	204	816	10	42
4	Bakhundol	853	3412	341	1365	171	684	337	347	4	16
5	Shreekhan dapur	1000	4007	800	3200	30	120	163	652	7	35
6	Bhagawati sthan	375	1500	95	380	1	4	234	937	45	180
7 ²	Narayansthan Etol	390	1560	70	1480	2	8	13	52	5	20
8	Bhattedanda	915	3739	450	1800	60	240	394	1654	11	45
9	Kavrebhanjyang	1047	4188	60	241		1000	778	2904	9	43
10	Sharada Batase	322	2183	105	735		126	197	1310	2	12
11	Patlekhet	839	4192	295	1445		260	491	2405	8	35
12	Shankhu Patichaur	660	2930	462	2310		140	163	480	0	0
Total		8096	34574	3293	15428	366	3038	3730	14603	109	461

(Source: Four year Agriculture Development Strategic Plan, p. 4, 5, 14, 71)

² The office of DM locates in this ward

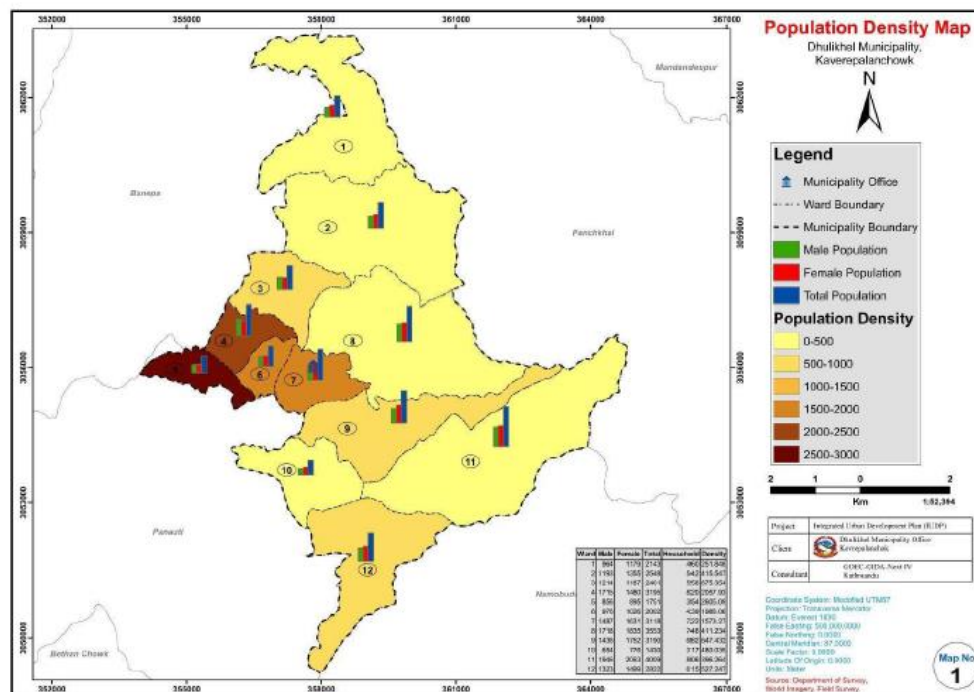


Figure 1: Population density of Dhulikhel municipality

Source: Dhulikhel Integrated Urban Development Plan Background Report, 2019

2. Urban priorities of Dhulikhel Municipality:

In April 2019, Dhulikhel Municipality (DM), which occupies 54.62 sq. km, published an Integrated Urban Development Plan (IUDP) as the strategic response to the 20-year growth of DM. Having 16 volumes (see table 2), the IUDP provides a “new framework”, as report claims, to manage the urbanization trend of Dhulikhel, while protecting agricultural, environmental and cultural assets (Vol 1, IUPD background report).

