



Pre-Feasibility Study Consolidated Urban Development Programme for Krueng Aceh River, Banda Aceh

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Executive Summary

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A. Introduction

1. The Pre-Feasibility Study (PFS) for a Consolidated Urban Development Programme for Krueng Aceh River has been instigated to assist the City Government of Banda Aceh in meeting this challenge, with the specific aim of investigating the viability of a comprehensive and consolidated urban development programme for the Krueng-Aceh river area. A key task was to formulate ideas and to identify and assess feasible and bankable infrastructure investment projects for Banda Aceh.

2. Since the tsunami in 2004 there has been considerable effort to reconstruct the city's damaged infrastructure. Significant progress has been made, but the condition of the basic infrastructure in Aceh is still fairly patchy. However, the large scale funding of reconstruction projects is now coming to an end with the Rehabilitation and Reconstruction Agency for Aceh and Nias (BRR) handing over responsibilities to central, provincial and district Government agencies. The challenge now facing provincial and city government is to create an environment which fosters sustainable economic and urban development.

3. In the course of the study the Consultant assessed projects regarding the environmental protection of the river itself. Urban transport was considered critical to the river-based urban development and the study examined the potential for a comprehensive urban transport system also on the river. The study also examined projects for tertiary infrastructure, and assessed what additional roads, pathways, drainage, water supply and sanitation systems would be needed to adequately support the kind of economic development envisaged for the river front area.

4. In this Pre-Feasibility Study Report the Consultant has compiled the findings of the project identification and selection process which led to the technical and financial assessment of three final projects. Implementation mechanisms and an institutional set-up for the implementation of the projects have also been discussed.

5. A specific objective of the study was to strengthen the city's newly established coordination team Tim Kordinasi (TimKo) during the PFS preparatory process by providing support in identifying possible projects and financiers for the implementation of the selected projects. Based on an initial organisational and institutional assessment of the administrative structures within the city administration and TimKo specific training modules were developed by the Consultant and rendered to TimKo. Results and recommendations of the Capacity Building component of the CDIA-funded study have been compiled in a separate report.

B. Financial aspects of Banda Aceh

6. The income of the city of Banda Aceh is made up of several national and provincial Government sources and own revenues. The main revenue between 2003 and 2007 stemmed from DAU (General Allocation Funds) which contributed an average 64% to the overall budget. Revenues of the city of Banda Aceh have increased from 2003 to 2007 by 23% from IDR 225 billion to IDR 465 billion. The total budget for the city of Banda Aceh for 2008 amounted to IDR 530 billion.

7. In 2008 the city of Banda Aceh received the second lowest share out of the 23 cities and districts in Aceh Province under the Otsus (special autonomy) fund, at a value of IDR 63 billion, or approximately USD 5.73 million (1 USD = IDR 11,000).

8. Between 2003 and 2007 city expenditures have increased by 19% from IDR 223 billion to IDR 488 billion. Indirect expenditures were allocated for salary and routine

operational costs at an average of 54% and the remaining 46% were spent on direct expenditure items mainly to finance development projects.

9. Based on relevant lending requirements and the city's revenue, the Consultant estimates that city government's borrowing capacity in 2009 for a loan from a multilateral and/or bilateral financial institution is approximately IDR290 billion or USD 26.36 million and USD 27.27 million in 2010.

C. Project identification and selection

10. As an entry point for the selection of projects the Consultant used a list of project ideas which had been compiled by PemKo during the CDIA fact-finding mission in May 2008. Projects proposed came from the following sectors:

- 10.1. Environmental Improvement and Urban Environment
- 10.2. Urban Infrastructure, Drainage & Sanitation
- 10.3. Urban Transport
- 10.4. Urban Planning
- 10.5. Heritage & Tourism

11. In an iterative process TimKo and the Consultant assessed projects against criteria which were derived from the ToR of the CDIA-funded Pre-Feasibility Study and main objectives formulated in the city's masterplan and the five and 20-year planning documents. Out of the initial 49 project ideas six projects were shortlisted and underwent a technical, financial and social assessment. After the assessment process three of the projects were excluded. The remaining three projects which have been assessed in detail in this PFS are:

- 11.1. Development of Keudah Terminal site;
- 11.2. Wastewater treatment and drainage in CBD area; and
- 11.3. Rehabilitation of the Old CBD.

