

The Nansheng River winds through the centre of Wuzhishan City encompassing both urban and semi-urban areas over a distance of some 3.4 km. Some 120 metres wide, the river is easily the town's most distinctive feature. Beyond the compact built-up area, to the west of Park Island south of Chunlei Dam and to the east of a strip of buildings off Hai Yu Nan Bridge are urban fringe areas. These lead to the National Cultural Village Resort (an abandoned theme park at the eastern extremity of the UTAP area) while the town's older dam forms the western extremity. Here the environment has a more rural character, forming a pleasant contrast to the bustling urban activities of the town centre, yet within easy walking distance of the latter (fig. 1).

The main activity areas of the town lie between the two main bridges (Ai Min and Hai Yu Nan Bridge). Here are the main commercial area (along the north bank), the main shopping streets (just off the south bank), as well as a range of public buildings, including the town hall, Government offices and entertainment areas (notably the theatre and cinema close to Hai Yu Nan Bridge). Around 8,000 people live in the waterfront area, with most living in the more congested southern bank (5,200 inhabitants compared to some 2,800 residents on the north bank). Although roads align the riverfront in the centre of the city, there is relatively little activity directly or indirectly associated with the river. Only informal riverside cafes, which have recently sprung up on the southern bank between the two bridges, have taken advantage of the river's fine views. Notably there are virtually no tourist developments other than a scattering of hotels that mostly cater for business travellers and which are generally in a run-down condition.

An exception is the recently opened Jinshan Grand Hotel near to Ai Min Bridge.

Existing Land Use Distribution

The map "Existing and Committed Land Use" shows the main land use (existing and committed) distribution of the UTAP area (a detailed description of the land use of the UTAP area is shown in the main report).

In general terms the area can be divided into the following land use components:



- A small business district on the north bank off Ai Min bridge, with a bank, office buildings and a hotel (notably including the ICBC building, a landmark building) (fig. 2);
- A general commercial area, generally more run-down and including workshops and the bus station, further to the east off Hai Yu Nan Bridge, also on the north bank
- A more vibrant retail commercial area located at Hong Qi Road and Jie Fang Road, one and two blocks respectively from the waterfront on the south bank (fig. 3);
- Extensive sites allocated to education, in the form of schools, university dormitories, and teaching colleges, at the western and eastern extremities of the town centre and complementing Qiongzhou University, which perches on a hill looking over the riverfront;
- A disused industrial area located on the south bank immediately north of the Chunlei dam, consisting of abandoned buildings scheduled for demolition;
- Green, unmanaged open areas along the riverbank along the eastern and western fringes of the town (fig. 4).



Residential properties are distributed throughout the city: nearest the waterfront and the town centre they usually occur in mixed commercial buildings (with shops on the ground floor and apartments above). South of the riverfront they are more concentrated and assume the character of more standard housing areas, with fewer ground floor commercial premises and quieter residential streets.

One noticeable factor is the lack of open space in the town, despite its overall greenness due to the presence of many tree-lined streets. Apart from the town park, the only green spaces for residents are those (unmanaged) aligning the waterfront at the eastern and western extremities of the town.

It is also noticeable that many of the public buildings occupy large sites, notably including the educational buildings but also the bus station and depot on the north bank. Some occupy prime waterfront sites, notably those of the high school immediately south of Hai Yu Nan Bridge. These spaces are featured by a sense of fencing (physical, functional, visual) that give a negative perception of the place.

Committed Developments

There are number of planned development in Wuzhishan City which will affect the planning of the waterfront. These consist of:

New Chunlei Dam

This small dam with floodgates, 123 metres wide, is located at the southern end of the town centre. It is now

completed and allows a better regulation of water flow along the Nansheng River, with water levels rising to 1.5 metres. As the river was formerly shallow and braided, the additional water now improves the aspect of the water. The dam is also designed to include through-traffic and could therefore act as a third bridge (fig. 5)

Demolition of Industrial Buildings

There are plans to demolish the industrial buildings just north of the dam, which are already abandoned. This would relieve a clutter of unsightly buildings here and open up the riverfront, forming opportunities for a riverside park.