Table 2: 16 volumes of The IUDP

Volume no.	Title
Volume 1	Background Report
Volume 2	Physical Development Plan
Volume 3	Land Use and Zoning Plan
Volume 4	Social Development Plan
Volume 5	Economic Development Plan
Volume 6	Environment Management Plan
Volume 7	Conservation, Culture and Tourism Plan
Volume 8	Municipal Transport Management Plan
Volume 9	Disaster Risk Reduction Plan
Volume 10	Consolidated Implementation Plan

Working report. Information included in this report is subject to change, correct, and edit.

Volume 11	Financial and Organization Plan
Volume 12	By-Laws
Volume 13	Municipal profile
Volume 14	Feasibility Study – Waterfall Construction in Ward 1
Volume 15	Pre-Feasibility Study – Artificial Lake in Wards 7 and 8
Volume 16	Feasibility Study – Walking Trail in Wards 7 and 8

The IUDP came into existence after realizing that the urban areas are being constructed without proper development of the infrastructures like roads, drainage, water, sewerage services, and disaster risk reduction (Ibid), so disconnecting development, disaster and planning. More specifically, Dhulikhel Municipality is facing a number of challenges. This includes: an emerging low density and scattered settlement pattern in the rural wards with poor access to essential social and physical infrastructure; rapid urban development at a rate that is not supported by key infrastructure; fragmented agricultural land which is becoming urbanized; and prioritization of infrastructure (IUDP, 2019). Considering these challenges, it recommends several short, medium and long-term strategies for the development of DM. The strategies aim for a prosperous city as states in the following slogan (physical dev. Plan, p4).

A prosperous, well governed and model town Dhulikhel based on culture, heritage, tourism and environmentally friendly sustainable development.

The IUDP, thus (Vol 1, IUPD background report, p. 5),

- sets out the planned urban expansion of Dhulikhel in three key areas to accommodate residential, tourism and commercial growth over the coming 20 years.
- supports more intensive development around the commercial centers (*chowks*) that supports existing private and public investment.
- identifies key road, water and sewerage infrastructure to support the growing community over the next 20 years.
- identifies key road connections between the Rural wards (in particular Wards 1 and 2) to facilitate access to schools and health services.
- establishes Land Use Zonings, based on economic, physical attributes and disaster risk management principles, which will support good decisions, guide development in strategically suitable locations and support Dhulikhel’s agriculture sector.
- identifies opportunities to support the growth in tourism and protection of heritage and environmental assets for existing and future generations.
- identifies priority projects to be undertaken by the Municipality over the coming 5 years to support the delivery of the IUDP, supported by a financial plan.

The different volumes of IUDP have set priorities in many essential sectors for the development. In this report, we present the reviews of volume 2 – physical development plan, volume 4 – social development plan, volume 5 – economic development plan, volume 8 – municipal transport management plan, and volume 9 – disaster risk reduction plan. Additionally, we have reviewed the Dhulikhel Municipal Profile (volume 13) and the Agricultural Development Strategic Plan of DM and used information collected from

Working report. Information included in this report is subject to change, correct, and edit.

these reviews in different sections of this report. The next section presents the review of the selected volumes and discusses how the plans and strategies are reflected on urban priorities (i.e., infrastructure, social and economic developments) as set in the objective. Finally, a short summary and conclusion is presented.

2.1 Review of volume 2 – physical development plan

The physical development plan or PDP, informed by both physical and economic conditions of DM, aims to develop sustainable management of land uses, built areas, transportation, community facilities, environment and physical infrastructures. DM has three types of settlements in terms of their characteristics (p. 33). They are Urban (wards 4, 5, 6 and 7), Peri-urban (wards 3³, 8 and 9), and Rural (wards 1, 2, 10, 11 and 12).

