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Abbreviations

CEM	Committee for Ethnic Minorities
CERWASS	Centre for Environment and Rural Water Supply and Sanitation
CPC	Commune People's Committee
CSC	Commune Service Cooperative
DARD	(Provincial) Department of Agriculture and Rural Development
DPC	District People's Committee
EMB	Electricity Management Board
MARD	Ministry of Agriculture and Rural Development
MB	Management Board
MMB	Market Management Board
MOT	Ministry of Transport
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
P135	Programme 135
PDOT	Provincial Department of Transport
PMU	Project Management Unit
PPC	Provincial People's Committee
PWS	Piped Water Supply
RT2	Second Rural Transport Project
RUA	Road User Association
RWSS	Rural Water Supply and Sanitation Strategy
VND	Vietnamese Dong
WUA	Water User Association
WUG	Water User Group

Executive Summary

Background

Small scale infrastructure in rural Vietnam is considered to be the responsibility of commune authorities once construction is complete and the infrastructure formally handed over. This means that Commune People's Committees (CPC) are responsible for all aspects of operation, management and maintenance.

Although there is a legislative framework in place that allocates responsibilities and decision making authority to CPCs and local communities, there is little documentation or practical guidance as to how to support CPCs to fulfil their infrastructure O&M responsibilities.

State budget allocations to CPCs are generally sufficient only to cover the basic salaries and running costs of the CPC itself, with no funding for infrastructure Operation and Maintenance (O&M). Instead, O&M depends on contributions mobilised from local communities. The levels of funds that can be mobilised from poor rural communes are often insufficient to cover the costs of all but the most basic and routine operation and maintenance activities. This is further exacerbated by low population densities which result in higher costs per capita for the same basic infrastructure.

In addition, poor rural communes tend to be located far from provincial and district towns and difficult travelling conditions restrict access to the services provided by such administrative centres, and deter technical field staff of line agencies from providing effective services to rural areas.

CPC staff are often responsible for several different sectors, for example one person may be responsible for road transport, irrigation, and public works; are poorly trained and generally overstretched, and unable to provide sufficient time and attention to different aspects of infrastructure O&M despite their best efforts.

As a result of these practical difficulties a number of rural infrastructure assets, including those provided under Programme 135 (P135), have suffered from lack of or inadequate O&M, which has meant the infrastructure provided has not sustained, or in some cases not even generated, the full potential benefits anticipated with many infrastructure investments quickly falling into disrepair.

Increasing investment in the basic infrastructure needs of rural communes is also shifting the focus to making the benefits of such infrastructure more sustainable through the prioritisation of O&M systems, and for more equitable strategies that support the Government's move towards improved community participation and management of their infrastructure.

The Study

The purpose of this study is to present a clear strategy for improving O&M management and implementation as well as the detailed design of 'Pilot' O&M systems to be implemented within the P135 framework, taking into account the special characteristics and needs of poor and remote communes.

In order to achieve this, a review of current O&M practices was undertaken, covering a range of infrastructure construction projects that use approaches that provide a model for the future O&M of rural infrastructure. This review was followed by consultations with central and local authorities to assess the applicability of such approaches to P135 and to develop a detailed proposal for the 'pilot' O&M systems.

It is this review of current practices that is presented in this report. The strategy and design of pilot models for P135 is presented in a separate report.

The review of existing practice was undertaken in three stages:

- Desk Study – a review of implementation manuals, project reviews and lesson learning documents of various projects adopting 'new' models that support effective O&M, PAC workshop papers and relevant legislation
- Central Level Consultations – discussions with central level agencies involved in implementing the 'new' models, including lessons learned and applicability of models for P135.
- Local Level Consultations – field visits to Ha Tinh Province, discussions with stakeholders at province level and 3 communes in which the 'new' models are being implemented. Discussions with CPC, user groups and community representatives on their views and suggestions relating to the 'new' models.