Development of Wuzhishan City Ring Road

Already partially being built, to the south of Park Island, the road would extend behind the waterfront to cross the river by means of a new bridge west of the old dam (also to be repaired to regulate the flow around the island). As shown in Figure 5.1 the road would then proceed behind the urban area north of the river to link with the existing urban road system (at Hai Yu Bei Road) before proceeding westwards beyond the town where it would again cross the river by means of a new bridge (the fourth river connection for the town) taking traffic out of the town centre. There are also longer-term plans for another bridge and road extension further to the east. The development of a ring road is an ambitious project but one that could nevertheless provide opportunities for pedestrianisation projects in the town centre as through-traffic here would be reduced.

Park Island

Former proposals by a private developer to develop the island as a display area for Li and Miao dance shows as well as low-key entertainment facilities have now been abandoned (fig. 6, 7).

Built Form

The UTAP area contains both urban and semi-urban areas. This is reflected in the built form, with relatively high building densities recorded in the centre of the town, approximately between Chunlei dam and the easternmost bridge, and much lower densities outside of this central area. At the fringes of the town, defined in tav. "Urban Design" buildings are located amidst open spaces and include some village-type housing. As reported in Chapter 4 Wuzhishan's built environment is characterised by mostly modern buildings of contrasting styles, many of which have little design quality. As such there is little evidence of any Li heritage and architectural styles in the town, unlike the



countryside areas where traditional houses, with thatched roofs and distinctive Li ornamental features on facades are still found. Allied to this is a general lack of any quality landmarks in the town or along the waterfront. Indeed the two existing bridges are the only remarkable features along the waterfront (although the new dam could potentially become an attraction).

Building heights are generally between four to eight storeys, although there are parades of lower, two to three storey buildings usually located along specific shopping streets. Riverfront buildings are generally over 4 storeys. Near to the commercial centre along the north bank however is a cluster of higher buildings of over 8 storeys. These, although generally not outstanding architecturally, do provide a sense of place for the commercial centre (fig. 8, 9).



The lack of building style and quality landmarks are probably the greatest weakness of the urban design of the city, albeit that this is not an unusual phenomenon in Hainan or other Chinese towns and cities. It follows that recommendations for improving the appearance of buildings should focus on pro-active solutions as well conservation measures are suggested for traditional buildings and significant urban elements. Maintenance measures are also recommended both to improve the existing buildings quality and to enhance the whole perception of the urban space (fig. 10).

The site appearance is the strongest appeal for tourism, specially overseas flows and eco-cultural ones that want to enrich their trip by an authentic experience of the place (including people daily life, local culture and emotional needs). Therefore the design quality of building, street and urban spaces is very important in the UTAP strategy and it's the main objective of the waterfront regeneration.



In this frame, the urban scan done under the UTAP process is oriented to point out the positive features that already exist in the town, some of which are strongly related to the waterfront. These opportunities are described below:

Presence of tree lined streets: these cover many streets in the urban area. They also add an important sense of greenery and freshness to streets and squares and help screen ordinary and uninteresting buildings (fig. 11).

Presence of some interesting buildings: if refurbished these could accommodate tourist-related uses such as specialist shops, cafes etc. These building could improve the shared sense of the place, creating a sort of hot spot of the story of recent city development (fig. 12).

Fine open views over the Nansheng River with promenades in existence (albeit in a poor state of repair). These would require limited rehabilitation and sensitive landscaping to create interesting pedestrian walkways between riverside focal points and activities.

This potential is greatly grown by the ultimate construction of the new dam that has raised the water level of the river, improving the water quality in terms of ecological balance and visual perception (fig. 13).

Attractive riverside features built of traditional stone, retaining walls and steps leading down to the river lend character to the waterfront and could complement riverside walkways. These walls are very important for improving the river perception. More over they establish a sort of “design indicator” representative of the aesthetical importance of coherence between construction and local resources use (fig. 14).

Murals created by local people created by school students, these provide evidence of interest in local culture and a willingness to display these artistically in the city. Together they demonstrate the lack of urban decoration as “indicator” of shared meaning and sense of the place (fig. 15)

Views and Vistas

As mentioned above one of the key positive attributes of the riverfront is the presence of fine vistas along the course of the river and surrounding hills. Indeed the curb of the Nansheng River within the urban area ensures that there are a variety of views from the riverbanks, the bridges and the new dam.

