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SUSTAINABLE ROAD MAINTENANCE IN VIET NAM

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1. Maintenance agreements

In year 2000 the Socialist Republic of Vietnam received a credit from the World Bank (IDA) and a grant from the British Government (DFID) towards the rehabilitation of 10,000 kilometres of rural roads. The project title is the Second Rural Transport Project (RT2) and the rehabilitation will take place in 40 of the 61 provinces of Vietnam. The project targets the rehabilitation of district and commune roads that connect into the provincial and national road network of Vietnam.

The first criterion for rehabilitation was to provide basic access for commune headquarters to the provincial road network, and after this criterion is satisfied in the 40 provinces, to rehabilitate other communal and district roads where economic justification can be demonstrated. The condition was set by the project that before any road was rehabilitated it must have a maintenance agreement signed up by the concerned commune. In this way it was hoped that not only would basic access be provided, it would also be preserved for future years through the efforts of the beneficiaries. The maintenance agreements for the first year's rehabilitation works have all been signed in good faith, but three possible outcomes to this arrangement are foreseen.

The best prospect is that the commune will comply with the agreement to provide the resources of labour and funds, and will organise themselves, possibly with the help of the Provincial Departments of Transport (PDOTs) to maintain the rehabilitated roads in good condition. This scenario cannot be achieved overnight because a maintenance culture does not exist as yet in rural Vietnam, and the DFID component of technical assistance for RT2 was specifically designed to develop this idea of a maintenance culture.

The Commune People's Committees (CPCs) and the District People's Committees (DPCs) who sign up to the maintenance agreements need help to organise routine and periodic maintenance of roads in an environment where scarce cash funds are available from higher Government, and where the works are currently a part of labour contributions that have to be shared with the care of health centres, schools and other communal assets. The DFID-funded technical assistance is seen as a catalyst for the creation of a maintenance culture in the rural transport sector of Vietnam.

During the first Rural Transport Project (RT1) a mechanism was used where the project actually provided the funds for the first year's maintenance following rehabilitation. This idea has been dropped in RT2 because it was not sustainable in the medium or long term, and also the level of maintenance in the first year is so not so onerous as to provide the intended training for the full regime of maintenance that is needed.

An alternative reaction to maintenance agreements is simply to ignore them. This may not be the community intention, but rather the result of the absence of any funding or organised

direction to the commune to carry our maintenance. Within the life of a 4-year project, this approach may not have any great consequence because the road would remain largely serviceable, and access would have been preserved. History shows that by the time a rehabilitated road is in need of a subsequent and urgent rehabilitation, this can often be arranged with alternate donor funding. This pattern is equally true of communal roads in Vietnam, as it is for many rural roads in developing countries that have been rehabilitated or upgraded using project funds. This may not be the conscious choice, but it is a perfectly understandable response from the point of view of the beneficiaries, though not an efficient or equitable solution for the rural communities as a whole.

The third option or reaction for dealing with the maintenance agreements is to increase the standard of the rehabilitation in order to reduce the maintenance burden. Many people of the commune will have contributed their efforts to the road rehabilitation and intrinsically understand about the purpose of the maintenance agreements and the need to ease the burden of maintenance in the short term.

2. Goal of poverty reduction

When the government and donors designed RT2 the overall goal was clearly declared as a reduction in poverty. The effects of poverty are often extreme in rural communities and therefore provision of improved transportation in rural areas is seen as a good entry point for dealing with the overall goal, facilitating the development of rural transport strategies. It is worth considering just how rural transport can affect rural livelihoods.

This conference entitled "rural transport, key element for development" will no doubt bring forward many other papers showing how provision and improvement of rural transport creates a climate for development. Transportation alone cannot achieve all the development aims but over the years it has probably been the single-most important vehicle for development of rural communities, including Vietnam. At the same time there can be disadvantages attributable to road improvements, such as the promotion of urban migration, the breakdown of family and community coherence and the advance of HIV/aids into communities as well as the obvious exposure to increased road accidents. All these risks have to be assessed and mitigated as far as possible if the positive effects of rural transport improvements are to be seized.

Rural populations are mostly dependent upon agriculture livelihoods and the very opening up of transport access will normally make it easier for farming families to feed themselves better and increase their surplus for trading. Modern thinking is not simply about making life easier for rural families, but is also about enabling of smallholders to join together and enjoy the economies of scale and specialisation brought about by improved physical access.

Another project opportunity is for paid employment through the road activity itself. In the short term there could be quite a heavy requirement of unskilled labour to be managed by small contracting groups, which with a little care and planning, can be organised so that road labour is required at times when agricultural labour demand is low. In the longer term the on-going maintenance of roads also provides employment, although in Vietnam, this is largely in the form of unpaid labour contributions organised by the PPCs.

Improved mobility is an enabling factor for the start-up of new businesses. Inputs can be brought into a community, value added by community efforts and income generated through the trading of the products. Alternatively, labour can move more easily to and from the newly created centres of industrial activity.

Whenever new surpluses become available in the community, new services and facilities are demanded, especially for child education, for better health facilities and for better communication by politicians, all of which give opportunities for a range of service providers both within and without the directly affected community.

Despite little hard evidence to show the cause and effect of transport interventions in Vietnam, all of these mechanisms are expected to result from RT2. To measure this, the project will also build in a monitoring evaluation element to measure the social and economic impact and reactions to the various improvements planned for rural transport.

3. Profile of the rural transport sector in Viet Nam

Vietnam is a 2400 kilometre long S-shaped country with a long coastline that supports coastal shipping from Hai Phong and Sai Gon, the two main ports that serve the capital Hanoi in the north and Ho Chi Minh City in the south, that then feed out to a range of other ports and river estuaries. The Ministry of Transport is responsible for the management of national and provincial roads totalling around 33,000 km, providing funds for their maintenance, rehabilitation and improvement, often with the support of donors who have helped Vietnam rebuild its strategic road network over the past decade. Only very small funds are passed down from central government for maintenance and up-keep of the district and communal roads totalling around 85,000 km, and equal length of village tracks.