12. Projects which have been eliminated in the selection process, might have merit in their own right, but were not relevant to this CDIA-funded Pre-Feasibility Study and therefore excluded. PemKo might wish to proceed assessing some of these projects for their feasibility.

D. Development of Keudah Terminal site Project

13. The city-owned Keudah Terminal site is located in the old city centre of Banda Aceh and is currently used as terminal for small buses. The high potential economic value of the 1.05 ha site is not recognised through its current use as public transport terminal generating an approx. income of USD 10,000 annually through user contribution fees for the city. The Consultant proposes that the city develops the site in partnership with the private sector to make the project a catalyst for economic growth, tourism and urban development, and a symbol for Banda Aceh as a beautiful riverfront city. The development must balance social and community facilities with business and tourism facilities and make use of appropriate environmental technologies. As part of the development the existing bus terminal will be closed and public transport stopping points will be provided at the roadside. This approach follows the proposal by the city's transport department to reorganise its public transport system.

14. To create ownership within the community for the development it must cater for public facilities such as a Women's Economic Production and Promotion Centre, public conference and exhibition facilities, a public library, playgrounds and a tourism office.

Proposed commercial facilities of the development comprise a hotel, restaurants, shops and parking facilities.

15. For assessing the preliminary financial feasibility of the project the Consultant has allocated floor areas to the different facilities and estimated the related construction costs and revenue rates per facility based on the allowable size of the development as per city regulations. Due to the lack of a comparable project in Banda Aceh which would provide somewhat accurate construction and revenue data the Consultant took a conservative approach in calculating the financial viability of the proposed project by applying relatively higher construction costs and lower rental returns currently used in Medan for similar projects. A demand analysis for the proposed development must be conducted during the feasibility study of the Project to verify some of the assumptions taken by the Consultant.

16. In the present circumstances the Consultant recommends implementing the Project in a partnership between the city and the private sector in the form of a Corporate Enterprise (PT). Another vehicle for the implementation could be a Public-Private-Partnership (PPP) arrangement.

17. The estimated total cost of developing the site has been calculated at USD 11.15 million out of which USD 3.36 million is the land value and USD 7.79 million will be required for the construction of the building. The financial analysis shows that the Financial Internal Rate of Return (FIRR) for the project is 16.3% for the implementation through a Corporate Enterprise (PT) with a Net Present Value of USD 8.09 million and a Benefit Cost Ratio (BCR) of 2.69. The financial analysis of implementing the development through a BOT scheme, on the assumption that the private sector provides cash to fund 30% of the investment, shows an FIRR of 20.1%, a NPV of USD 11.16 million and a BCR of 2.31.

E. Wastewater treatment and drainage in CBD area Project

18. Storm water drainage is a significant problem for many coastal towns and Banda Aceh is no exception. During five months a year the average rainfall for Banda Aceh is over 100 mm/month resulting in flooding of inner city areas due to the lack of a properly functioning storm water drainage system causing significant damage and economic loss to the city and its inhabitants. The lack of a functioning sanitation system in the densely populated inner city area poses a health threat for the population and is inconsistent with PemKo's desire to make Banda Aceh an attractive tourism destination. The Consultant therefore proposes to improve the current situation by upgrading the storm water drainage and the wastewater treatment system in the CBD area. The recent establishment by PemKo of a sanitation task force, 'Tim Sanitasi', shows PemKo's commitment to deal with sanitation and drainage issues in Banda Aceh.

