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Title: Addressing Sustainability Issues for Rural Road Maintenance:

Experience from the RT2 Project, Vietnam

Committee C20: Appropriate development

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Appropriate rural planning for rural road development and management, Effective maintenance, Institutional capacity building for rural roads development and management

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ABSTRACT	
<p>Committee C20: Appropriate Development Sub-theme of paper: Appropriate rural planning for rural road development and management, Effective maintenance, Institutional capacity building for rural roads development and management Key words: Rural roads, maintenance, institutional strengthening, management/planning</p>	<p>Author Details Ms Kirsteen Merrilees and Mdm Hoang Thu Huong c/o RT2 Technical Assistance Office, Transport Development and Strategy Institute, 162 Tran Quang Khai, Hanoi, Vietnam fax: +84 (0)4 8240712 email: kirsteenm@hn.vnn.vn</p>

Addressing Sustainability Issues for Rural Road Maintenance: Experience from the RT2 Project, Vietnam.

The paper describes the maintenance initiatives being developed and implemented within the Ministry of Transport in Vietnam, through support from the RT2 project. In particular it describes how the project is supporting the MOT to take its first steps towards developing a 'maintenance culture' in the rural road sector, how the sustainability issues of the project initiatives are being addressed, how effective the interventions are and what lessons have been learned.

The RT2 project is a joint World Bank / DFID funded project which covers 40 out of the national total of 61 provinces. By the end of the project in September 2005 it is estimated that approximately 10,000 km of rural roads will have been rehabilitated. While the rehabilitation component is limited to these 40 project provinces, all of the initiatives under the maintenance component are to be introduced nationwide, or have the ability to go nationwide should the MOT decide to do so in the future.

The overall approach and strategy for improving the maintenance of rural roads was developed in partnership with the MOT and PDOTs. The core of the strategy is to attack the maintenance problem from two directions simultaneously – 'Top down' support for the MOT, and 'bottom up' support to the provinces. In both cases the emphasis is on building ownership of the initiatives, with each of these being a direct response to an expressed need.

The overall strategy for assessing maintenance opportunities is to disaggregate rural road maintenance into its constituent parts and link these to the existing capacity of institutions responsible for maintenance. The strategy for maintenance initiatives was developed in acknowledgement of the need not only for capacity building of authorities responsible for maintenance, but also of the need to reduce the maintenance burden of rural roads on local communities and local authorities who have limited resources available to them.

At present, the project support is 'supply driven', in accordance with project initiatives towards set objectives, such as maintenance handbooks, improved road inventory and condition survey processes etc. As the province and MOT engagement progresses, the support will become more 'demand driven', with support being structured around each project partner's expressed needs.

The effectiveness of the maintenance initiatives is reviewed annually through a monitoring and evaluation system, based around the project Logframe indicators. The project initiatives aimed at improving the systems and capacity to manage maintenance will not necessarily mean that full maintenance will be carried out, as this is unlikely to happen until the policy and funding strategy has been agreed and implemented. However, routine maintenance is and will be implemented at least on RT2 roads, and potentially on the whole rural road network as a direct result of the project interventions. The project initiatives have been effective in raising the profile of rural road maintenance, putting maintenance on the policy agenda and raising awareness of maintenance issues of local communities as well as central and local authorities responsible for managing rural roads.

The key lessons learned are based on specific principles that have proved successful in the implementation of RT2, and more general principles that have emerged and been tried and tested by RT2.

The effects of RT2 maintenance initiatives are already being observed and the momentum is increasing rapidly. The level of ownership of the MOT for this component is high. All the maintenance initiatives have been introduced in such a way as to ensure they result in sustainable impact on the management of the rural road network, and many of the lessons learned from RT2 are being fed into the RT3 design.

Addressing Sustainability Issues for Rural Road Maintenance:

Experience from the RT2 Project, Vietnam.

1 Introduction

This paper describes the maintenance initiatives being developed and implemented within the Ministry of Transport in Vietnam, through support from the RT2 project. In particular it describes how the project is supporting the MOT to take its first steps towards developing a 'maintenance culture' in the rural road sector, how the sustainability issues of the project initiatives are being addressed, how effective the interventions are and what lessons have been learned.