Views can be divided between those offering aspects of the urban area, notably from the two bridges and along He Bei Yan He Huan Road and He Nan Road, and those offering vistas of the surrounding hills and countryside (fig. 16, 17). The latter are concentrated more towards the fringes of the urban area and include fine vistas from Park Island to a range of attractive hills beyond the town, as well as views from the Hai Yu Nan Bridge looking towards a rural landscape of meadows and the meandering river. Such viewpoints form important locations from where visitors can admire the town and surrounding countryside. As such they should be protected from obstruction or hindrances and where appropriate facilities such as look-out points or outdoor cafes can be sensitively planned to maximize their enjoyment for tourists and the public. More over an integrated design of the waterfront have to plan the sequence of the vistas focusing on the new visual connection between river west area (park island and the





committed new urban green) and the east one (sport facilities and the natural green areas connected to the cultural village).

Other Design-related Issues

Other than the serious shortage of traditional buildings in the town there are a number of other minor, but nevertheless significant urban design weaknesses along the waterfront. Often their rectification would involve simple and non-expensive solutions which could contribute greatly to the improved environment of the waterfront. First of all a new sense of urban decor is suggested for the “micro” construction activities such as hiding of cables and pipes from the building’s facades, regulate shop’s signs, take care of building maintenance.

Visual and physical obstruction by utility infrastructure

Facilities such as electrical sub-stations and transmission lines are often sited on prime locations on the waterfront where they impede pedestrian flow and/or obscure otherwise fine views of the riverfront. They should be at least removed to locations where views are not impeded. Often this would involve simple solutions such as setting back electricity transmission lines away from the edge of the waterfront, the use of screening by trees etc.

Uncoordinated actions leading to continual digging up of roads to install pipes and cables for utility services also damages paving and other street furniture (fig. 18).

Use of mainstream design in public areas and a lack of local distinctiveness

Sitting out areas, pavilions and other public spaces (including paved areas along sidewalks) are often built with mainstream designs and poor quality materials and they exhibit little of the Li culture of the town. An example is the poor quality Han styles pavilions which adorn the waterfront: these may be found throughout China (fig. 19). To make Wuzhishan a special place to visit it is necessary to use designs that are of the local Li style (traditional or modern) so that tourists may quickly be aware of the local culture;



Cluttering by traffic

The traffic rules of the city are hardly observed with the result that much of the streetscape is cluttered by parked cars and motorcycles. It generates a sense of decay in terms of use, noise, smells and perception. Therefore vehicular traffic on the bridges detracts from their potential role as strategic viewpoints from where pedestrians could observe the town or attractions and where festivals and markets could be planned on a temporary basis.

Lack of consistency in colouring of buildings;

The facades of buildings, as well as being of different design and generally of ordinary design, are often coloured differently. The use of a standard colour scheme on buildings facing the waterfront (for example using the traditional Li colours of black and white, yellow and red), would go some way towards improving the appearance and distinctiveness of the built environment. This potential is strongly recommended as “plan of colours” that could enhance and feature the urban landscape (fig. 20).

Lack of adequate landscaping

Despite the distinctive and attractive trees planted throughout the town, which are commendably conserved and identified, the general landscaping of the roads along the waterfront and beyond into the urban fringe areas needs considerable improvement. This particularly concerns the nature and treatment of the urban surfaces: pavement areas in the urbanised sections of the waterfront, for example along He Nan Road. Similarly, the urban landscape needs to improve the whole quality of the green areas to the east and west of the town, enhancing the appearance and the ecological balance

Traffic Conditions

Traffic conditions in urban areas have close links to both land use planning and urban design as well as to environmental planning. Inadequate road systems coupled by strong demand for vehicular traffic in a small urban area will impact severely on the living quality of residents and affect the overall attractiveness of the city as a place to visit. Moreover, such conditions also limit the degree to which solutions such as pedestrianisation and traffic calming measures can be proposed. Wuzhishan City is fortunate in that up to now there are relatively few major traffic problems in the city. As shown in fig. 21 (tav. “Existing Traffic Volume”) many of the streets are lightly trafficked and traffic is more of a nuisance than a source of severe environmental impact. Severe traffic congestion only occurs at a few local ‘hotspots’ notably at peak school times when the numbers of students leaving or entering the schools overwhelm the surrounding roads. Importantly the riverfront is not subject to much traffic as it is avoided by the main through-route of the town (Hai Yu Nan Road) where most of the traffic is concentrated. This route crosses the easternmost bridge. On the south bank of the river He Han Road is very lightly trafficked, making this ideal for pedestrianisation.