O&M 'Pilot Models' in Vietnam

There are several investment projects that are supporting 'pilot' models which, while they do not specifically support post construction O&M, do include extensive training, community participation and management of the infrastructure construction and provide a sound foundation for future O&M management and implementation.

The table below summarises the 'pilot' models currently being implemented in Vietnam by different investors for different types of rural infrastructure.

In addition, it should be noted that *Sector Strategies*, in particular for the irrigation sector, have already resulted in policies to support the wider implementation of these pilot models, such as MARD Circular No. 75/2004/TT-BNN (December 2004), which provides guidelines for establishment, strengthening and development of Water User Associations, and No. 248/BNN-TL (January 2005) concerning a National Action Programme for reform and effective enhancement of management and exploitation of irrigation structures.

Current Best Practice Examples

Infrastructure Sector	Projects/Funders/ Line Agencies Consulted	O&M Management	O&M Implementation	Comments
Irrigation	• Oxfam, • ActionAid, • CWRDE(IWRR) • HRDP (IFAD)	• WUA is a separate entity with own bank account. • Contracts made with irrigation companies for water supply. • Watering schedules, management, annual maintenance plan prepared by WUA	• 2-3 people contracted by WUA for O&M – each responsible for supply system to 10-25 ha fields. • Collection of user fees to pay irrigation companies and WUA costs.	• Sector strategy stipulates WUAs nationwide. • Direct relationship between user benefits, fees and O&M
Water Supply	• RWSS(UNICEF DANIDA), • PCERWASS (Ha Tinh) • ActionAid	• WUG – similar to irrigation WUA	• CPC contract individual to implement O&M. • Collection of water fees from users	• RWSS endorses WUGs nationwide. • Direct relationship between user benefits, fees and O&M
Markets	• HRDP (IFAD)	• Market Management Board responsible for O&M	• MMB have a contract with CPC to collect fees from stall holders and make monthly payments to CPC. • Fees often higher than O&M needs and provides additional revenue to CPC for other items.	• Risk to MMB if don't collect enough fees, but high incentive to do O&M well to encourage payments.
Roads	• HRDP (IFAD), • RT2 (World Bank)	• Road User Association (RUA) for Commune Roads. Similar to WUA, but all members are CPC staff and funding managed through CPC. • 2. Commune regulations on how to protect and look after roads (Routine 1 only).	• Repair work as need arises. • Labour contributions plus cash contributions from local community. • Barrier gate installed – overloaded vehicle fine collection and occasional toll collection.	• Road users are not all local residents, and distances from population centres make O&M management difficult. • Impacts of RUA weaker – O&M of roads more technically difficult and expensive.

Electricity	• (Quang Nam) Electricity Department	• Electricity Management Board (EMB) with regulations based on requirements of Province Electricity Department. • Operates either under Commune Service Cooperative or CPC	• 2-3 people in commune O&M team for household connections. • O&M of line and sub-station by technical staff of local electricity company. • EMB contract an electricity company to supply power based on KWh consumption. EMB collect household fees on behalf of company.	• Safety issues means all O&M done by technical staff of electricity company. • Direct link between fee payment and supply delivery. • High user demand also supports effective O&M.
Schools	• ActionAid, • IFAD, • DANIDA	• Commune Schools Council becomes owner for O&M. • Usually Pupil Parent's Association support includes O&M management.	• School head responsible to set up O&M regulations and nominate individuals to undertake O&M activities. • Contributions per pupil each year.	• Larger families have larger contribution burden. Large sums required in one annual payment may be difficult to meet.
Health Stations	• ADB, • World Bank	• Commune Health Staff responsible for O&M management – similar to schools.	• Similar to schools	•

Analysis of 'new' models

The infrastructure models that best support effective O&M all adopt a similar approach – a variation on a theme - in which some form of 'management board' or 'user group' is set up for the overall management of the infrastructure O&M, and some form of O&M team is set up under this management board. For some infrastructure types such as irrigation and water supply, there may be 'sub-management boards' at village level.