Wards 4, 5, 6 and 7 with over 1500 persons/sq. km, are the most densely populated wards of DM. Settlement is dense along and around highways and more on the northern part of highway. Furthermore, land fragmentation and building activity is high in these wards and therefore these areas are identified as potential area for urban expansion (p. 55). The location of municipal office and other governmental offices makes the ward no. 7 the administrative center of DM, which influences the pace of urbanization. Ward 3 is less dense with a population density of 875 persons/sq. km. Wards 9 and 12 have population density between slightly above 500 pp. per sq.km. Wards 1, 2, 8, 10 and 11 are the most sparsely populated wards with population density below 500 (IUDP, 2019, p. 88; see figure 1).

The PDP attempts to link these settlements through the development of infrastructures. The PDP sets the following objectives;

- To integrate all aspects of physical planning into the development of Dhulikhel so that the physical development of Dhulikhel is accomplished with the optimal use of all resources, both human and physical.
- To formalize a hierarchy of settlements and bazars/activity centers across the municipality and support these settlements with residential land supply, services, access and infrastructure.
- To provide a spatial framework for the co-ordination and implementation of sectorial programs and development projects.
- To provide guidelines for the development of a transportation network and planning to strengthen the functional links between rural and urban settlements with respect to the movement of people, commodity flows, the delivery of services, and general social economic activities.
- To provide a spatial framework for the provision of physical infrastructure and social services in relation to the distribution of productive activities and population.
- To preserve the best arable lands to secure food supply now, and for future generations.

The settlements of DM are concentrated in central areas (wards 4, 5, 6 and 7) and within 1 to 2 kilometers along the major highway. These wards are the core of Dhulikhel where commercial, residential and social

³ The characteristics of ward no. 3 is mixed of both urban, as it includes old Dhulikhel (see table 1), and peri-urban, as it locates next to the city core (see Physical Development Plan)

Working report. Information included in this report is subject to change, correct, and edit.

activities are located. Wards 3, 4, 5, 6 and 7 together have most of the market places of this municipality (IUDP, p. 90). Settlements are also increasing in a “ribbon” from along the roads connecting the main bazar area and highways. Settlements in other wards are scattered and isolated where people engage in subsistence farming and they have no proper support system of markets, roads and services (p. 38 & 50).

As projected in the PDP, annual population growth rate in the rural parts of the municipality will remain 1.16% or can even reduce due to rural to urban migration. In the urban wards, wards 4, 5, 6 and 7, annual population growth rate is expected to increase at least by 4.57%. Likewise, the number of HHs in the municipality is expected to increase to 5721 in 2023, 7190 in 2028 and 11355 in 2038 with the total population 24717, 31062 and 49057, respectively (p. 19).

As these projections directly relate to dwelling units (i.e. houses) and land unit, according to PDP, there will be additional 2740 dwelling units in the next 20 years and additional 28.37 hectares of additional land will be required to accommodate residential supply over the coming 20 years (p. 20). DM discourages squatter settlements on land in high risk areas and encourages private sector to develop affordable rental housing and in facilitating access to infrastructure services such as roads, utility lines etc. (IUDP, Vol 10, p. 30).

Additionally, PDP identifies wards 4, 5, 6, and 7 are the least susceptible in terms of landslides and floods so suitable for urban expansion. And wards 1 and 10 are identified as the flood prone areas (p. 44). Considering this, DM has already started a Land pooling project in ward no 4, and has initiated land readjustment project in ward 6 along the Araniko Highway (p. 54). PDP recommends “land re-adjustment plan” in wards 4, 5, 6 and 7 as they are the low disaster risks zones of DM (p. 44) and are appropriate for new development activities. These wards, which are the core of Dhulikhel, already have basic urban infrastructures like road, water and sewerage to some extent. Additionally, according to PDP, urban expansion is best located immediately adjoining these existing residential areas to maximize the use of existing infrastructure (p. 55). Considering this, PDP proposes “Urban Growth Boundary” around the major urban area as a policy tool to clearly show where intensive residential development and subdivision is encouraged (p. 55). It identifies following three Urban Growth Areas (UGA) to accommodate future development in Dhulikhel (p.56, see figure 2)

- UGA 1: The settlement below Araniko Highway in Ward 4, the existing land pool area (approximately 17 hectares)
- UGA 2: Area south east of Main Bazar-Saraswati Bazar-Adda Bazar to BP Highway (approximately 6 hectares)
- UGA 3: Land around KU Road to be consolidated and can be used for urban expansion in the future (approximately 5 hectares)

Working report. Information included in this report is subject to change, correct, and edit.