This is not to say that local traffic problems are





negligible. The absence of adequate separation between pedestrians and vehicles create unfavourable conditions for strolling and walking in the more congested parts of the town, notably around Hong Qi Road and Jie Fang Road. This results from inadequate space on sidewalks, the almost total absence of pedestrianised streets and a general lack of adherence to traffic rules. Traffic noise, obstruction from cars and motorcycles (either parked or in motion) and congestion among pedestrians are all common features in the core area that detract from the amenity of local people. Moreover the appearance of the waterfront is also rendered uninteresting by the ad hoc presence of parked cars and motorcycles. Such problems, at least along the waterfront, must be resolved if tourists are to be encouraged to linger and visit points of interest in the centre of town.

In order to upgrade city environment and the whole quality of the city life, efforts must be oriented to create an adequate cityscape featured by several dynamic destinations that attract resident and tourist, inviting both to interact each other. Creating a new public space on the Wuzhishan riverfront means inviting local community have a vision of the place that involves different uses and people: pedestrianise the river waterfront and the streets immediately closed is the most adequate choice to enhance the sense of the place and to develop new, vibrant activities (fig. 22).

Given the generally low traffic flows in the town, the proposal to build a ring road may be regarded as far reaching at best. It is important that the scale of the ring road is realistic to the amount of traffic to be generated. Moreover premature building of expensive and highly exposed infrastructure such as bridges could threaten the pleasant rural fringe of the town, and lead to a built environment that is disproportionate to the scale and setting of the town. Sensitivity in design of the ring road is therefore called for.

This said, the ring road could bring indirect benefits to the future urban design of the town by reducing traffic volumes in the town centre, thus allowing pedestrianisation schemes to be introduced here as well as more strict enforcement of traffic rules. As the centre of Wuzhishan is compact and of a high building density, the town centre is easily accessible by foot, which makes pedestrianisation schemes a logical and effective measure to improve the environment of the city.

Land Use and Urban Design Recommendations

From the analysis of land use and urban design issues along the waterfront, and from the lessons gained from best practice in Europe, land use and urban design recommendations have been formulated. These reflect

the planning of tourist facilities, the key elements of the UTAP highlighted (fig. 23).

Summary of Key Elements

The main elements of the urban design and land use plan are summarised below:

1. A network of pedestrian routes focussing on the south bank (He Han Road) with car-free links across Chunlei dam and Ai Min bridge;
2. Priority upgrading scheme on the south bank between He Han Road and Hong Qi Road to include a new culture square and pedestrianisation of the waterfront here;
3. Integration of urban fringe parks with the pedestrianisation of the south bank linking attractions at the eastern and western extremities of the urban area (Park Island and a new cultural village resort);
4. Integration of the Hainan Ethnic Culture Museum with the waterfront via a new pedestrian link to Hai Yu Nan Bridge;
5. Formation of a tourist arrival square on the north bank. Two sites may be considered: in the short term on a vacant site near to the agricultural market on the north bank and in the longer term at the location of the present maintenance workshop of the bus station where this could be integrated as one architectural complex after the renovation of the Hainan Ethnic Culture Museum. Both would have pedestrian and boat access to the waterfront;
6. Construction of Boat Piers, Bus Stops and Parking Lots. Two to three boat piers are proposed on waterfront platforms near Park Island, Wanghe Hotel, the former printing factory, or north of the agricultural produce market. These will have a consistent architectural style in respect of the designs of the pedestrian street and bridges. Bus stops near to these points of embarkation will be formerly designated and parking lots will be introduced at the Guolu Hotel, Jinshan Grand Hotel, Land Reclamation and Cultivation Bureau as well as at vacant sites along the waterfront;
7. A total of five main attractions and one prime attraction (Hainan Ethnic Culture Museum) all linked physically by pedestrian routes or traffic calmed streets;
8. A diversity of supporting attractions and facilities all linked to an overall Li theme.
9. Introduction of environmental friendly toilets: sites include those at the new urban fringe park at the site of the former printing factory, at Zhengqin Pavillion at Taiping Stream and at the agricultural market.
10. As well as the above specific actions there is also an overall redevelopment/rehabilitation strategy for the





waterfront. This involves the gradual redevelopment of unsightly buildings; improvements in traffic control; improvements of the river courses and a general greening of the area.