The Mekong Delta Region in the south and the Red River Delta in the north of Vietnam have extensive waterways used largely for irrigation and agricultural purposes, but they also provide a vast potential for low maintenance transport. RT2 assumes that there will be good links between those responsible for the national and provincial roads, those responsible for the district and commune roads, and also the Vietnam Inland Waterway Administration (VIWA) in the MOT concerning the interface of rural road and waterway transportation. For practical reasons the project has to differentiate between what can and what cannot be affected directly by RT2. Where it is decided that RT2 cannot or should not intervene, this advice needs be given to the other agencies with the power to influence adjoining domains or interests, such as VIWA.

Moving now to the types of transport infrastructure needed and demanded by communities in rural Vietnam, this varies from the low-cost and affordable to all-weather access built to high standards. It is only natural that any community would wish to have the highest specification that the project could provide, and in order to set the standards for the project, it was agreed in the design phase that the top priority should be given to providing basic access for every commune centre in the 40 project provinces to connect into the district and provincial networks. Furthermore, it had been decided that the least-cost rehabilitation would be gravel surfacing to provide this basic access, unless there was sufficient levels of traffic and other economic factors to justify a higher specification.

Using a basic cost for gravel roads estimated at US$ 12,500 per kilometre it was estimated that there should be sufficient funds in RT2 to connect all remaining communal centres to the provincial network, taking up about three quarters of project funds, leaving the remainder for other gravel roads, or where economic justification could be given, for rural roads with surfaces of higher specification. The difficulty with the least-cost rehabilitation option is the inherently high cost of maintenance of gravel roads, and the project is dealing with this as a special development as described in section 5 under the heading of alternate surfacing.

The crux of the problem for maintenance on RT2, regardless of surfacing type, is that little or no money will be passed down from central government for carrying out maintenance. A way has to be found for the stake-holders and beneficiaries to develop a maintenance culture so that the road rehabilitation under the project will be preserved. The main stake-holders are the people in the rural communities, as represented by the CPCs, but other stakeholders are the districts and provinces, where the PDOTs are seen as an obvious source of advice and assistance in solving this problem.

The start point for any project like RT2 has to be the understanding of the present condition and the present institutional arrangements and processes. In the case of RT2 in Vietnam, a concentrated effort was made in the first year to understand how the project could be fruitful in bringing about the change in the maintenance culture. It was realised that the PDOTs in effect represent the implementation arm of the PPCs, and so in the early stages of the field work much time was spent in consultation with the chairmen of people's committees at the various levels to understand how changes might be brought about. To develop this grass-roots maintenance culture, it was realised in the project design that there had to be some focal point or vehicle in central government to which the technical assistance consultants could be attached. This was why the new Rural Transport Unit (RTU) was formed.

4. RT2 Technical Assistance

The total cost of RT2 is around US$145 millions of which US$135 millions are associated with the road rehabilitation and its supervision, leaving US$10 millions for the technical assistance and training. This was arranged under a separate contract designed to promote a maintenance culture that will in turn help to preserve the newly rehabilitated roads, and thereby facilitate the rural development in the communes and work towards the reduction of poverty in Vietnam.

In order to associate the technical assistance with an existing office within the Ministry of Transport, an RTU was set up prior to the start of the project with the intention that the technical assistance consultant would work through this unit in order to reach the provinces and the communes, from where changes would gradually be made. The Unit would become the focal point to sustain the changes for planned preventative maintenance on rural roads. Joint author of this paper, Mr Tran Tien Son is one of the three members of this RTU and has worked with the project from the start.

The first task for the technical assistance was to understand the problem from the users point of view, and so four provinces were selected for successive rounds of discussions and research. This started with introductory visits to get to know the PDOTs and PCPs, then field visits to selected districts and communes within those four provinces to gain a greater understanding of the existing processes for maintenance, and also for the planning of works related with rural transport.

Previous studies had indicated that out of the 61 provinces in Vietnam, four are effectively urban with the remainder being classed as rural. These were described in eight socio-environmental regions, each defined as being reasonably homogenous in terms of geography, topography, soil type, population density and poverty levels and are shown in **Figure 1** – Vietnam Regions and Primary Rural Transport Features. Within the resources available under the project, a plan was made to restrict the first year's visits to four provinces, presenting a good cross section of rural transport conditions in Vietnam. These were Lai Chau Province in the north west of the country, representing hilly country with high poverty levels, Ninh Binh quite close to Hanoi on the edge of the Red River delta area with a relatively high level of development, Ha Tinh in the north central coastal area exhibiting the topography reaching from coast to the mountain border with Laos, but with varying degrees of poverty across its districts, and fourthly, Bac Lieu province on the coast of the Mekong Delta representing one of twelve provinces comprising the Mekong Delta Region.

Since extensive visits into these four provinces were needed, the logistics of travel from the project base in Hanoi had to be taken into account when choosing these pilot provinces. The project work will then move to a second group of four provinces to complete the research in all eight of socio-environmental regions of Vietnam, so that whatever procedures are developed, they will be sufficiently robust to suit all rural provinces in Vietnam.

The roads for rehabilitation under RT2 are to be found in 40 out of the 57 rural provinces, and the 40 provinces were already selected at the project identification stage. Some of the excluded provinces had been the subject of earlier work on rural transport development with assistance from other donors. Though the immediate concern was to preserve the newly rehabilitated roads in the 40 provinces, the technical assistance was designed with the intention that other roads in these provinces would also benefit from improvement in maintenance culture (RT2 is only addressing on average about 12% of communal roads in each province), and that ultimately these maintenance improvements could be translated to every province and commune in the country.

To give readers some perspective to this, the average commune in Vietnam has around 10 km of district and communal roads, on the basis that there are estimated to be 85,000 km of district and communal roads in the country distributed amongst 9000 communes. In the 40 project provinces, many commune headquarters are already connected to the provincial road network so the bulk of the RT2 rehabilitations will be for providing basic access connections for the remaining commune headquarters.

Whether solutions are being sought for selected roads in the RT2 provinces, or for any commune or district road in the country, it is clear that for a consistent approach to be made, it must somehow emanate from some central point in government. The RTU was the means by which this was to be done and the first year of the project has seen some redefinition of this central focus within the MOT in Hanoi, between the Planning and Investment Department and the Transport and Strategic Development Institute (TDSI). Using these two offices in central government, the technical assistance has been able to access down through the organisations to the provisional departments and also, most importantly, the PPCs. The Project is now at the stage where through extensive consultation in the provinces, districts and communes, improvements to the planning and maintenance systems are being identified, so that improved new procedures can be designed and tested in the pilot provinces ready for replication in other provinces.

