

Applications are invited from the Planners with details CV and other relevant documents and should be addressed to Director, DUDES/MoWHS, Thimphu.

Detailed TOR can be downloaded from www.dudh.gov.bt. The short listed candidates only will be contacted for the interview. The last date of submission of application is 3rd March, 2008 at 2 PM sharp.

For further information please contact at the following telephone Nos. 00975-2-321828, 00975-2-324336, 00975-2-324337.

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TERMS OF REFERENCE FOR THE PREPARATION OF PLANS FOR TRASHIGANG AND GYELPOISHING

Duty Station: 1. Trashigang 2. Gyelpoishing.

Duration: Two Urban Planners /Designers for a period of 6 months each for two towns.

Post: Urban Planner/Designer

Qualifications:

- Masters degree/PG Diploma or equivalent in urban/regional planning/urban design.
- Specific extensive knowledge on urban planning in preparation of urban structure and local area plans in small and medium type of urban settlements. Preference will be given to those who have the knowledge to adopt the land pooling technique, experience in Bhutan or hilly regions where the settlements are located in steep slopes.
- At least 3 years experience in planning, designing and management of urban planning projects. Similar work experience in Bhutan will have an added advantage.
- Fluency in spoken and written English and use of computer knowledge in the production of plans.

- Should have the experience and the skills to conduct public meetings as urban planning in Bhutan is participatory and needs to address the problems of all stakeholders through public meetings and dialogues.

Duties:

The Urban Planner shall review firstly Trashigang and then Gyelpoishing towns' plans. The review, preparation and finalization of the plans shall be guided by but shall not be limited to the requirements in annex-1. The duties include but are not limited to the following:

Trashigang

- Review and finalize the draft urban development plan and existing plans for Melphey and core area Trashigang. This includes reviewing of Bus Terminal, parking places and footpath links and identifying service industries.
- Determine whether Trashigang can be a heritage town after consulting with the Dzongkhag administration and the Department of Culture, MoHCA and prepare the Plans and Regulations accordingly.
- Prepare number of alternatives for each Local Area. Also include a pedestrian oriented plan for one of the local areas in Trashigang.
- Prepare the Development Control Regulations for the town.

Gyelpoishing

- Prepare the structure plan for Gyelpoishing after reviewing and revising municipal boundary.
- Review and finalize the existing layout plans for Gyelpoishing. This includes identifying service industries.
- Prepare number of alternatives for each local area.
- Prepare the Development Control Regulations for the town.

General

- Conduct various meetings with public, land owners, respective municipalities, DUDES and other concerned agencies.

- Collect missing cadastral data if any from the concerned authority and the land owners through announcement, household interview, field verification etc. with the help of the municipality.
- Prepare overview of the priority development projects with a staging plan to guide DUDES and the municipality in the phasing of investments.
- Assist the municipalities to prepare and finalize plans and working drawings for roads, storm water drainage, foot path, sewerage network, water supply etc.
- Prepare reports for each Local Area Plans containing write up, drawings and illustrations.
- The Urban Planner shall prepare a monthly work plan for his personal work and submit it to the Programme Director and the municipality.
- A technical staff from the respective municipality shall be attached with the consultant during the field visit/ work.
- The Urban Planner shall report to the Chief Town Planner for additional technical matters.
- Public meetings shall be held by the respective municipalities to consult on the plans for which the Planner shall provide technical backstopping.
- After the Plans are approved, the Planner shall guide the municipality during the demarcation of the plots.

Documents to be referred:

1. Thimphu Structure Plan – available at www.dudh.gov.bt
2. Trashigang Draft Urban Development Plan (Structure Plan).
3. Layout Plans for Gyelpoishing.
4. Kurichu Project document.
5. Urban Roads guidelines.
6. Land Pooling Manual.
7. Urban Development Plan and Local Area Plans for Mongar.
8. Ninth Five Year Plan (9FYP) document (District and National).
9. Bhutan Building Rules (BBR), 2002.
10. Guidelines to Traditional Architecture of Bhutan.
11. Draft Tenth Five Year Plan (10FYP).