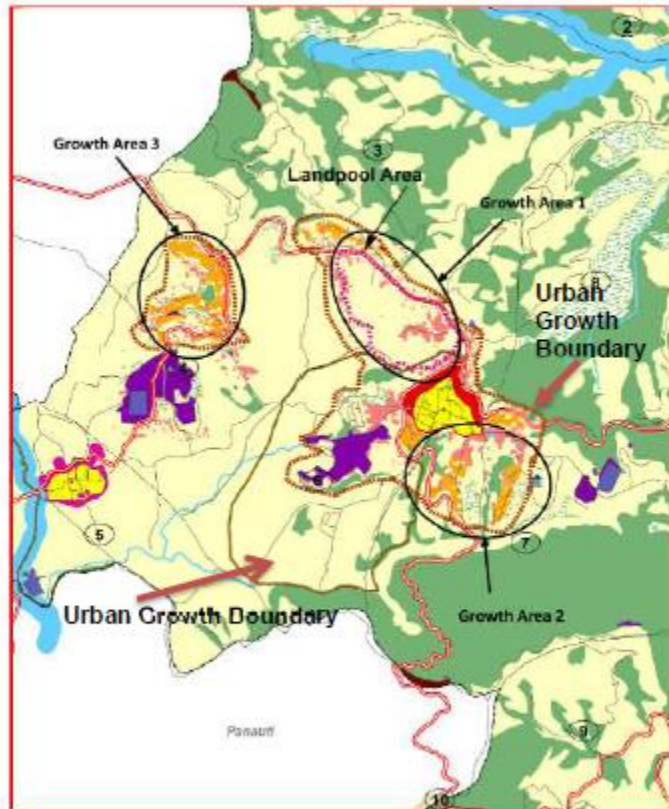


Figure 2. Future residential areas and urban growth boundary (Source: PDP, Dhulikhel)

PDP also identifies the Activity Center hierarchy within the Dhulikhel Municipality, which includes Primary Activity Center, local center and a series of village centers in the rural wards (p. 51).

Although urban expansion is going on the wards 1, 2, 9, 10, 11 and 12 have weak link with the urban core or Bazar area. They, according to PDP, cannot sell surplus agricultural production in the Bazar and have less access to agriculture extension services (p. 39). The PDP suggests linking these settlements with the urban core through the road networks.

As mentioned in the PDP, almost 100% households in all wards have access to reticulated electricity, reliability and service management is very poor. The agriculture development strategic plan of Dhulikhel mentions 5% of the houses in ward 9 do not have access to electricity. Although transformers are there in all wards, the voltage is deficient and electricity is unstable across the Municipality (PDP, p. 36). IUDP of Dhulikhel municipality stresses the need to improve the links between village centers and market centers and has proposed 12 roads for connecting various urban, fringes and rural centers (PDP, p. 27). However, development activities have been haphazard and unplanned, and infrastructure services are inadequate and expensive for the community, and unsustainable environmentally (IUDP, background report, p. 4).

Working report. Information included in this report is subject to change, correct, and edit.

Mobile service (2G & 3G) is available and working well in all 12 wards of the municipality. However contrary to the Planning Norms & Standards 2013 which mandates 100% coverage of landline/mobile services in municipality, wards 1, 2, 8, 9 and 12 lacks landline service (p. 37).