19. The Consultant proposes to define those areas in the CBD as Project areas, for which design work for drainage system layouts have been undertaken on behalf of the Rehabilitation and Reconstruction Agency for Aceh and Nias (BBR) however, funding has only be secured for the implementation of the primary and secondary network systems. In addition to seeking funding for the tertiary drainage component the Consultant recommends to also funding the design and implementation of sanitation measures in the same areas.

20. Due to the geographical and hydrological situation in Banda Aceh the Consultant proposes to construct approx. 100 communal anaerobic wastewater treatment systems within the Project area to service approx. 24,300 residential and business users, markets, hotels and hospitals. Communal or clustered systems are easy and economical to maintain and operate. The responsibility to operate and maintain the systems will lay with the city's

Sanitation Department (DK3) but servicing of the system could be sub-contracted to private operators.

21. The drainage component of the Project should include the construction of the tertiary drainage system in six villages of the Project area. The implementation and maintenance will be under the coordination of the Public Works Department.

22. The construction cost for the wastewater treatment component has been calculated at USD 4.73 million and for the drainage system at USD 2.85 million with the overall investment totalling USD 7.6 million.

23. For the assessment of the financial feasibility of investment for the wastewater systems the Consultant looked a full cost-recovery option (construction and maintenance) and an option where the residential and business users only pay for the operation and maintenance of the systems. The Financial Internal Rate of Return (FIRR) for the full cost recovery option has been calculated at 10.6% with a negative Net Present Value (NPV) of USD 0.51 million and the Benefit Cost Ratio of 3.08. User rates of IDR 196,000 per month per household however are deemed to high. The second option foresees that the investment cost for treatment systems for markets, hotels, and hospitals is financed by loan and residential and business systems financed by grant. It shows a FIRR of 8.0%, a negative NPV of USD 0.95 million and a BCR of 5.59. Fees for residential users have been calculated at IDR 40,350 per month. The Economic Internal Rate of Return (EIRR) analysis for the drainage component as calculated by the Consultant shows an IRR of 9.9% and a NPV of USD 0.50 million.

E. Rehabilitation of the Old CBD Project

24. Peunayong, a quarter in the Old CBD of Banda Aceh, is an important commercial and social area with heritage buildings, hotels, restaurants, markets and businesses and a high residential density. Its specific urban character and its proximity to Krueng Aceh have strong potential to attract tourism (local, national and international tourism) and related businesses. Due to the lack of an integrated urban planning concept and related infrastructure this vital part of town is far from making full use of its economic potential. Through the implementation of selected urban improvement measures the Consultant aims at giving this part of Banda Aceh and its riverfront a unique character with a high recognition value. The Project is seen as starting point for the urban de-velopment of other areas of Banda Aceh contributing to the city's aim to become an important tourist destination strengthening the economic growth of the city.

25. The main focus of the proposed activities is to improve pedestrian access in the old CBD area by reducing the number of cars entering the riverfront area, creating two pedestrian streets and an open mall area, the rehabilitation of walkways, the provision of landscaping and urban infrastructure elements and the construction of pedestrian bridges and two multi-storey car parking facilities.

26. For the implementation of the CBD Project the Consultant recommends to use the Waterfront City Forum under guidance of the Public Works Department. A close cooperation between the relevant city departments and the affected stakeholders in the Project area during planning, design and implementation of the Project is essential to ensure its success. The Consultant therefore recommends that representatives of the sub-district administration, of residents groups and of the business community become members of the forum. The City Government (PemKo) should not shy away from applying innovative incentive mechanisms to encourage the private sector to also invest into the rehabilitation of the downtown area.

27. The principal benefits from this Project are the expansion of the economy of the area through increased activity in shopping areas, increased number of merchants and food vendors, improved environmental quality which will attract more people to the area. The estimated cost of developing the old CBD has been calculated at USD 4.15 million. The income generated directly for the city by the Project will be relatively low however, some revenue can be expected from parking fees and rental income of shops. The investment for this component of the project is USD 2.25 million. If part funded by a grant the NPV will be negative with USD 0.15 million and a BCR 3.62; the FIRR has been calculated at 11.6 %.