Redevelopment and Rehabilitation Plan

This involves the use of guidelines for developers and Government for when buildings are redeveloped or rehabilitated. This action will be initially concentrated in the pedestrianised He Han Road. The guidelines advocate the introduction of *Qilou* or arcade features on building fronts along the riverfront when new buildings are introduced through redevelopment. Traditional designs displaying Li features will be encouraged along all new buildings and a consistent colour scheme enforced reflecting the bright Li colours. Flat roofs will be transformed into sloping features. Use of sunshades over the pedestrian areas (not exceeding one third of the pavement width), is advocated together with stone and metal building materials and high grade tiles for facades fronting the waterfront. For shops, consistent signage (based on old style and independent business signboards and plaques) is proposed with a ban on large advertising signs that obscure the river views. This should extend to the first floor business uses. Outdoor air conditioners and other features causing clutter will not be permitted on facades facing the waterfront (starting at He Han Road). Four types of lighting are proposed: for normal nighttime illumination, public holiday time lighting; festival lighting and special occasions (fig. 24). Architectural design of facades will be closely co-ordinated with the lighting proposals.

The above will be accompanied by street management measures in the UTAP area (beginning with the pedestrianised He Han Road). This will advocate regular cleaning and washing of facades (every three years); the prohibition of stickers and street graffiti, licensing of street vendors and the introduction of strict controls over parking and access (for example prohibiting ad hoc parking of scooters, the haphazard use of street stalls and the disposal of rubbish or clutter in public spaces). In the longer term are proposals to introduce a pedestrian mall in the commercial district on the west bank of the river from Hai Yu South Road in the east to Ai Min Road in the west and from Jie Fang Road in the south to He Han road. Conceptual proposals are to divide the mall into three main themes: a local specialities; tourist souvenirs and culture.



Improvement of River Courses

There are a number of watercourses flowing into the Nansheng River in the urban centre which are degraded.

It is the intention of beautifying these, notably at the Taiping Stream (beautified over 400 metres) and Atouling Stream (strengthening the embankments and protecting forested slopes over 690 metres) (fig. 25, 26)

Greening of the Area

An important measure is to preserve all the banyan trees in the planned zone. Around these small landscaping features can be constructed to exhibit Li features. The greening of the area will also extend to the urban fringe parks to the east and west of the town centre. Park Island can also be developed within the theme of green recreation, and a planting programme to introduce more trees on the island is proposed. The island would be an important destination for boat trips (fig. 27).

Transportation Proposals

The above proposals will need to be integrated as part of a transport plan (fig. 28). The main components of this are:

- Reducing the traffic flow, and limiting the passing of large vehicles, in the section between Hai Yu Nan Bridge and Chunlei Dam;
- Pedestrianising He Nan Road into a pedestrian mall (carried out under the EUTOU project);
- Constructing a new parking lot near the present location of the Agricultural Produce Market;
- Transforming Ai Min Bridge into a landscaped pedestrian/sightseers bridge and merging it with the pedestrian street;
- Calm traffic in He Bei Road to reduce frequent congestion and noise pollution;
- Ban motorcycles gradually in the waterfront area and other subsidiary roads;
- Introducing licensing rickshaws (with training for operators) so that this can be a tourist attraction and a means to display Li culture.

Adherence to Key Principles in Waterfront Regeneration

The planning of the above elements follow design and land use planning principles derived from analysis of best practice in European waterfront design. Ten design and planning principles were considered relevant to the Wuzhishan City context for inclusion into the UTAP.