Various options are available for how to establish a management board and how O&M may be managed and implemented.

During the consultations with the three communes in Ha Tinh Province, participants were asked to assess the models used for different infrastructure types in terms of how effective these models were for O&M implementation and management. These assessments were undertaken jointly by CPC members, members of user groups and members of civil society organisations, and included: their perceptions of policy and guidelines on O&M; management board / user group organisation; contributions from local people and the government; management efficiency; O&M training; and quality of construction. The assessments included all infrastructure: the 'new' models as well as infrastructure constructed by the people themselves where external support was not provided.

The overall score for each infrastructure type ranged between 2.5 (poor) and 4.7 (good), with the school and irrigation models scoring highest and markets and water supply lowest.

Strengths and Weaknesses

The consultation process suggested the approaches in the above table had the following overall strengths and weaknesses.

Strengths:

- ► Local people empowered to manage infrastructure at all stages of design, construction, operation and maintenance
- ► Improved quality control and supervision of construction
- ► Better ownership of and sense of responsibility for infrastructure; improved awareness and motivation to look after the infrastructure provided

- ► User group discussions lead to democratic decision making and establishment of local conventions / regulations for management, operation and maintenance of infrastructure
- ► More efficient and equitable distribution of infrastructure benefits
- ► Reduced conflict over distribution of user benefits and cost recovery
- ► Regulations can include provision for reductions or exemptions from user fees for poorest households
- ► Improved accountability of revenues and expenditures

Weaknesses:

- ► User fees and community contributions are generally insufficient to cover all O&M costs, even for levels 1 and 2. No project has yet solved the issue of providing funds for all levels of O&M.

Keys to Success

- ► User groups were established early on to identify infrastructure needs and to select the most appropriate type and level of infrastructure to be provided.
- ► Empowerment of communities to manage their own infrastructure ensures sustainability
- ► Training and support during the construction process provides better technical appreciation and understanding of the infrastructure that is essential in its operation and maintenance.

Application under P135

Many aspects of the approaches described above are already incorporated in the implementation of P135. However, there are some aspects under P135 that will need increased emphasis during implementation. In addition, the adoption of some aspects of these approaches will be complicated by the attempt under P135 to establish O&M models for infrastructure already constructed and in use.

Challenges

- ► How to empower community based management boards to become the Client of infrastructure projects – *requires shifts in attitudes, reduced government control, substantial increases in technical support to communities*
- ► How to implement the extensive training programme that will be needed - *requires development of a modular toolkit of training materials for management and technical training covering all infrastructure types and options, delivery of 'hands on' participatory training*
- ► How to deal with O&M of infrastructure that is already several years old – *requires backlog repairs based on inventory and condition survey to bring infrastructure back to maintainable (good) condition so communities can implement routine maintenance activities*
- ► How can poor communes pay for maintenance – O&M currently relies on user fees and contributions to pay for O&M. Evidence suggests that contributions are already a significantly higher burden on rural households than urban households (rural households pay 4-5 times more of their income as contributions than urban households). As P135 supports poorest communes, contributions cannot be relied on to provide sufficient funds for O&M. *Exemptions for poor households and subsidies will be required.*
- ► How to meet actual O&M needs – at present planning for O&M is based on how much can be mobilised rather than what O&M work is required. In order to address funding issues, the 'funding gap' must be identified. A commune wide infrastructure inventory and condition survey can be used to quantify the need. The maximum level of community contributions and user fees can be estimated, and the 'gap' calculated. *Once this gap is known, a strategy is needed to top up funding to communes so they can manage and maintain their infrastructure in a sustainable way.*

Proposals for P135 Pilots

It is this commune wide funding gap that requires the P135 O&M pilots to take a holistic approach towards infrastructure O&M, in that it addresses the O&M needs of all infrastructure types serving a commune rather than individual types or only infrastructure constructed through P135 support. Another reason for this approach is to ensure that the impact of better managed infrastructure benefits all communities and societal groups within a commune. This approach was reinforced by feedback at the Joint Progress Review workshop in Hanoi on 27-28 September 2005.