28. The economic feasibility analysis has been calculated for the non-cost recovery components of the Project such as the construction of small urban infrastructure facility and landscaping. The EIRR is expected to be 15.3% and the NPV USD 0.36 million.

F. Banda Aceh Integrated Urban Renewal Programme

29. The Consultant strongly recommends implementing the three Projects discussed in this report in one packages as the Banda Aceh Integrated Urban Renewal Programme. The Projects are not only linked geographically but are also interdependent technically. The rehabilitation of the Old CBD would not be possible and feasible without the rehabilitation of the wastewater and drainage system. The new Keudah Terminal site Development will require upgrading of the sanitation and drainage systems in the area and the implementation of improved transport and traffic management measures must be interlinked with improvements proposed in the Old CBD area.

30. Ideally the Programme would be implemented through a Banda Aceh Integrated Urban Renewal Programme Corporation in form of a PT or PPP. Ultimately the corporation could receive the mandate by PemKo to implement physically infrastructure projects within the wider city area on behalf of the City Government.

31. The Consultant has calculated the financial feasibility of two different options based on a loan interest of 12% per annum with tenure of 15 years and a revenue return period of 30 years. In Option 1 the CBD rehabilitation Project is financed through the Keudah Terminal site development. The financial analysis for Option 1 shows an IRR of 15.6%, and a NPV of USD 8.32 million with the corporation incurring losses for the first four years. If the Corporation were to finance the entire Banda Aceh Integrated Urban Renewal Programme at a value of USD 22.88 million as one package (Option 2) the resulting IRR is 14.6% and the NPV USD 8.19 million with the Corporation incurring losses in the four initial years of operation.

32. The calculated rate of return might not be of interest to a private investor however, the city will aim at obtaining third-party (grant) funding through other sources which could be used as local Government equity within the corporation, improving the rate of return of the undertaking, especially for the non-or low-profit yielding components of the Programme. It must also be considered that the economic value generated for the city if three Projects were to be implemented as one package will be much higher than if implemented in stages or on their own.

G. Next steps

33. The Asian Development Bank (ADB) has setup an Infrastructure Project Development Facility (IPDF) at the National Development Planning Agency (Bappenas). The Project Development Facility (PDF) will not finance any investments in project implementation, as it will only support the preparation of feasibility studies and Public-private-partnership (PPP) procurement up to the signing of the contractual arrangements

with the private investor(s). The Consultant proposes that PemKo submits an application to Bappenas for grant funding by the PDF to undertake the required feasibility study and assist PemKo in the preparation of bidding documents and during the bidding process until financial closure for the implementation of the Banda Aceh Integrated Urban Renewal Programme.

34. Pemko has been invited to submit project proposals to the provincial PU to be considered for grant funding from remaining tsunami funds out of the Multi Donor Trust Fund (MDF) managed by World Bank. Following initial talks by PemKo with representatives of the World Bank the Consultant recommends that documents prepared for the wastewater treatment and drainage Project in this Pre-Feasibility Study should be submitted to PU. Funding obtained could be used as public Government equity in a corporation with the private sector.

35. The Indonesian Government with the support of some multi-and bilateral donors is about to set-up the Indonesia Infrastructure Financing Facility (IIFF) to provide long-term debt and equity financing to both public and private sectors in cooperation with local financial institutions through credit enhancements for infrastructure development. The government expects the IIFF to provide equity and to finance infrastructure projects under the tried and practiced PPP mechanism.

36. It appears that financing the implementation of the proposed PFS-Programme through the IIFF could be an interesting options as it is expected that financing through IIFF will be made available in Indonesian Rupees rather than in a foreign currency and that the interest rate might be below a commercial bank rate. The Consultant recommends that PemKo assesses financing options for the PFS-Programme through the IIFF once it is up and running.