In order to measure the impact of changes resulting from the project, a monitoring and evaluation component is designed to act as independently as possible, using base line surveys of socio-economic data to chart the response to RT2 in the medium to long term, that is, after the technical assistance will have finished. This means that the monitoring responsibility has to involve the RTU, and ultimately be handed over for continuous evaluation.

5. Special developments

During this first round of visits in the four pilot provinces, certain special features of the project have emerged, requiring special treatment.

Prior to the start of the field work, the Ministry of Transport brought to the attention of the technical assistance several subjects of special interest, including slope stability in mountainous areas, research on surfacing especially for the Mekong Delta, questions about how inland waterways should be better utilised, and suggestions for some new initiatives, such as steel modular replacements for traditional monkey bridges which are frequently used in the delta areas where land routes cross canals and drainage channels. Because the technical assistance is targeted principally at developing a maintenance culture, some of these special studies could be considered outside the scope of the terms of reference for the assistance, and so they were categorised for attention according to progress with related developments on maintenance, with inland waterways investigation and alternative servicing taking a high priority owing to their direct effect on the future maintenance burden.

The first round of field visits illustrated an intrinsic knowledge about maintenance in the communes, in the context of available resources. Many communities were managing to preserve their roads and came upon difficulties only when cash was needed for machine

work. Most PDOT engineers are fully aware of the limited life of gravel roads before regravelling is necessary, and know that the best time for this is before conditions deteriorate. They also understand the necessity to plan and organise this work carefully because of the absence of cash funding for the import of new gravels. They confirmed that in Vietnam, gravel quality is not good and the haul distance can be as much as 50 km from the site of the road; in the Mekong Delta it can be several hundred kilometres.

Alternative Surfacing

Thoughts were turned to ways of reducing the maintenance burden and at the same time increasing capabilities to deal with maintenance in the communes. The project had been designed on the basis of the least-cost rehabilitation solution, which is normally a gravel surface. It was necessary to expand the argument to look at whole-life costs and also the total system cost including user costs, to see if the economic analysis matched with the strong feelings in the communes that the gravel road was not the best solution for them. Some communities take the view that this will be made easier if a bitumen topping is added to a rehabilitated gravel road, also offering environmental benefits where dust problems affect roadside settlements. Unfortunately the remedy of adding a bitumen coating as an after-thought does not provide the optimum solution in either financial or engineering terms; more efficient solutions using bitumen or other surfaces are preferable to the wasteful pouring of bitumen to form an ill-designed penetration seal. Furthermore, in the initial enthusiasm for having a bitumen surface, the cost of subsequent bitumen repairs will not have been foreseen.

This question also provided the opportunity to compare world-wide experience of the choice of surfacing. Twenty-five surfacing options were considered and quickly narrowed down in reality to six types for Vietnam that were examined in greater detail at a 2-day workshop organised by the project. Interested parties from all levels were invited, who came to the collective conclusion that these six options should be subjected to full-scale trials. Approval in principle was given to this approach, with the technical assistance directed to identify how many trials should be carried out, to make the specification for each trial, and suggest locations where the trials should be made. Everyone agreed that the priority was to find a better solution for roads in the weak sub-soils of the Mekong Delta Region, which is far away from good laterite sources. As well as measuring the durability and serviceability of the resulting surfaces, it is planned to measure employment generation, rates of production and the adaptability of work methods for developing a small contracting industry.

At the workshop detailed comparisons were made on the basis of whole-life costs to the road agency or commune, that is, construction cost plus maintenance costs discounted over twenty years. The findings in **Figure 2a and 2b** – Surface Options Whole Life Costs for Ninh Binh and Bac Lieu Provinces, show that whereas the gravel road solution normally has a low initial cost for the rehabilitation, but in terms of whole life costs, it can range from lowest to highest depending on the haul distance of the gravel. Even with the short haul distance existing in Ninh Binh province, gravel is only marginally less costly, and when extraneous factors such as employment generation of other surface types and dust problems with gravel are taken into account, gravel is rarely the least whole life cost option. The much reduced maintenance costs of the alternative surfacing types can quickly outstrip the initial cost advantage of gravel.

Since many of the roads exhibit a very low level of motorised transport, the total system cost analysis depends very much on the value of time assigned to the various classes of road users. In certain cases there will be justification for higher standards proven by high economic returns, especially nearer towns and markets, where motorised traffic can be expected to be higher, and to grow quite rapidly over the coming years.

It was proposed that the full-scale trials be laid down in 400 metre panels in successive sections to see the affects of the same traffic on different surfaces and to measure work

performance under similar regimes of local contracting. It is planned that work on these trial sections will be started after the monsoon season of this year 2002.

Contractor development was a special interest in any event for the technical assistance, and so these trials will provide a means of comparing the contractor performance over a variety of technical standards. Gravel surfaces for instance are more machine intensive with little local labour needed, whereas hand-placed stone pitching needs a lot of local labour, with skills generated on location and available for making local maintenance repairs using the same in-situ materials in later years.

As well as the technical evaluation of these trials, there will be a social impact assessment of the various types of surfacing. Questions about the comparative employment generation by rehabilitation and maintenance of different types of surfacing, whether this is suitable work for women as well as men, whether this work can lead to contracting for other kinds of local construction, will all indicate local attitudes and the sense of a maintenance culture being created. Also, the level of community acceptance of the more "economic" but rougher riding surfaces of stone pitching or brick paving will have to be investigated, as compared with say the smoother but more costly bitumen stone-chip dressing.

Inland Waterways

A second topic that has gained prominence during the course of the project to date is the greater utilisation of inland waterways as a means of transport. This affects two main areas, the longest established is the Red River Delta close to Hanoi in the north of Vietnam, where elevated parallel access roads and adequate bridging have been in place for many years. The second and larger location is the Mekong Delta Region in the south west of Vietnam that has been developed more recently by drainage and the construction of canals cutting across the radial distributories of the Mekong River. For Vietnam, this is the most agriculturally productive region for rice, to the extent that today Vietnam has a net surplus of rice. Whilst the soils are very fertile they are also quite weak in engineering terms, and this combined with the virtual of absence of any conventional road building materials (there is a small outcrop in the south western part of the delta), road construction is a very expensive operation.