1 Introduction

1.1 Background

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In addition, poor rural communes tend to be located far from provincial and district towns and difficult travelling conditions act as barriers to access to the services provided by such administrative centres, as well as a deterrent to technical field staff of line agencies providing effective services to rural areas.

CPC staff are often responsible for several different areas of work, for example one person may be responsible for road transport, irrigation, and public works. Often the individual has received inadequate technical and management training and is generally overstretched, and not able to provide sufficient time and attention to different aspects of infrastructure O&M despite their best efforts.

As a result of these practical difficulties a number of rural infrastructure assets, including those provided under Programme 135 (P135), have suffered from lack of or inadequate O&M which has meant the infrastructure provided has not sustained, or in some cases not even generated, the full potential benefits anticipated, with many infrastructure investments quickly falling into disrepair.

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In order to achieve this, a review of current O&M practices and of a range of infrastructure construction projects that adopted approaches that provide a sound basis for the future O&M of rural infrastructure was undertaken. This review was followed by consultations with central and local authorities to assess the applicability of such approaches to P135 and to develop a detailed proposal for the 'pilot' O&M systems. It is this review of current practices that is presented in this report. The strategy and design of pilot models for P135 is presented in a separate report.

1.2 Approach

The review of existing practice was undertaken in three stages:

- Desk Study – a review of implementation manuals, project reviews and lesson learning documents of various projects adopting 'new' models that support effective O&M, PAC workshop papers and relevant legislation
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See Appendix 1 for a list of people consulted and Appendix 2 for a list of documents reviewed.

1.3 Report Structure

This report covers the review of existing experiences only. For information on the pilot design, please refer to the P135 O&M Pilot Design Report.

Following this introduction, Section 2 gives the legal definitions of operation and maintenance used in Vietnam and the associated responsibilities. Section 3 gives detailed descriptions of the 'new' models being implemented which support effective O&M. Section 4 provides a summary of the analysis of these 'new' models in the context of developing pilots for P135, and Section 5 discusses practical issues to be considered in applying such 'new' models under P135, which have been taken on board in the development of the pilot models to be implemented under P135.

CEM organised a Joint Review of Progress workshop on the 27 and 28 September 2005, at which our initial findings and recommendations were presented and feedback from representatives from central ministries and provinces received. A copy of the presentation is provided in Appendix 3, with the ideas presented in more detail in this report.

2 Definitions

A previous study of 'Operation and Maintenance of Commune and Village Infrastructure' by consultants Nguyen Thanh Hai and Nguyen Kim Long provided a very good summary of the legal framework and definitions relevant to infrastructure O&M. The following paragraphs are primarily extracted from their report.

2.1 Operation

In line with Decree No. 52/1999/ND-CP issued by the Vietnam Government and dated 8 July 1999, project operation can be understood as:

"After a project is handed over, the investor is responsible to operate and utilize the capacity of the project, to synchronize production, business and services, to perfect the organization and management methods, to take into full play the technical and economic targets as set in the project."

2.2 Maintenance

For a better understanding of the concept of maintenance, the Ministry of Construction issued guidelines on project maintenance regimes in accordance with Article 23 of Decision No. 18/2003/QD-BXD, dated 27 June 2003, on Regulations on Construction Project Quality Management as follows:

- Project maintenance period:
  'Project maintenance period is calculated from the date of check and delivery to put the relevant project into operation to the end of the utilization plan as stipulated in the project level regulations. Where the project goes beyond the utilization date or does not meet the quality requirements for further operation, there must be a written document by the relevant consultant organization to verify and evaluate the status of the project to serve as the basis for the relevant authority to consider and decide. For specialized projects, regulations related to the maintenance period will be drawn up by the appropriate Ministry which has the relevant specialized skills '
- Project maintenance level: (classified into 4 levels)

  General maintenance
  Minor repairs
  Medium repairs
  Major repairs

For general maintenance and minor repairs: project investor(s), manager(s), operator(s) develop annual plans for what is referred to as 'periodical maintenance.' This is equivalent to the internationally used term of 'routine' maintenance and should not be confused with the term 'periodic' maintenance which is equivalent to medium repairs in Vietnam.