Section 2 provides a brief overview of the RT2 project, its scope and coverage. Section 3 describes how the sustainability of initiatives has been integrated into the project approach, and how initiatives have been developed and introduced in such a way as to maximise their sustainability after the project support ends. Section 4 discusses the effectiveness of the maintenance initiatives, and how this is being monitored and evaluated. And finally, section 5 describes the key lessons learned through RT2, which can be applied to the design and implementation of future projects in the sector.

2 The RT2 Project

2.1 Overview

The RT2 project is a joint World Bank / DFID funded project, with the World Bank providing the capital funds for rural road rehabilitation, and DFID funding the technical assistance packages associated with the rehabilitation works and an associated maintenance component. The project started in September 2000 and is due to end in September 2005.

The project works with the Ministry of Transport (MOT), in particular the Project Management Unit 18 (PMU18) and their Provincial Project Management Units (PPMUs) for the rehabilitation component; and the Rural Transport Unit (RTU) in the Department of Planning and Investment and Provincial Departments of Transport (PDOTs) for the maintenance and capacity components, although many other Departments are involved in different aspects of the project.

Louis Berger Group International (LBI) are the technical assistance consultants responsible for the rehabilitation component and WSP International Management Consulting (WSPimc) are the technical assistant consultants responsible for the maintenance component.

The project's logical framework describes the overall aims and objectives of the project.

Logframe level	Description	Main Implementers
GOAL	Reduced rural poverty in Vietnam	
PURPOSE	Increased flow of people, goods and services in rural Vietnam	
OUTPUT 1	Enhanced capacity of the Ministry of Transport to support delivery of rural transport services	MOT / WSPimc
OUTPUT 2	Enhanced capacity of the Provincial Departments of Transport and districts to support the development of rural transport	PDOTs / WSPimc
OUTPUT 3	Implementation of a programme for rural road maintenance	MOT / PDOTs / WSPimc
OUTPUT 4	Implementation of a programme for core rural road network rehabilitation	PMU18 / PPMUs / LBI

2.2 Scope and coverage

The RT2 project covers 40 Provinces out of the national total of 61, some two thirds of the country. There are approximately 170,000km of rural roads in Vietnam, and it is estimated that

the project will rehabilitate approximately 10,000km of these, therefore about 6% of the whole rural road network will be rehabilitated through the project. A total of approximately 900 bridges will also be repaired or constructed by the project on these roads.

While the rehabilitation component is limited to working in these 40 provinces, all of the initiatives under the maintenance component are to be introduced nationwide, or have the ability to go nationwide should the MOT decide to do so in the future.

	RT2 Initiatives	Scope of Impact
1	Rehabilitation of selected roads in core rural road network	40 RT2 provinces, approximately 10,000 km of roads and 900 bridges
2	Provincial Engagement – capacity building support to local authority transport staff	40 RT2 provinces
3	Rural Road Maintenance Policy and Financing Strategy	Nationwide
4	Collection of rural road monitoring and evaluation data	40 RT2 provinces, but data used to inform National maintenance policy and funding strategy
5	Improved information systems, databases, Wide Area Network	Piloted in 40 RT2 provinces, MOT long term aim to expand nationwide
6	Digitised mapping facility linking road networks to socio-economic, condition data etc.	40 RT2 provinces
7	Maintenance Handbook for Commune Staff	Nationwide, approximately 10,500 communes + 600 districts
8	Maintenance Handbook for Province Staff	Nationwide, 61 provinces
9	Maintenance Training	Nationwide, to 61 provinces + 600 districts, + 10,500 communes – 2 staff from each means approx 22,000 people trained.
10	Slope stability trials – fed into improved design standards	Nationwide
11	Road surfacing trials – fed into improved design standards	Nationwide

For further information on item 1, please contact PMU18 or LBI. For further information on items 2-11, please contact RTU or WSPimc.

3 Sustainability Issues

3.1 Approach and Strategy

The overall approach and strategy for improving the maintenance of rural roads, through RT2 was developed in partnership with the MOT and PDOTs through a national workshop held in November 2001.