Apart from the canals being used to drain the delta they have proved a useful means of communication and carriage of the rice crops. Given that the waterways are already in place, no major construction is necessary and very little maintenance is needed, save from dredging or the clearance of vegetation, so the unit costs of moving freight per tonne-kilometre can be very low indeed.

Since the canals and drainage channels were built to facilitate the movement of water they can also promote the ingress of saline water into intended agricultural areas, so as a result, many of the waterways are closed off by gates that now obstruct water borne transport movements. The technical assistance has reported on the status of transportation in the deltas and concluded that with improved institutional cooperation, great benefits are potentially available for rural transportation, and further work now needs to be done to bring this about. Despite the clear economic benefits, the preferred choice of transportation is increasingly for roads, so work is needed on raising the acceptance of water borne transport. It is quite feasible in the delta to set lower standards for land transport alongside the canals for say motor cycle tracks, built to a much lesser specification at a much lower cost than a conventional rural road.

Other special topics

Another technique under active consideration with the technical assistance is the possibility of vegetative engineering for slope stabilisation in the hilly and mountainous areas of Vietnam. The format of the DFID contract for technical assistance permits the consultant to

deal with new or special circumstances within a fixed financial ceiling. In this case, it has been possible to utilise slope stabilisation specialists to help devise improved methods of construction leading to reduced maintenance for rural roads in mountainous areas.

Yet another special development has been to look at the rate at which the project can promote improved procedures throughout the country. Research and testing is being carried out in all 8 socio-environmental regions that define the Vietnam rural condition. The extent of the coverage that can be achieved in the project period is dependant on the consultant's ability to promote these ideas and on the rate of acceptance by the communes of changed procedures. A key factor will be the relationships developed through the technical assistance with coordinating departments and units in the Ministry of Transport in Hanoi, to gain the confidence of the provinces and communes, and the People's Committees. Much will depend on finding and developing champions for change in maintenance.

6. Project progress to date

At the time of this PIARC conference, the project will have been running for a little over eighteen months, about a third of the way through its duration. The planned extension from the first four pilot provinces will then be in a process of expansion to the next four pilots, when all eight of the typical socio-environmental regions of Vietnam will have been sampled by the project technical assistance. Before the conference, the World Bank and DFID will have carried out a revue of the project and assessed any plans for revisions as a result of the project performance to date. Rather than having a detailed programme covering the whole period of the project, each six-month period is planned in detail as per **Figure 3** – RT2 Progress at Nov 2001 vs. Current 6-Month Plan, for submission to the project steering committee for approval. Monies that are allocated for training and facilitation in the 6-month period are signed off against particular training events.

In order to measure the effects of programme implementation, a monitoring and evaluation regime has been set up under the project to do three basic things. First, it will monitor and report to the donors and government on the progress of activities according to the six-monthly plans, with very clear and defined indicators. Secondly, it can assess independently from the working teams the impact and effectiveness of systems and procedures being developed under the project, and suggest any refinements. A key indicator will be the rate of expansion of the project from the pilot provinces towards all 40 project provinces. Finally, the reduction of poverty will be felt very slowly, and indeed may not be significant until after the end of the project period. In order to set permanent benchmarks for measuring this, the social development advisors to the project will make a baseline survey in the current year using local resources, to be repeated once more during the project period whilst technical assistance is still operational, but also to be replicated by MOT in the years following the close of the RT2 programme.

As well as the development work with the RTU, PDOTs and the communes, other deliverables have been achieved. Data and maps are now becoming available as a result of project activities. These are now available to any interested organisation by application to TDSI. As a recent demonstration and using the Year 2000 Census information, it has been possible to produce maps down to commune level showing "poverty hotspots" in Vietnam, and to superimpose the rural road network on this pattern to appreciate and understand the links between rural access and poverty.

Whilst the processing of such information is a very specialised business it is handled by a very small number of experts, and so there are two key developments that need to be worked on. The first is the shift in the way that information is provided, from a restrictive situation towards an on-demand system, where information is provided to order rather than holding sets of tables and maps. The second development is with data gathering, which involves hundreds of data gatherers, who need to work at a regular pace and repeat their

work annually. Soon the entering of data via a website may become the normal procedure, and so systems are being arranged to be adaptable for this subsequent transformation which will be a major leap forward from the present system where paper records have to be passed to the central database holder for electronic entry.

By the time the technical assistance resources of RT2 are nearing exhaustion in year 2005 it is planned that the scope and depth of any continuing assistance will be identified in sufficient detail for government and donor to seek continued support for improving local maintenance capability, and for reducing the maintenance burden through the choice of surfacing for commune and district roads.