12. Thromde Act, 2007.
13. Land Act, 2007
14. Draft Plans of Kanglung and Rangjung.
15. Draft Bhutan National Urbanization Strategy, 2006.
16. National Population and Housing Census, 2005
17. Draft Bhutan Planning Standards.

Background

Bhutan is rapidly urbanizing. This is primarily due to successful education and health programmes and rural-urban migration. Rural – Urban migration is a result of the perceived better life in the urban areas and lesser incomes in the rural areas despite their hard work. It has been envisaged that by the year 2020 the urban population is likely to exceed 50%. This has called for a focused development in the urban areas to absorb the increased population by way of promoting a planned urban growth and explore possibilities of urban employment. Presently there are 54 declared urban centres ranging from small settlements to large towns like Thimphu and Phuntsholing. Though some of the centres are very small in terms of population, these centres are providing off-farm employment and also serve as service centres to their respective hinterlands. Large development projects, like hydropower projects, national roads and social infrastructure, have created a demand for manual labour and a market for farm surplus. This suggests a growth in economic prosperity, with people now seeking urban employment, investment in urban assets and simultaneous migration to the urban areas.

Although a draft urban development plan for Trashigang had been prepared in 2006, it has not been finalized due to man power constraints. The finalization of the plans has been scheduled for the financial year 2007-08. Any delay in preparing the plans will lead to further adhoc development by land / property owners.

The Department of Urban Development and Engineering Services (DUDES) under the Ministry of Works and Human Settlement (MoWHS) is mandated to prepare urban development plans for the promotion of a planned physical setting in all the emerging towns. The preparation of urban structure plans and local area plans has been prioritized for the selected towns.

The DUDES invites applications from Regional Urban Planners /Designers who have wide experience of Urban Planning especially in hilly terrain and can dedicate all his/her time to this particular project to review and come up

with a number of alternative proposals for discussion with stakeholders and selection of the best one. The project also includes preparation of Development Control Regulations for both the towns with management strategies.

Trashigang

Trashigang town is the largest urban centre in interior eastern Bhutan. It is also the administrative centre of Trashigang district. The town is about 550 km east of Thimphu city along the East-West Highway and about 179 km north of Samdrup Jongkhar town, the main gateway to eastern Bhutan. Trashigang town, besides serving as the economic and service centre for the hinterland within Trashigang, is also an important transit hub for the adjoining Dzongkhags of Trashi Yangtse and Mongar. Geographically, the town is not centrally located in relation to the other Gewogs (blocks) primarily because much of the Dzongkhag has rugged landscape with steep terrain and deep ravines. The location of the town along East-West Highway places it in a strategic location economically. Important mule tracks still connect the town with the adjoining villages. The closest satellite towns of Trashigang are Ranjung (17 km to the north-east) and Kanglung (22 km to the south-west). As the administrative centre of the largest district in eastern Bhutan, Trashigang town has the potential to become the commercial, financial, and economic hub in its own right.

Gyelpoishing

Gyelpoishing town is about 35 kms away from Mongar town and has favorable climate and suitable land for development. The place has a potential to become a significant tourist and regional centre because of i) important existing institutions (including the Kurichhu power project, road junction, the Higher Secondary school, BHU, RBP, Telecoms, Department of Roads and the Agriculture farm); ii) an artificial lakeside setting created by the presence of the dam for the hydropower project; and iii) a planned highway to Nanglam which will place Gyelpoishing as an important transit hub for the adjoining Dzongkhags and Gewogs.

ANNEX-1

PREPARATION OF STRUCTURE PLAN

The Structure Plan will cover the municipal areas identified by the Dzongkhag Administration of Trashigang and Gyelpoising towns, and high growth areas bordering these towns that are likely to be included in the town area in the next ten to fifteen years.

The main responsibilities of the Consultants will include the following:

- Ensure the formation and training of a cohesive team consisting of the consultants, municipality representatives and the DUDES representatives at the inception of the project.
- Ensure full participation of the municipalities /town committees and the stakeholders.
- Liaise with the communities /town committees in all matters relating to urban planning, designing and implementation of plans.
- Review/ Prepare Structure plans for Trashigang and Gyelpoishing.