Connecting the Riverfront to Daily Life

The design of the waterfront should be strongly integrated with the living elements of the urban area. As the main shopping area lies on the south bank, and most of the population live here, it was decided to focus improvements along He Han Road so that the waterfront here can be closely integrated with the main shopping



streets of Hong Qi Road and Jie Fang Road, the living heart of the city. Proposed improvements to the existing cinema and theatre at the end of Hong Qi Road, proposed as a cultural square, would also build on what is already an entertainment and leisure area for local people. Meanwhile, as discussed in Chapter 6, the main theme to promote in Wuzhishan City is the Li culture, which as well as making it a unique destination for tourists to visit, also reflects the local living environment of the local ethnic people (fig. 29).



Creating a Waterfront for Citizens

In parallel to the above is the aim of creating a waterfront that is easily accessible and beneficial to local people. In common with most successful waterfronts, this involves the creation of car-free areas, proposed through the pedestrianisation of the south bank of the town centre) where local cafes and restaurants can be encouraged as well as cultural displays on the street. This would also connect to the culture square and other activities at the end of He Han Road where local entertainment is already focused. This development, to be strengthened by good lighting, signage and appropriate street furniture, will create a people orientated, safe environment open during the day and evening for both visitors and local people (fig.30).



Overcoming Severance and Improving Visibility of the Water

The redevelopment of the small industrial area to the north of Chunlei Dam, in which a riverside park and a new interpretation centre is proposed, will allow the whole of the waterfront on the south bank to be accessible to the public. Meanwhile barriers along the waterfront are to be re-designed to ensure that the water has greater visibility. The pedestrianisation of Chunlei Dam and Ai Min Bridge will also allow visitors alternative views of the river (fig. 31).

Importance of History, Heritage and Culture as a Central Theme

Although the river does not have a direct link with the Li heritage, the distinctive Li theme of the city is to be fully elaborated in terms of design features, display areas and interpretation facilities along the waterfront and in surrounding developments such as the Hainan National Museum. This is described in Chapter 6. Most successful waterfront developments have a strong central theme.

Importance of Water Quality

The improvement in water flow brought about by Chunlei dam and the committed improvements to water quality through pollution control measures should ensure

that the appearance, safety and amenity value of the Nansheng River will be compatible to creating a living space on the waterfront.

Creation of Lively, Active Water Use

A better relationship with the river will be made possible by the introduction of boat piers at He Han Road and He Bei Yan He Yuan Road. This will permit river boating trips to be made along the river. A long term proposal to introduce an artificial rafting channel to the south of Chunlei dam would also allow active use of the water and create a new 'signature' activity for the town.

Crossings, Movement and Access

Many successful themes have landmark river crossings. The existing bridges at Wuzhshan should be reinforced as key features to observe the waterfront. The proposed pedestrianisation of Ai Min Bridge and Chunlei dam could render these into tourist features, for example through the integration of cycle routes and the planning of temporary activities such as handicraft markets and entertainment on particular days.

Public Transport

As the waterfront is easily accessible from all parts of the town, the need for extensive public transport facilities to the waterfront may be less critical in Wuzhishan City. Nevertheless it is proposed that the main bus station, the principle dropping off point for tourists in the town, should be relocated from its current isolated location to a more prominent point on the waterfront, namely at a proposed tourist square on the northern bank as part of the commercial centre. Here the information point, boat pier and pedestrianised Ai Mun Bridge would make the new bus station an excellent gateway for visitors to the waterfront and expose the latter's attractions.

Design Excellence

The key towards design excellence of waterfronts is to create linkages and connections with the city, contribute to a continuous urban form, create private space and attractive public spaces, and introduce quality architecture and design. Linkages and connections are provided by the pedestrianisation network proposed between the north and south bank and between the urban fringe areas. A continuous east-west urban form will be formed using the natural course of the river, linking entertainment areas, parks and commercial development. Along this spine attractive private and public spaces are planned, initially focusing on three street blocks between He Han Road and Hong Qi Road. Also in this area, emphasis will be made on redesigning





the facades of existing buildings facing the waterfront on the pedestrianised He Han Road.

Create a Diversity of Attractions

Within a central Li theme, the design will create various attractions along or within easy access of the waterfront all visible to each other, thereby enticing the visitor to walk along the waterfront to experience different activities. These will consist of passive walking, drinking and dining; shopping; observing cultural displays; interpreting eco-cultural attractions (through museums, interpretation/information centres); undertaking boat tours and river sports; and staying in or visiting specialist resorts. These activities, which are all planned within the UTAP, are elaborated in subsequent chapters.