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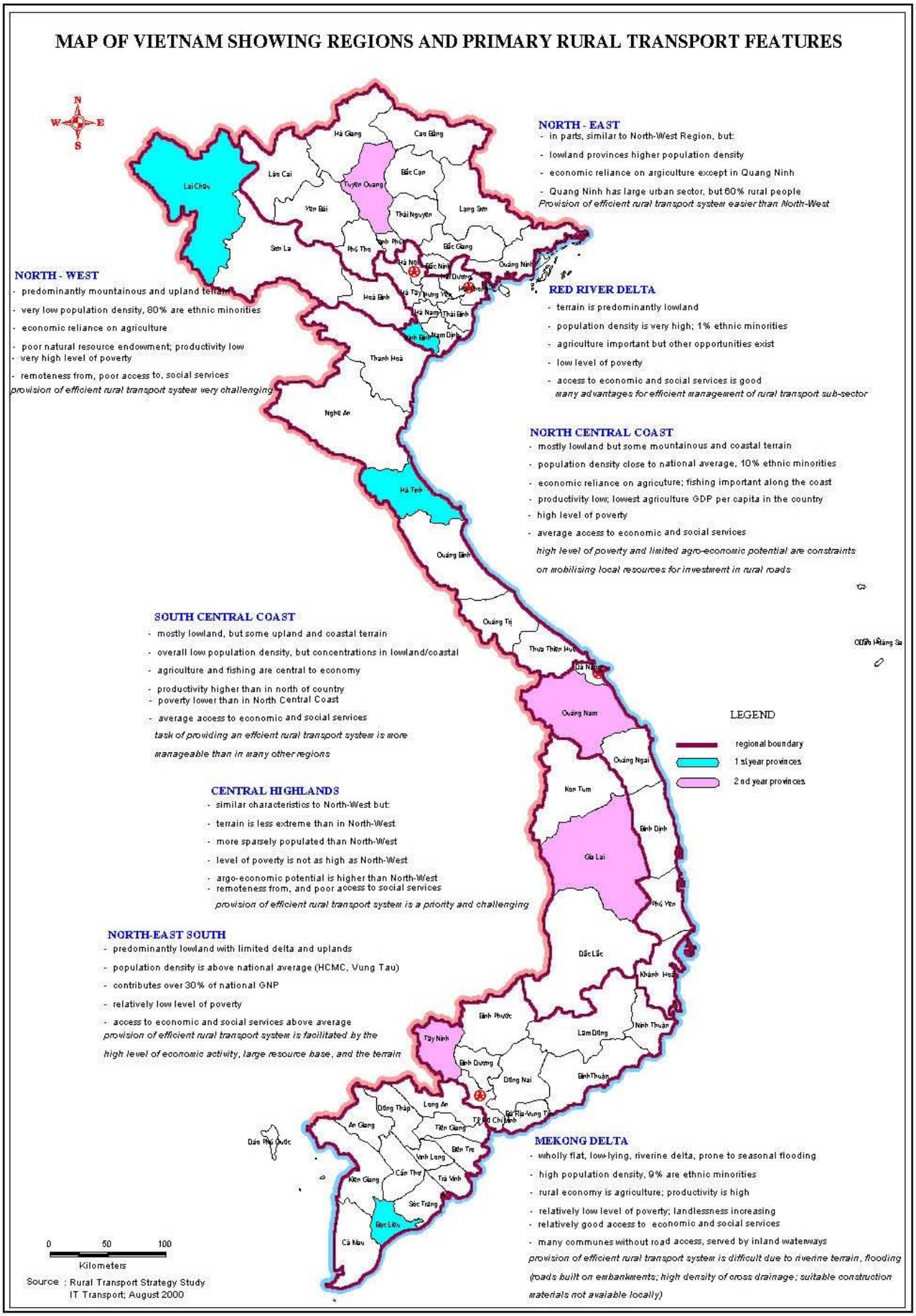
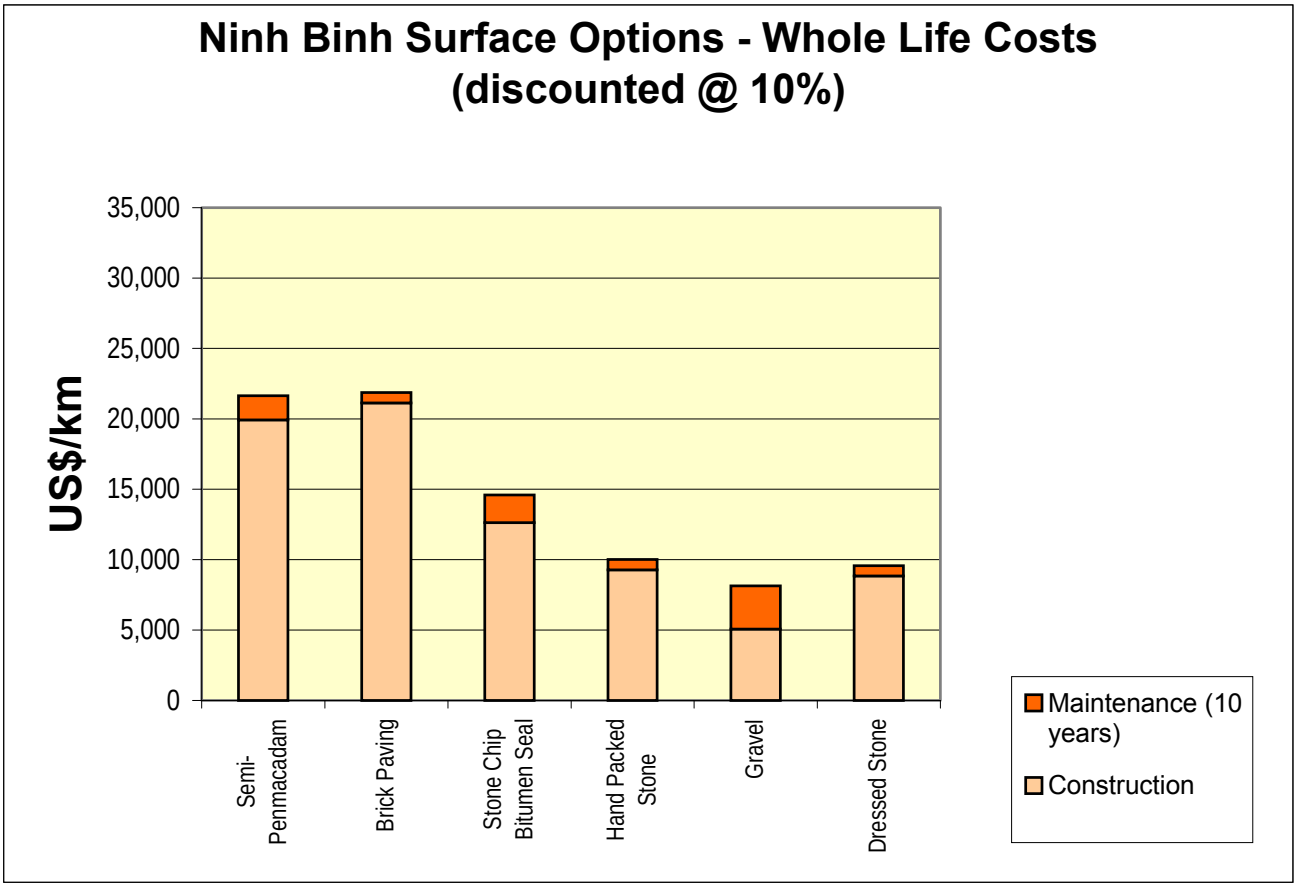