Main Responsibilities of the Consultants

The following are the main responsibilities of the Consultants (but not limited to) in undertaking the Structure Plan Preparation:

- A. Review relevant previous studies and secondary data to determine and prepare a report on the existing social and physical condition of the respective towns.**

This report will include and cover the following:

- **Physical Environment** – describe and map: topography including steep slopes > 30%; geology and soils; surface hydrology (water bodies, watershed catchments and flood prone areas); climate (data for all months for at least 5 years); air quality; noise levels. Identify key issues.
- **Built Environment** – describe and map: public open spaces; building heights; cultural and heritage assets; visual assets (vistas to and from town) and scenic areas; important urban design features and precinct characteristics. Identify development trends and key issues.
- **Ecological Environment** – describe and map: vegetation (marshland, forestland, protected areas); wildlife; and ecologically fragile and protected areas.
- **Land Use** – describe and map: land use categories (residential, commercial, industrial, agricultural and forested, recreational; Government and private land ownership, including cadastral¹; land transactions and land market values; population density (based on 1986 plans). Assess land use trends and key issues.
- **Infrastructure, housing and services networks** – describe and assess coverage, service levels, physical condition, operation and maintenance, other deficiencies, and map the following:
 - Water supply and sanitation - including water supply sources, treatment and distribution network facilities sanitation and sewerage network, facilities and management;
 - Storm water drainage system;
 - Electricity sources, distribution network, street lighting and telecommunications;
 - Transportation – describe and map: existing and proposed road, pedestrian network, public and transport network; traffic movement and volumes; need for bridges and culverts and related infrastructure; vehicle ownership ratio and growth; issues on parking and its management at both existing and potential areas;
 - Solid waste management collection, transport and disposal.
 - Housing – housing types and sizes; current demand and supply by income group, tenure, and ownership (private, public, institutional).
- **Socio-Economic Environment** – Assess status, trends and map the following: social facilities (schools, health clinics/hospitals, recreational and community facilities); commercial (retail and

¹ A cadastral map of the Project Area will be supplied by the SOB/DUDES. It will enable the production of the cadastral map. Updating is the responsibility of the Consultants.

wholesale), industrial facilities, and employment); government and public institutions; economic base (manufacturing, trade, agriculture) and links to regional economy; relevant community groups; and urban poor.

- **Base Maps** – prepare new maps based on the survey map provided by the Dzongkhag/ DUDES and the field verification by the team (Note: All report maps will be A3 size, municipality ‘working’ maps will be A0, and the legends are to be readable even in a black and white format.
- **Urban Management** – Assess current institutional and financial system including organizational structure; roles, responsibilities and capacities of town management; financial status of the respective Municipal Corporation; role of the private sector in urban services.
- **Recently completed and pipeline projects**– New and proposed infrastructure, housing and other projects.
- **Special Issues:** International Boundary and Indo-Bhutan Border Gate for Samdrup Jongkhar – Study and analyze the existing issues concerning the law and order in order to propose appropriate uses along these areas.

B. Conduct a Household Survey

The Consultant will design, conduct, analyze, and prepare a report on a household survey covering sample residents, land occupants, landowners, employers and workers in the area. The questionnaire, prepared in consultation with the respective municipality representatives, will cover the following issues:

- Household characteristics (size, ages, gender, income, expenditure, employment type, vehicle ownership and mode of transport);
- Dwelling characteristics (type of house, tenure, number and sizes rooms, water and sanitation status, solid waste management);
- Perceptions of the town, its strengths, weaknesses, opportunities (growth potential), and threats;
- Priorities for development including housing, infrastructures, public transport, open space, and conservation;
- Willingness to participate, as an individual or part of a community group, in design, implementation, and funding of specific projects.