Although urbanization is increasing in DM, only some wards have pipe system for sewerage. Besides in the ward no. 5 where 95% of households are serviced with pipe drainage system, other wards have no piped sewerage system service. The majority of premises in the denser areas of these wards are serviced by septic tanks with soak pits (see p. 32). Additionally, according to PDP's projection, currently distributed drinking water will be insufficient in 2038. Currently, DM is distributing 1.2 Million liters per day (MLD). IUPD projects that the water demand will reach 4MLD by 2038, making the municipality water deficit by almost 3MLD (p. 30). So PDP suggests to add 3 probable sources available jointly in ward No. 1 and 2, and to develop an integrated water supply to serve newly added wards 8, 9, 10, 11. (p. 31).

The PDP identifies agriculture, tourism, health, trade and business, housing as the lead sectors of DM (p. 10) for the long-term development of the municipality, and suggests promoting accordingly. According to PDP agriculture, which occupies 72% of the total land (IUDP, Vol. 1, p. 64), is Dhulikhel's predominant land use and the major source of economy and employment (PDP, p. 21; Vol 7, p. 13; Vol. 5, p. 8). However, agriculture in this municipality, as in other urban areas of Nepal, not only suffers from the fragmentation of agriculture land and land miniaturization for construction of dwelling units on the farmland (p. 22) but also lacks irrigation facilities and extension services. At present, wards 1, 6, 10, 11, 12 have some irrigation service, but other wards do not have irrigation service (ADSP, p. 22). Limited market access is a problem in all twelve wards (ibid, p. 23). Kendra Kulo in ward no. 1, the oldest irrigation system, and Sikhhar Kateri Sichai Yojana in ward no. 2 are serving irrigation. Besides these, Sungure Jammte Lama Irrigation project (ward no.....) is under construction (p. 35). IUDP states that the municipal policy and planning processes must not compromise the agricultural operation of the rural area as this is also an important economic driver in the municipality (IUDP, Vol 7., p. 16). PDP identifies 18 irrigation projects in the entire municipality (p. 35). However, surprisingly, IUDP does not include agriculture among the three key areas for in the integrated development plan for the next 20 year, which includes residential, tourism and commercial growth.

Table 3: Existing land use areas of Dhulikhel

Land use features	Area (sq. km)	Percentage
Barren Land	0.286257	0.524083
Built Up	1.397133	2.557887
Bushes	1.674094	3.064949
Cultivation	28.96515	53.02969
Forest	20.87188	38.21247
Water Resources	0.186891	0.342163
Road	1.239209	2.268757
Total	54.62061	100

(Source: Corrected from IUDP, PDP, p. 49)

Working report. Information included in this report is subject to change, correct, and edit.

In recent years, according to PDP, a number of land use issues have been encountered in the municipality, such as conversion of agricultural land into built-up areas, haphazard development of the scattered settlements, fragmentation of agricultural land, natural hazards like soil erosion, earthquakes and even political issues related to land use decisions (p. 38).

In line with the SDG 6 and the national target,⁴ Dhulikhel municipality has adopted the policy of ensuring “one house one tap”. The municipal government has implemented this policy in ward 1 and ward 11 and aims to accomplish this within the electoral period of the current elected government (Municipal Assembly, FY 2076/77). Household tap water supply is expected to be provided to 630 Households within this fiscal year and to 2000 more household in the next fiscal year. Similarly the municipality has a policy of “one ward, one model school”.