MAP OF VIETNAM SHOWING REGIONS AND PRIMARY RURAL TRANSPORT FEATURES
N
W
E
S
NORTH - EAST
- in parts, similar to North-West Region, but:
- lowland provinces higher population density
- economic reliance on agriculture except in Quang Ninh
- Quang Ninh has large urban sector, but 60% rural people
Provision of efficient rural transport system easier than North-West
NORTH - WEST
- predominantly mountainous and upland terrain
- very low population density, 80% are ethnic minorities
- economic reliance on agriculture
- poor natural resource endowment; productivity low
- very high level of poverty
- remoteness from, poor access to, social services
provision of efficient rural transport system very challenging
RED RIVER DELTA
- terrain is predominantly lowland
- population density is very high; 1% ethnic minorities
- agriculture important but other opportunities exist
- low level of poverty
- access to economic and social services is good
many advantages for efficient management of rural transport sub-sector
NORTH CENTRAL COAST
- mostly lowland but some mountainous and coastal terrain
- population density close to national average, 10% ethnic minorities
- economic reliance on agricuture; fishing important along the coast
- productivity low; lowest agriculture GDP per capita in the country
- high level of poverty
- average access to economic and social services
high level of poverty and limited agro-economic potential are constraints
on mobilising local resources for investment in rural roads
SOUTH CENTRAL COAST
- mostly lowland, but some upland and coastal terrain
- overall low population density, but concentrations in lowland/coastal
- agriculture and fishing are central to economy
- productivity higher than in north of country
- poverty lower than in North Central Coast
- average access to economic and social services
task of providing an efficient rural transport system is more
manageable than in many other regions
CENTRAL HIGHLANDS
- similar characteristics to North-West but:
- terrain is less extreme than in North-West
- more sparsely populated than North-West
- level of poverty is not as high as North-West
- argo-economic potential is higher than North-West
- remoteness from, and poor access to social services
provision of efficient rural transport system is a priority and challenging
NORTH-EAST SOUTH
- predominantly lowland with limited delta and uplands
- population density is above national average (HCMC, Vung Tau)
- contributes over 30% of national GNP
- relatively low level of poverty
- access to economic and social services above average
provision of efficient rural transport system is facilitated by the
high level of economic activity, large resource base, and the terrain
MEKONG DELTA
- wholly flat, low-lying, riverine delta, prone to seasonal flooding
- high population density, 9% are ethnic minorities
- rural economy is agriculture; productivity is high
- relatively low level of poverty; landlessness increasing
- relatively good access to economic and social services
- many communes without road access, served by inland waterways
provision of efficient rural transport system is difficult due to riverine terrain, flooding
(roads built on embankments; high density of cross drainage; suitable construction
materials not available locally)
LEGEND
regional boundary
1 st year provinces
2 nd year provinces
Lai Châu
Hà Giang
Cao Bằng
Lào Cai
Bắc Cạn
Tuyên Quang
Yên Bái
Thái Nguyên
Lạng Sơn
Sơn La
Phú Thọ
Vĩnh Phúc
Bắc Giang
Hà Nội
Bắc Ninh
Quảng Ninh
Hải Dương
Hải Phòng
Hưng Yên
Hoà Bình
Hà Tây
Hà Nam
Thái Bình
Ninh Bình
Nam Định
Thanh Hoá
Nghệ An
Hà Tĩnh
Quảng Bình
Quảng Trị
Thừa Thiên Huế
Đà Nẵng
Quảng Nam
Quảng Ngãi
Kon Tum
Bình Định
Gia Lai
Phú Yên
Đắc Lắc
Khánh Hoà
Bình Phước
Ninh Thuận
Lâm Đồng
Tây Ninh
Bình Dương
Đồng Nai
Bình Thuận
Đồng Tháp
Long An
Bà Rịa-Vũng Tàu
An Giang
Tiền Giang
Bến Tre
Vĩnh Long
Kiên Giang
Cần Thơ
Trà Vinh
Sóc Trăng
Bạc Liêu
Cà Mau
Đảo Phú Quốc
Quần Đảo Trường Sa
0
50
100
Kilometers
Source : Rural Transport Strategy Study
IT Transport; August 2000

Figure 1


Ninh Binh Surface Options - Whole Life Costs
(discounted @ 10%)
US$/km
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Semi-Penmacadam
Brick Paving
Stone Chip Bitumen Seal
Hand Packed Stone
Gravel
Dressed Stone
Maintenance (10 years)
Construction