C. Conduct Demographic Studies

This will include:

- Population growth rates and population projections, disaggregated by 1986 map zones, for various development scenarios for 5, 10 and 20 years, based on Dzongkhag data, the 2005 Census, and new field data if required. The consultant will use and compare several population projection methods.
- In and out migration patterns and rates, including that of floating populations,
- Carrying capacity of Trashigang and Gyelpoishing, checking on the standards as per the planning standards of 1999.

D. Prepare Draft Structure Plan with the proposals for action

This would include the following:

- **Overall Objectives**
 - Formulate urban development and conservation objectives that take into account existing conditions, ongoing and planned programs and projects, needs for improved services and accommodation of new households, equitable distribution of benefits, appropriate service levels, financial and political feasibility.
- **Circulation, Mobility and Access**
 - Proposed road network and transportation plan – covering: new and upgraded roads and intersections, and on- and off-street parking facilities; public transport system including bus routes, taxis and stands, pullovers and related facilities (refer Urban Roads Manual, 2002).
 - Proposed open space network and pedestrian circulation system – mapping of the open spaces system and the pedestrian circulation system. off-street walkways pedestrian pathways and links would be accessed and planned for.
- **Proposed Precincts Plan**
 - Existing developed areas – refer to precinct types in existing Structure Plans and identify and delineate existing areas with distinct character to be defined as ‘precincts’. Prepare schedule specifying, for each precinct, permissible uses, subdivision rules, plot size, plot coverage, building and architectural form, other regulations, and environmental improvements. Determine the population carrying capacity.

- New expansion areas – identify and delineate areas for expansion. Prepare schedule and determine population carrying capacity as above.
- **Proposed Natural Environment Protection and Enhancement Zones**
 - Identify and delineate areas (zones) needing special protection including for: surface and groundwater supply sources and catchments; soil erosion and landslide prone area; flood-prone areas; forests; agricultural areas.
 - Identify required measures to mitigate hazards and to protect assets in all protection zones, including permitted/prohibited development and uses.
- **Proposed Amenities and Services**
 - With reference to precincts, identify need for and locate new facilities including schools, health clinics/hospital, sports and recreation, police quarters, shops, warehouses, and offices. Crematorium sites to be identified / reviewed.
- **Proposed Infrastructure and urban services**
 - Water supply and sanitation – based on project population, determine water demand, need and proposed options for additional water supply and sanitation treatment and distribution facilities
 - Fire fighting facilities – determine need for and propose options.
 - Solid Waste Collection and Disposal System
 - Street lighting and underground utilities corridor.
- **Shelter Strategy** – With reference to the Bhutan Housing Sector Reform Project Draft Final Report (2004), prepare a strategy to address the need for appropriate housing solutions for all, but particularly low, income groups that takes into account affordability, willingness to pay, housing characteristics (type, size, location, service levels, tenure), development options (redevelopment, upgrading, sites and services, new development), financing sources and mechanisms, roles of government and private sector, rate of delivery.
- **Projects of Special Significance**
 - Determine any potential projects of national significance within the two towns.
 - Preparing Strategies towards Incompatible Land-Uses within the towns.

E. Prepare Structure Plan Implementation Tools and Strategies

- Development Control Regulations – review and modify the Thimphu Municipal Development Control Regulations to suit the requirements of the respective Structure Plans. Note that Local Area Plan provisions would supersede the general development control regulations in the Structure Plan.
- Investment plans – For all physical proposals and management capacity development initiatives, estimate costs, propose timing, and identify responsible agencies and sources of financing.

F. Discuss the Structure Plan with stakeholders

The Consultant will present the structure plan atleast at the inception, interim and final stage of the plan preparation as stated in the work plan. However, the consultants are encouraged to have as many numbers of meetings as required. They will present the plan at all three stages mentioned above to the town committees, DUDES, concerned department and the agencies and the public respectively for discussion. The Consultant as per the schedule shall carry out modifications as required in the work plan. At the final stage of discussion, the town committees will endorse the plan. Than finally it shall be presented to the National Consultative Committee on Human Settlements (NCCHS) for final approval. A completion certificate shall be issued only upon approval of the plan by the NCCHS.

G. Prioritize Development Works

The Consultant will:

- Prioritize the proposed development activities in consultation with the respective municipalities and will prepare an implementation schedule accordingly.