2.2 Review of Vol. 4 – social development plan

As mentioned in the Social development Plan (SDP), it is developed through a collaboration of citizens, organizations, and government, and is “primarily concerned with the physical community infrastructure” required to support the community, by taking into account the development possibilities, potential and challenges (Vol 4, p. 9). Through social development plan, IUDP aims improving the conditions of women, the poor and the excluded by undertaking a community development program and Gender Equality and Social Exclusion (GESI) activities (IUPD, Vol.4). Participation of women in the formal planning processes and development activities such as in the Integrated Planning Committees, self-help groups, Community Based Organizations (CBOs), Community Forestry Users Groups (CFUGs), Citizen awareness centers etc. have increased. The municipality has formed a Women’s Committee to work on women-related plans. Although discriminatory attitude and behaviors towards Dalits have declined, this has not eradicated as seen through social refusal to the inter-caste marriages. Executing its “Community Engagement Policy and Practice”, the municipality aims to ensure that the views of women, Dalit and disadvantaged groups will increase in the planning process and ideas of all members of the community are considered in the development of municipality projects. However, the social and economic status of women and girls vary between rural wards and urban wards of municipality. Moreover, urban-rural connectivity is a major problem in Dhulikhel Municipality. Rural wards within the municipality have poor road connectivity and access to Dhulikhel Hospital; and other services are also concentrated in urban wards (IUDP, Vol. 4). Municipality has special programs oriented for Dalits, Janajatis and disadvantages population, which includes at least 33% representation of women and 30-50% representation of Dalits, Janajatis and disadvantaged groups in the leadership level of social and community organizations and schools management committee (IUDP, Vol. 10, p. 14). The municipality also aims ensuring “safe, affordable and dignified accommodation and secure tenure” (p. 22) and including the voices, contribution and decision-making roles of women, Dalit and disadvantaged groups in the planning process. However, settlements in risk-sensitive zones like landslide susceptible areas, scattered settlements, lack of affordable housing and increase in squatter settlements and poor rural-urban connectivity are some of its major challenges (IUDP, Vol. 4, p. 21). Under municipal policy of making Dhulikhel a “squatter (*sukumbasi*) free municipality”, it

⁴ The Government of Nepal has set a national target of covering basic water supply to 99 percent of households by 2030 (NPC, 2018).

Working report. Information included in this report is subject to change, correct, and edit.

allocated 60 lakh⁵ budget in the FY 2076/77 through which the municipality provides 2 lakh per landless family upon submission of the proof of land purchase (Municipal policy, plan and budget, Fifth Municipal assembly, FY 2076/77, p. 10).

The municipal policy, plan and budget for the FY 2019/20 mentions that the municipality will arrange land within the municipal area at a subsidized rate for those landless who cannot afford to buy land on their own (Municipal policy, plan and budget, Fifth Municipal assembly, FY 2076/77). In the same fiscal year, the municipality allocated 1 crore (10 Million) budget in the “Mayor Poverty Alleviation” program. It also has “Women with Deputy Mayor” as the women empowerment program and awareness programs against caste-based discrimination.

2.4 Review Vol. 5- economic Development policies and priorities

Dhulikhel is known as the prime center promoting trade with Tibet (ADSP, DM; p. 1). Its economy is predominantly driven by commercial agriculture and tourism. Other income sources include trade and business, livestock production, daily wages and foreign remittance. Four sectors focus areas for economic development of the region: Tourism, Agriculture processing, Commerce and Industry, Government services.

Tourism industry in Dhulikhel started developing after the construction of Araniko highway in 1965 (ADSP, p. 1). Tourism, primarily, nature-based tourism, agro-based tourism and culture-based tourism, with provision of home-stays in wards 2, 3, 6, 8, 9, 12, has become a major economic sector and a priority of Dhulikhel Municipality. Kathmandu University and Kathmandu University Hospital promote education and health services-based tourism and are important part of economy of DM. Dhulikhel also has a number of training centers that cater for the hospitality and sewing industries.

Agriculture is a livelihood and source of employment for majority of its population. The municipality has “one ward one special product” program to promote agriculture-based economy in the rural wards (p. 19). Its motto in agriculture promotion is “revolution in agriculture and peace and prosperity by means of agriculture” (ADSP, DM). It has the policy to develop agro-based cottage industries such as vegetable preservation centers, fruit preservation centers, milk collection centers, rice mill, flour mills based on locally available raw materials in each of the wards.