The core of the strategy that emerged was to attack the maintenance problem from two directions simultaneously. ‘Top down’ support for the MOT to improve guidelines, standards, policy etc, and ‘bottom up’ support to the provinces in building their capacity to manage their rural road network. In both cases, the key emphasis is on building ownership of initiatives, hence each initiative supported by the project is a response to an expressed need by either the MOT or PDOT. Some of these initiatives are very new to Vietnam, so that the project has had to introduce them in ‘pilot’ locations to demonstrate their use and effectiveness to MOT and PDOT leaders.

The overall strategy for assessing maintenance opportunities is to disaggregate rural road maintenance into its constituent parts and link these to the existing capacity of institutions responsible for maintenance. Rather than simply saying communes are responsible for funding and managing all maintenance of their roads, it is recognised that they have capacity to do only Routine 1, and maybe Routine 2, but not periodic or emergency maintenance which needs to be managed and funded from higher levels.

Constituent Parts of Maintenance

- ◆ Emergency
- ◆ Routine I – mostly labour based
- ◆ Routine II – some plant, materials and skills required
- ◆ Periodic I – Spot improvements
- ◆ Periodic II – Full re-gravelling, re-sealing, major repair to structures

The strategy for maintenance initiatives was also developed in acknowledgement of the need not only for **capacity building** of authorities responsible for rural road maintenance, but also of the

need to **reduce the maintenance burden** of rural roads on local communities and local authorities who have limited resources available to them.

3.2 'Top Down' support

These are initiatives developed at the central level, which are required to deliver the project outputs. They comprise capacity building initiatives and initiatives to reduce the maintenance burden on local authorities. They are top down in that the project team and MOT are developing the initiatives to support the provinces, although most initiatives have been developed in consultation with provinces to ensure they are appropriate.

Technical Support

- ▶ Maintenance Handbooks
 - ◆ Developed by a working committee comprising MOT and project representatives working in partnership to agree scope, content, level of technical language used etc
 - ◆ Working committee conducted local level reviews of early drafts to ensure it met with local transport staff needs and level of understanding of maintenance
 - ◆ High level of ownership by MOT and PDOT, who have essentially driven this initiative
 - ◆ Disseminated with an 'interim instruction' from the Minister giving them the legal status required to ensure they are implemented with immediate effect.
- ▶ Technical Training
 - ◆ First major training initiative supports the maintenance handbook dissemination
 - ◆ Demand led support for PDOT annual training programmes
 - ◆ Training of trainers programme for PDOT staff to roll out all maintenance training to all commune and district transport staff as required
- ▶ Alternative Surfacing Trials
 - ◆ Driven by surprisingly strong demand from MOT and provinces to convince donors that gravel roads are not the best solution in terms of whole life costs in all areas of Vietnam
 - ◆ Will result in the development of a 'decision matrix' from which each province can define its prevailing conditions for individual roads and ascertain the most suitable road surfacing material.

Management and Planning Support

- ▶ Road Asset Management
 - ◆ MOT identified that reporting systems required improvement in order to improve planning, management and investment decision making, and requested a nationwide transport database to be established.
 - ◆ Project is supporting first steps towards this by developing a rural Road Management Database to include road and bridge inventory and condition data as required by handbook, as well as budget and expenditure information, to aid basic asset management of the road network
 - ◆ MOT award a prize each year for most effort or progress in maintenance implementation, and the improved data available will be used to assess these efforts.
- ▶ Wide Area Network
 - ◆ MOT requested WAN (telecommunication) link between centre and provinces, to improve information flows
 - ◆ WAN being developed then piloted in two provinces to agree final scope and format before roll out to remaining 38 project provinces.
 - ◆ WAN included in MOT approved development plan, which makes support conditional on MOT commitment to fund connections, computers and staffing before development continues beyond testing in pilot provinces.