H. Produce the following outputs/deliverables

- i) Initial Report (10 copies)

The Initial Report shall be submitted within the scheduled programme as per the work plan. The report will include the results of the Consultants' review of the existing plans, surveys and necessary documentation of the studies and analysis of the respective areas.

- ii) Draft Report (10 copies)

The Draft Report shall be submitted before the presentation to the municipalities, Town Committees, DUDES, concerned departments/agencies and the Public.

iii) Final Report (10 copies)

The Final Report shall be submitted after the modifications have been made and final approval accorded by the National Consultative Committee on Human Settlements (NCCHS).

(Note: All report maps will be A3 size, municipality 'working' maps will be A0, and the legends are to be readable even in a black and white format).

PREPARATION OF THE LOCAL AREA PLANS

Objectives of the Local Area Plan

The objectives of the Local Area Plan preparation is to

- Contribute to planned development in the respective towns of Trashigang and Gyelpoishing.
- Consolidate and subsequently readjust the land in areas for improved development.
- Ensure complete participation of the municipalities /town committees, concerned agencies and the landowners in the preparation and approval of the plan.
- Review / Prepare two detailed Local Area plans for Trashigang (in the Core Area and Melphey) and one Local Area Plan for Gyelpoishing.

Requirements of the Local Area Plans

The areas for which the Local Area Plans are to be prepared by the consultant will be discussed and selected based on their potential and importance as determined by the respective municipalities and the DUDES. The consultant will prepare a couple of alternative concept plans of each local area for discussion. The local area plan will follow all the requirements as in the Structure Plan preparation (Phase I) but in more detail. The plan will locate all roads, property boundaries, water supply lines, electric and commutations lines, public open spaces, bus stops, neighbourhood nodal area with convenience shops, post box, taxi stand, kiosks, small park, public walkways, sports area, religious structures and local services like schools, clinics and amenities. This would be at a scale of 1:500.

For each local area plan, the consultant will identify and justify the most suitable land development method, considering both the physical context and the opinions of the land owners. Land development methods will include land pooling (LP) and guided land development (GLD).

The Consultant will draft specific Development Control Regulations (DCR) for the Local Area, which will be based on the general Development Control Regulations (DCR) prepared for the Structure Plan. The DCR for the local areas will supersede the general DCRs.

Preparation of the Layout Plan

Local Area Plans will conform to the structure plan. They cannot alter the provisions of the structure plan, but an objection to a local plan may relate to the way in which its proposals seek to implement the structure plan. Local Area Plans will specify the layout of the area with due consideration to the efficient use of and need for infrastructure. After consolidation of all the land parcels in the areas that are part of Land Pooling scheme (e.g excluding plots or section of plots that are part of the GLD area), the Consultant will prepare a readjustment plan for the plots in consideration of the need for contribution of land for infrastructure and land for open spaces, service plots and other common facilities. All readjusted plots must have access to road. Principles for contribution of land from all existing land owners in proportion to the original size of their plots and to their future benefits will be worked out by the Consultant after calculating the areas required for open space system, circulation system, utilities network etc. The Consultant will register the owners' name and the number of all plots according to the official registration. The size of the plots after the readjustment will be calculated and the Consultant will finally prepare a layout plan for the respective Local Areas showing the road layout, other proposed infrastructure and the readjusted plots of the area. This layout plan will also show the distribution of land use zones or precincts. The precinct schedule will show the minimum plot size, plot coverage, uses etc. The layout plan will be prepared in coordination with the respective municipalities, DUDES and the respective government departments and concerned agencies. The Town Committee will be consulted at all stages of work.

Formation of Local Committee

The Consultant in consultation with the respective municipalities shall form a Local Committee for each Local Areas comprising of representatives of all affected landowners and other persons as members. Public participation and consultation will be given a priority in the Local Area planning process. The committee will elect their speakers who can be in constant dialogue with the planning team. The Local Committee shall represent the community of all land owners affected fully or partly by the plan. The concerned authority will put their plan proposals on display and for public consultation for a fixed period of time after which no consultations will be entertained. The committee shall assist the consultants and the Municipality representatives in the planning process for developing the infrastructure for the area, readjusting the

existing plots accordingly and formulate common principles for community participation in the future operation and maintenance of the facilities provided by the Project.