Dhulikhel Bazar is the commercial district of DM and includes the major banking institutions and retail outlets. The main commercial center for DM is located in Banepa, the adjacent Municipality. DM also has few large factories that provide employment opportunities in wards 5, 6 and 9. Polythene pipe production, plastic printing, furniture production and sewing services are small businesses that operate in DM. Dhulikhel has the post office, police headquarters, law courts and jail which employ a large number of people in government services and add to the population and trade of the DM. Dhulikhel municipality recognizes the role of private sector investment in economic development and aims to attract private

⁵ 1 US\$= NPR 118.4 (11-08-2020)

Working report. Information included in this report is subject to change, correct, and edit.

sector in diverse economic sectors. However, large intensive “heavy” industrial uses which can hamper the environment and its tourism-based economy are not encouraged.

2.3 Review Vol 8 – municipal transport management plan

Although DM has good road connectivity with Kathmandu, the flow of public transportation within the municipality is very weak. Most of the roads in DM are narrow and earthen roads. Upgrading of present roads is a major demand of the residents and a priority of DM. The Municipal Transport Master Plan (MTMP) is the first step towards the long-term perspective for the planned development of the transport networks in DM. From the total construction cost based on MTMP guidelines 10%, 35%, 45% and 10% are used for the construction of A class road, B class road, C class road and D class road respectively (MTMP, p. 92)

All roads and intervention is assumed to be completed within 20-year time period. The road budget is allocated in proportion of 70%-30%, allocating 70% of the total budget for road construction and 30% for the maintenance. This budget will be increased by 10% annually (p.6). Social equity is a very important parameter while providing hierarchy of road network and prioritizing development of roads within the municipality. The road link/network needs to be established to give access to all groups of people and there should not be discrimination while providing services, i.e. concept of “equality for all”. Road links that provide the access to minority peoples (areas inhabited by disadvantaged and poor ethnic groups/communities, isolated remote areas) get higher score on the priority criteria (MTMP, p. 92).

2.4 Review of Vol 9 – disaster risk reduction plan

The Disaster Risk Reduction Plan or DRRP is supposed to extensively present municipal plans to mitigate, measure and reduce disaster risks within its constituency. It is yet to be elaborated. However, the report identifies some risk areas and presents municipal risk-reduction plans.

Although the report states DM is prone to natural disaster such as landslides, earthquakes, river cutting, forest fire and flooding, the following table, which is included in the report (p. 7), only shows risk of soil erosion, river cutting and flood affected areas.

Table 4: Natural risk in Dhulikhel Municipality

Ward no.	Soil erosion	River cuttings and Flood
2	Matakhani landslide	Soni, river banks
3	Koirala river	
4	Koirala river	
7	West areas of community stadium	
10	Karki gaun of Sarada Batase	
12	Ekleykhet (large landslide)	Sudhikhola, Maarua khola

Although PDP also mentions ward 1 as flood prone area (p. 44), which does not state by the DRRP. This indicates an inconsistency between the reports. It states DM will be protected by all kinds of hazards (p.9) by applying physical development plan, land use and zoning plan, environment management plan and By-laws. For this, DM will apply building code regulation, protect residential, educational and hospitals areas

Working report. Information included in this report is subject to change, correct, and edit.

by applying a buffer between heavy industrial uses and sensitive uses. Additionally, DM plans to monitor air, noise water pollution in strategic areas and will reduce it by 90% than present. But the report does not state when this target will be achieved.

DRRP explicitly mentions that it will discourage squatter settlements but incentivizes private sectors to construct affordable rental housing, and consider land plotting while constructing road and developing settlements.

To prevent/reduce landslide effects, it plans to undertake annual forestation programs and construct dams in flood prone river such as Punyamati within five years. It also plans to identify fire risk areas, especially in traditional settlements, and reduce effects by developing fire-fighting infrastructure, developing provision for fire-fighting services, and raising awareness of fire risk and its measures. DRRP also plans to form Disaster Risk Management Centers, emergency ambulance and vehicle in each of the settlements. To reduce vulnerability, it aims to develop open spaces and alarm system in case of emergency. The DRR management committee will regulate DRR related plans and programs in DM. Although DRRP states that DRR committee will be managed by District Office, the Disaster Risk Reduction and Management Act 2017 authorizes municipalities to form a powerful DRR committee which is not realized by this plan.