Institutional Support

- ▶ Working in Partnership with MOT
 - ◆ A Rural Transport Unit (RTU) within the Planning and Investment Department of the MOT is the prime facilitating and coordinating body for the projects initiatives within MOT
 - ◆ Working Committees have been used very effectively to develop project initiatives such as the maintenance handbook and surfacing trials, which enables the key MOT stakeholders to design their own product, with advice and support from the Technical Assistance team, through a participatory approach

- ◆ The committee approach is the MOT's management method which brings leaders from different departments together to make decisions and define strategies. Decisions are very much based on consensus followed by senior level approval rather than by one department, hence this 'working committee' approach is very successful in Vietnam
- ▶ MOT Development Plan
 - ◆ A plan for the MOT and in particular the RTU, to build their capacity to implement and monitor the current policies and strategies in the rural transport sector, fully endorsed by the MOT leaders
 - ◆ The support provided through the plan is conditional upon MOT making key decisions and commitments. The MOT are therefore very much in the driving seat and the plan is only implemented to the extent and pace at which they are comfortable and capable of doing so. This is very important in the Vietnamese context.

Policy Support

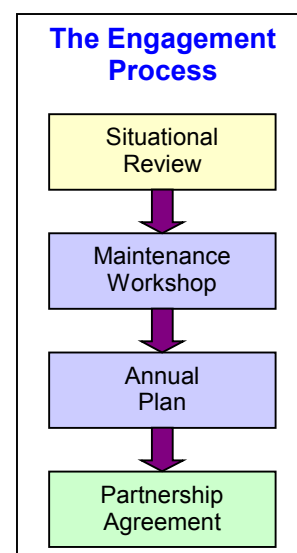
- ▶ Policy Framework and Funding Strategy
 - ◆ Significant pressure from provinces to accelerate changes in, and further development of, a maintenance policy as they are currently constrained by out of date regulations
 - ◆ Discussion paper drafted as first step in policy and funding discussions.
 - ◆ The information gathered through the information systems, workshop findings etc provide the key information needed to help MOT define its policy and funding strategy
 - ◆ Once the policy framework and funding strategy has been defined by MOT, this will be disseminated in an easy to understand and implement format through a Province level road management handbook, which covers the planning, management, financial and technical aspects of road management and maintenance.
- ▶ Maintenance Funding Gap
 - ◆ The road management database will provide an estimate of the annual recurring budget required for effective maintenance, and the 'maintenance funding gap' – the difference between what funding is required and what is actually mobilised – to further support the development of the funding strategy

3.3 'Bottom Up support'

The 'bottom up' support mechanism has been developed through discussions in four pilot provinces and discussions with MOT and province leaders. The initiatives for the PDOTs are based on delivering the project output of improved capacity of PDOTs and to improve local management and implementation of maintenance activities on the rural road network. They are bottom up in that the project is supporting the local authorities to define what assistance they require and then provide that assistance where it is within the scope and funding remit of the project.

Provincial Engagement

- ▶ Regional Support Centres
 - ◆ The mechanism for delivery of the training, advisory and capacity building services to local authorities
 - ◆ 5 RSCs cover the 40 provinces and provide the main interface between the project and the provincial authorities, and arrange implementation of the support services
- ▶ Engagement Process
 - ◆ Situational review undertaken by PDOT staff, summarising existing rural road network, road management and maintenance policies or plans
 - ◆ Maintenance Workshop held to discuss existing situation, problems experienced. Attended by province, district and commune level representatives
 - ◆ The outcome of the workshops is a maintenance improvement plan in the form of problems, their causes and recommendations to overcome them



- ◆ Those recommendations that fall within the scope of the RT2 project are used to define a support framework, from which an Annual Plan can be prepared
- ◆ Process and future working relationship formalised in a Partnership Agreement signed by the Province Peoples' Committee (the governing body at the province level) and the project.

3.4 Supply Driven to Demand Driven

In its support to the provinces, the project team acts as a service agency offering training and advisory services to participating provinces, comprising tailor made assistance packages designed in response to their expressed needs, and ability to implement and demonstrate commitment to establish an improved maintenance culture.

At present the training and other support provided is 'supply driven', in accordance with project initiatives towards set objectives, such as the maintenance handbook dissemination, improved road inventory and condition survey processes etc. As the province engagement progresses, the support will become more 'demand driven', with support being structured around each province's expressed needs.