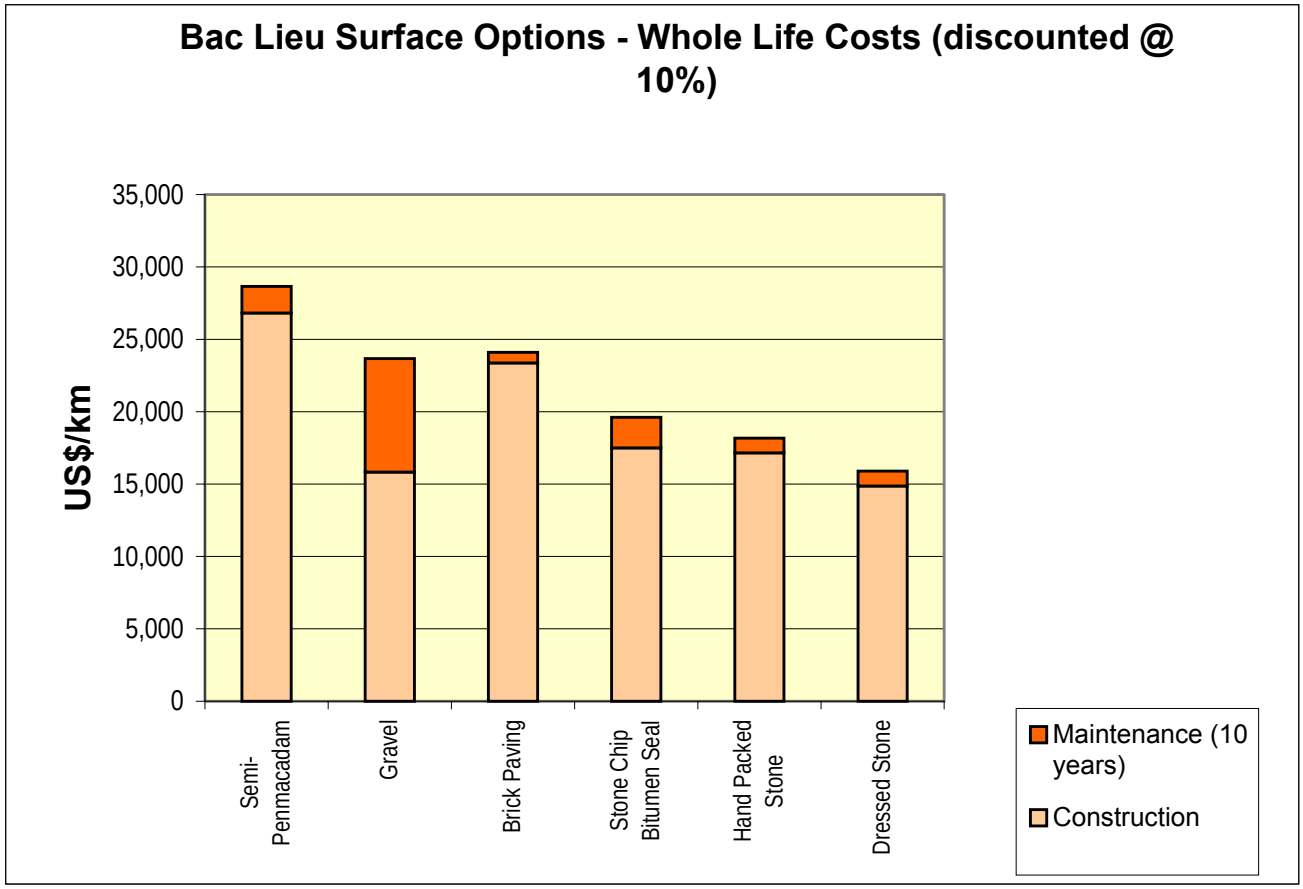

Bac Lieu Surface Options - Whole Life Costs (discounted @ 10%)
US$/km
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Semi-Penmacadam
Gravel
Brick Paving
Stone Chip Bitumen Seal
Hand Packed Stone
Dressed Stone
Maintenance (10 years)
Construction

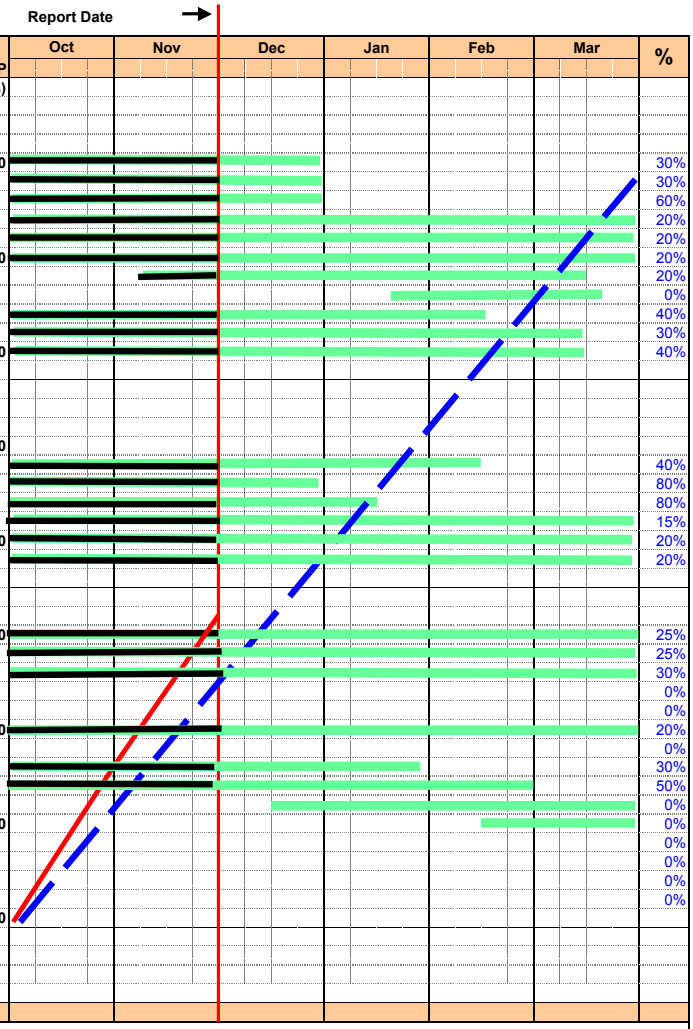
Figure 3 : RT2 - PROGRESS AGAINST CURRENT 6 MONTH PLAN

PERIOD: October 2001 to March 2002.

PROJECT GOAL	**Reduced rural poverty in Vietnam**
PROJECT PURPOSE	**Increased flow of people, goods and services in rural Vietnam.**

Note : Goal, purpose and outputs are as per World Bank/DFID PAD

	LIST OF ACTIVITIES BY OUTPUT	UKP (000's)	%
1	**Enhanced capacity of the MOT to support delivery of rural transport services**		
1.1	**LBI contract reported elsewhere**		
1.2	**WSP contract**		
1.2.1	RTU's roles and structures confirmed	800	30%
1.2.2	Support to RTU-PID in transport planning and management defined and provided		30%
1.2.3	Support to RTU-TDSI in transport planning and management defined and provided		60%
1.2.4	Assistance provided to improve co-ordination between RTU and other agencies		20%
1.2.5	Policy papers drafted and validated		20%
1.2.6	Specific technology transfer accomplished with RTU, TDSI, PID and MOT	700	20%
1.2.7	Policy and programme co-ordination achieved with PMU 18		20%
1.2.8	Management of MOT reviewed and study designed		0%
1.2.9	RT2 project management systems established with project partners		40%
1.2.10	Information management system established with project partners		30%
1.2.11	M&E system established and informing project partners	600	40%
2	**Enhanced capacity of the PDOTS and Districts to support development of rural transport**		
2.1	**LBI contract reported elsewhere**		
2.2	**WSP contract**	500	
2.2.1	Integrated rural transport network defined as a basis for planning		40%
2.2.2	Study on a strategy to integrate roads and inland waterways undertaken		80%
2.2.3	Synthesis of "as is" socio -economic province information produced		80%
2.2.4	Institutional support to PDOTS, PPCs, DPCs, CPCs and villages		15%
2.2.5	RTU national information database and mapping for rural roads established	400	20%
2.2.6	RTU supported to conduct situational analysis, social needs and impact assessment		20%
3	**Programme for rural road maintenance implemented**		
3	**WSP contract only**		
3.1	Draft procedures for planned maintenance designed	300	25%
3.2	New preventative maintenance procedures manuals drafted and disseminated		25%
3.3	Rural transport maintenance strategy developed in project provinces		30%
3.4	Procedures for planned maintenance adopted, starting in eight pilot provinces		0%
3.5	Country wide implementation of preventative maintenance		0%
3.6	Study of surfacing material options completed and trials undetaken	200	20%
3.7	Additional studies completed as required to strengthen preventative maintenance		0%
3.8	Capacity of domestic contractors to undertake periodic maintenance assessed		30%
3.9	Constraints to improvements in contracting industry identified		50%
3.10	Regional training centres established		0%
3.11	Maintenance training programmes and trainers manuals prepared	100	0%
3.12	Maintenance management training provided to PDOTs, PPCs, DPCs and CPCs		0%
3.13	Contractor training programmes implemented		0%
3.14	Community groups trained		0%
3.15	Finalise maintenance procedures and complete guidelines and procedures		0%
		0	
4	**Programme for core rural road network rehabilitation implemented**		
4.1	**LBI contract reported elsewhere**		