It is also worth stating that DRRP will be applied in accordance with other plans such as physical development plan, land use and zoning plan, environment management plan, and by-laws.

3. Kavrebhanjyang, Ward 9 of Dhulikhel Municipality, a potential Study site for PolCap

According to IUDP, Kavrebhanjyang, ward 9 of DM, has population density lower than the urban wards, but higher than the rural wards of Dhulikhel Municipality. Ward 9 has extreme water problem with only 40% population having water supply facility. It is among the wards without water source and a deep borewell is proposed at Darimbot (ADSP, p. 27; IUDP Vol. 1, p. 63). The deep boring is also expected to provide irrigation service to 400 ropanies of land (ASDP, 2018, p. 12). This is the only ward in Dhulikhel municipality which does not have 100% access to electricity. It is among the wards with good milk production and has a milk collection center. Major market of Kavrebhanjyang is Banepa and major road is BP highway. Major crops of Kavrebhanjyang are rice, maize in Darimbot, Thulitar, Sudikhola and potato, peas, vegetables in all wards and organic farming in Gaipalan-Panityanki, Thakurichap. Potential tourist spots are Devithan, Deurali Danda picnic spot, Drisyaablokan, Kavre Danda (Karthari School Area) Picnic spot, Drisyaablokan Devisthan View tower. Dhulikhel municipality aims to expand its tourism business to its rural parts and encourages development of homestays, a growing category of accommodation for tourists in different wards, including ward 9. Other wards where the municipality aims to promote rural homestays are promoted are wards 2, 3, 6, 8 and 12 (Vol. 10, p. 28). Vegetable nursery program has been proposed in ward 8 and 9 (ADSP, 2018, p. 30).

4. Summary and Conclusion

Dhulikhel Municipality (DM), having 12 wards, is urbanizing, primarily under the influence of trade and tourism. Agriculture however continues to be the main economy for the majority of its population. Urban population in Dhulikhel is increasing at an increasing rate in the urban wards, i.e. 4, 5, 6 and 7. The rural-urban connectivity is poor and thus pace of urban development in the rural wards is slow and this imbalance in distribution of the population and development between the urban and the rural wards is a major need as well as the major challenge for DM. In this context, DM has initiated an important process towards a planned development by formulating Integrated Urban Development Plan focusing on different areas and identifying the key areas for its long-term development. Physical Development Plan not only plans for infrastructure development but it also has vision for the Urban Growth Areas so the infrastructural development will be prioritized accordingly. Through the Social Development Plan, DM sets plan to involve women, dalit, and marginalized communities in all socio-economic activities of the municipality. Likewise, DM, through its Economic Development Plan, aims to focus on tourism, agriculture processing, commerce and industry, and government services to not only improve the economy of the municipality but also facilitate the wellbeing of its dwellers. Furthermore, DM categorizes A class road, B class road, C class road and D class road for the proper management of transport development within its constituency through its Municipal Transport Master Plan. Finally, as DM is suffering from landslides, floods, soil erosion, fire in addition to the Earthquake and air pollution, it plans to reduce both natural and non-natural disasters through its Disaster Risk Reduction Plan.

While formulation of these policies, plans and strategy is an important achievement, the review showed a lack of consistency in the municipal data presented in these policy documents. Additionally, compliance with the ground situations and clarity in the planned activities will be important in institutionalizing these formal policies and plans. Institutionalizing these municipal policies and implementation of the planned development activities with due consideration to the preferences and priorities of local population and the ground-level realities of differences in their abilities to participate and influence planning and development activities will be important for inclusion of the marginalized areas and groups within the municipality. This will also set forward the directions for equitable development in making Dhulikhel “a prosperous, well governed and model town Dhulikhel based on culture, heritage, tourism and environmentally friendly sustainable development” envisioned in its integrated development plan.