In addition the project will support a series of smaller, demand led studies which are to be proposed by the MOT in response to identified 'knowledge gaps' within the ministry. The proposals will be prioritised against pre-agreed criteria such as their contribution to improve the maintenance culture within the MOT or provinces.

4 Effectiveness of Maintenance Initiatives

4.1 M&E Reporting

The project team reports annually on progress against the Logframe indicators, to demonstrate current achievement of project outputs, and changes in socio-economic purpose level indicators to demonstrate whether there is an improvement in project areas or not. While it is very difficult to link RT2 directly to wider socio-economic changes, case studies are being used to help provide supporting anecdotal evidence of how RT2 roads and initiatives, and rural roads in general, are affecting peoples lives.

4.2 Effectiveness of project initiatives

The project initiatives aimed at improving the systems and capacity to manage maintenance will not necessarily mean that we meet the output objective of maintenance being carried out on rural roads. This will not happen until the policy and funding strategy has been agreed and implemented. However, routine maintenance is and will be implemented at least on RT2 roads, and potentially on the whole rural road network as a direct result of the project interventions. The higher levels of maintenance can only happen once sufficient funds are made available and responsibilities for their management and funding are addressed at the policy level. RT2 is pinpointing this for RT3.

In addition to actual maintenance works being carried out, the effectiveness of the project can be measured in terms of raising the profile of rural road maintenance. In this context, the following have been achieved.

- ▶ Awareness of local authorities on maintenance issues raised through maintenance workshops – press coverage of these events also raises awareness of local communities
- ▶ Maintenance is now on the policy agenda within MOT, and MOT have recently requested further support to improve reporting mechanisms and formats to help them better manage and monitor the rural road network
- ▶ Commune handbook – raises awareness and understanding of maintenance to all transport staff nationwide

5 Lessons Learned

The following bullet points list the key principles that have proved successful in the implementation of RT2, and may be of use for other project designers and implementers.

5.1 Successful design principles from RT2

- ▶ Demand driven approach – to ensure project assistance responds to expressed rather than assumed needs
- ▶ Partnerships / participation – to ensure appropriate stakeholder involvement, especially in recognition of provincial autonomy
- ▶ Cost sharing – to ensure commitment and best allocation of project resources
- ▶ Build on existing capacity – don't introduce too many new ideas too soon
- ▶ Flexible (menu of services) – provide options to meet the varying needs, circumstances and resources of communities – allowing flexible composition of support services to address individual needs of each province
- ▶ Regional Support Centres – to accommodate regional variety and improve relations and communications at local level.

5.2 Core principles suggested for future projects

At a managerial level a clear set of design principles have emerged and been tried and tested by RT2.

- ▶ Working with two donors, several ministry departments, and two donors, all with different perspectives, has highlighted the need for **Clear and consistent project objectives**
- ▶ Where changes in 'how things are done' is to be achieved an **Incentive structure to reinforce project objectives** is required rather than one that supports the continuation of inefficient practices.
- ▶ **Clear and consistent criteria for participation in project** need to be established to reinforce the and reward performance towards achieving the objectives.
- ▶ In order to manage such a project approach requires an effective **Monitoring system to support planning and management of implementation**
- ▶ As the distribution of project benefits is dependent upon performance, the project design must include sufficient **Flexibility to support a process approach**
- ▶ In order to change attitudes and practice from a construction bias to include adequate maintenance requires a **Clear and consistent policy framework, organisation and funding strategy**.

6 Conclusion

The maintenance component of the RT2 project is now quite successful, albeit after a slow start, in making progress at central and local levels towards establishing a maintenance culture for rural roads. Many of the initiatives are still early in their implementation, however their effects are already being observed and the momentum is increasing rapidly. The level of ownership of the MOT for this component is now very high, and there is a lot of pressure from them on the technical assistance team to help move things forward. The lessons learned from RT2 are being fed into the RT3 design, and have been discussed at the initial RT3 design workshop held in May 2003. All the maintenance initiatives have been introduced in such a way as to ensure they result in a sustainable impact on the management of the rural road network.