Note: % scores relate to RT2 LogFrame indicators of quantitiy, quality and time.

Inputs Programmed / **Actual Time of Inputs** — **Planned Expenditure** / **Actual Expenditure**

Act.	Reason(s) for difference between planned/ actual activities	Follow up - What / Who
1	**Enhanced capacity of the MOT to support delivery of rural transport services** : Although affected by revisions to the Inception Report a draft framework and timetable for institutional development of RTU PID and RTU TDSI was completed in June. Entitled - Development of Rural Transport Units in MoT, this was finalised in July and circulated for comment. Agreement was reached during the WB/DFID Misson in September for RTU PID to begin discussions on the development of RTU's in MOT and follow up work has begun using planning functions of the RTUs as the starting point. Progress on development of the RTU TDSI has gone ahead well but progress on the RTU PID has stalled. At the National Workshop in November the sensitivity of the proposals for RTU PID, as contained in the July draft, led to recommendations that high level discussions be held with MOT in early December regarding options for meeting the role and functions of the RTU PID as originally conceived in the PAD.	Progress here will depend on a clear specification of the responsibilities and tasks of each RTU with regard to planning. Detailed forms of cooperation depend very much on the assessment by PID-RTU of what it needs to do its present tasks more effectively. Later forms of cooperation will be determined by MOT decisions about the evolution of PID-RTU into a more influential unit but both the present and future cooperation will need to consider responses to the ideas presented in the report submitted in July 2001. This issue was brought to a head at the National Workshop in November when the Secretary of the RT2 Steering Committee expressed doubts that institutional development plan for RTU PID, as contained in the July report, would be decided by the end of the year as had been requested by Vice Minister Tien when approving the inception report in April. High level discussions with the Vice Minister and PID are planned for early December to discuss feasible options for tackling these issues.
2	**Enhanced capacity of PDOTs and disrticts to support the development of rural transport** : Delays in finalising Inception Report led to late start of this programme which is currently about two to three months behind schedule. However, following general agreement in April regarding the final details of the Inception Report the team has now completed a series of field trips to four target provinces. Field reports are linked to holding of four Workshops in August, September and early October, prior to a National Workshop now scheduled for 8/9 November. Much of the planning information for the four provinces is now completed and was presented at the National Workshop in November, but there are gaps which will need to be filled in the last quarter of the year. Data base progress should be boosted by a proposal to hold a data base Workshop, now planned for January 2002 and in November a comprehensive plan for development data base was finalised by the project IT specialist.	In early October the last provincial Workshop was held in Lai Chau. Designed to distill the institutional issues facing the provincial, district and commune authorities, representatives from both central and provincial government were brought together at the national workshop in November to agree a framework for RT2 to tackle these issues. Key issues examined at the workshop included the role of inland waterways in both the Mekong Delta and coastal areas, agreement on a list of 29 maintenance initiatives, a basic strategy for development of an M&E system for RT2 and how to tackle issues concerning the role of RTUs in both TDSI and PID. The RT2 team will use this framework through December and January to prepare proposals for discussions with the World Bank/DFID Supervision Mission in January, the Mid Term Review in March 2002 and a National Conference in March/April, bringing the workplan in line with the schedule set out in the M&E Plan completed in November and contained in the Six Month report for the period from October 2001 to March 2002.
3	**Programme for rural road maintenence implemented** : Slippage here has been linked to the timing of the field visit programme but substantial progress was made during the National Workshop at which consultants presented some 19 options for supporting the introduction of a maintenance culture in the pilot provinces. Discussions at the workshopled to this total being increased to some 29 initiatives and a resolution that the introduction of planned maintenance should take precedence over the building of new infrastucture. What is now lagging is the finalisation of the Field Reports and the development of suitable data bases in the provinces to support the inrtroduction of a maintenance culture. Moreover elements of the strategic direction with regard to maintenance are now much clearer and December and January will be devoted to discussions regarding how RT2 can help develop capacity in 2002.	As reported in September and October, field visits had led to a conclusion that the key issue for establishing a maintenance culture is to determine the asset to be preserved and the capacity of the local institutions to carry this out. The "gap" between these should lead the way towards defining the capacity building programme required in different provices in 2002. This approach builds on existing capacity and adapts the maintenance "problem" to fit with existing capacity. This approach has worked well and the results of the National Workshop have been very encouraging.
4	**Programme for core rural road network rehabilitation implemented** : This output is the primary responsibility of PMU 18, who has asked for co-operation with WSP/RTU regarding anumber of issues. These include development of an M&E system, training and contracting issues. Also, it is clear that reconstruction of rural roads and the building of new basic access roads is likely to have a greater impact on poverty than the introduction of a maintenance culture. This has important implications for measurement of the impact of RT2 roads, particularly with regard to social development issues.	Issues relating to coordinated efforts to support PMU 18 are discussed at monthly co-ordination meetings held in Hanoi and Ho Chi Minh City. Current initiatives include work on surfacing trials, contractor training issues, and a co-ordinated M&E plan, all of which are progressing according to plan and are high lighted in the Aide Memoire for September 2001 and incorporated in the Workplan for the current six month plan.
		Estimation of Overall Progress to Date: **25%**