Discussion of the Layout Plan

The Consultant will present the Layout plan three times, at the inception, interim and final stage of the plan preparation as per the work plan. They will present to the Municipalities, DUDES, landowners and concerned department and agencies respectively for discussion. Modifications as required from the feedback shall be carried out with the help of the Local Committee representatives. The revised plan will then be presented to the Town Committees. The Consultant will again carry out modifications until endorsed by the Town Committees. Finally, the Plan shall be presented to the National Consultative Committee on Human Settlements (NCCHS) for final approval.

Demarcation of the plots

After the approval is sought, the respective municipalities with the help of the Consultant and the DUDES will demarcate the plots according to the plan.

Distribution of the Land Ownership Certificates

The Consultant will prepare necessary documents for the land ownership certificates of the readjusted plots. In this connection, the Consultant will provide necessary information to the Department to enable those agencies to issue this certificate to all landowners that are partners of the Land Pooling Scheme in the Land Pooling Area and/or the GLD Scheme in the GLD Area. The information will consist of data on the location and size of the new plots, infrastructure and existing buildings as per the cadastral map to be produced by the Project.

The Consultant will provide relevant input in respect of the Areas covered by the contract, the readjusted plots, open spaces, service plots, buildings effected by the infrastructure, and other existing houses and structures in the Project Area.

Outputs / Reports.

Draft Report (10 copies)

The report will contain the Draft Report with all supporting documentation of the field verification, survey, land records etc.

Final Report (10 copies)

The Final Report shall be submitted after the modifications have been made according to the feed back and the discussions from the public consultation, town committee meetings and finally from the National Consultative Committee on Human Settlement (NCCHS).

The final payment will be made only after the approval has been accorded by the National Consultative Committee on Human Settlements and the demarcation has been finalized at site. The Consultant will submit the soft copies and hard copies of both the original (raw) data collected during the planning process and the final project after the approval. The Soft Copies of the Final project will be submitted to the respective municipalities and the DUDES.

(Note: All report maps will be A3 size, municipality ‘working’ maps will be A0, and the legends are to be readable even in a black and white format).

Consult with Municipality/DUDES and the Concerned Agencies

The Consultant, in each stage of the work, is required to maintain close consultation with the respective Municipalities, DUDES and the stakeholder agencies. Any comments, advice and instructions on study/design works should be strictly and immediately executed by the Consultant after the review by the above parties. Coordination meetings with participation of all the consultants will be held every two weeks.

Executing Agency - Department of Urban Development and Engineering Services

The Department of Urban Development and Engineering Services (DUDES), RGOB, is the sponsoring agency of the project and as such has the prime responsibility to see that the exercise moves forward. In this regard, the DUDES will support the consultants while they are in the project areas and guide them in every way possible. DUDES must support the project by facilitating meetings with the respective municipalities, concerned Departments and other government agencies to obtain data and feedback. DUDES will also provide the consultants with past studies and reports of the cities’ development efforts and any other related material. DUDES will read all reports within a reasonable and short period of time and give their feedback to the consultants within a time frame that maintains the project schedule.

Stages of Work

In order to ensure proper co-ordination and maintain progress during the Planning and designing stages, the Project shall be carried out in the following stages:

- Stage I - Review previous studies, plans and demographic studies prepare a report on the existing social and physical condition of the respective towns.
- Stage II - Public meeting, Ground Verification and Household Survey.
- Stage III - Review/Revise/Prepare the Structure Plan. Review and revise the Local Area Plans. Prepare new alternatives.
- Stage IV - Preparation of the Implementation Strategies/ Development Control Regulations and presentation of the Local Area Plans.
- Stage V - Prioritization of development works.
- Stage VI - Final presentation and Approval for Structure Plans and Local Area Plans. Guide the municipality during demarcation.