For medium and major repairs related to the safety, operation and utilization of the project, based on the scale of the work, the project operator(s), manager(s), or investor(s) develop investment plans or reports as stipulated in the Investment and Construction Management Regulations in line with Decree No. 52/1999/ND-CP dated 8 July 1999 and other relevant documents.

- Responsibility for project maintenance
  If assigned to manage and utilize a project by the State, the manager(s) must:
  - Conform to technical relating to their operation and utilization as provided in the maintenance process set out by the consultant organization that designed the project.
  - Be responsible to the law when project quality deteriorates; project components, sections and structures fail to sustain force-loading capacity; and operation is unsafe due to a lack of maintenance as stipulated.

In accordance with the above regulations, when a project is handed over to a Commune People's Committee for management and utilization, it has the responsibility to operate and maintain the project in conformity with the law.

3 Description of 'new' models being implemented

3.1 Review of Irrigation and of Water User's Association

3.1.1 Institutional Framework

- *WUA History of development:*

Between 1997 and 2003, the NGOs Oxfam and Action Aid Vietnam supported renovation and construction of small-scale irrigation systems for communes and villages in Can Loc and Thach Ha districts of Ha Tinh province.

The establishment of the Water User's Association (WUA) was closely connected not only with the development of small scale irrigation systems for communes and villages, but also with the strengthening of local participation of construction and operation of irrigation infrastructure to deliver long-term benefits to local people. The former irrigation management, which was centralized at a Commune Co-operative level, was no longer thought to be suitable since it showed weakness in water distribution among villages and farmers in each village, particularly in maintenance and repairs of canals. Since these canals belonged to the Communes there appeared to be a need to replace this model of irrigation management at commune and village level.

Using a Participatory Approach, which played a key role in the implementation of irrigation infrastructure, Oxfam and Action Aid Vietnam developed a central role for local peoples' participation in various stages of project implementation, particularly in the setting-up of Water User's Association immediately after the completion of projects in their respective locations.

Water User's Associations in Gia Hanh and My Loc communes, Can Loc district, Ha Tinh province were established by a decision of the Commune People's Committees. Government at province and district levels gave their support to this model by giving permission for the formation of WUAs in the project area and allowed them to keep one third of the total irrigation fees for their activities. WUAs took the initiative and set up their own regulations, however it took some time to have official documents for supporting establishment of WUA in all localities in the province.

With the advantages of the small-scale irrigation management of the WUA, projects funded by IFAD incorporated lessons from this model and encouraged application WUAs in their small-scale irrigation projects. In order to have institutional support for this model, IFAD PMU advised the Ha Tinh Provincial People's Committee to issue decision No.48 dated 8 June 2005 (see Appendix 4) for wide application of WUAs in all small-scale irrigation systems in the province. With this legal document, a WUA is recognized as a voluntary organization and an independent entity with a separate bank account. This legal document was a practical result that was encouraged by a National Action Program.

At the national level, in November and December 2004, a Workshop was organized with the participation of relevant departments of MARD and representatives of 64 provincial DARDs and irrigation companies to consider reforms that could lead to more effective enhancement of management and exploitation of irrigation structures. Following this workshop, MARD issued circular No. 75/2004/TT-BNN dated 20/12/2004 on guidelines for establishment, strengthening and development of water user's organizations and set-up a National Action Program No. 248/BNN-TL dated 31/01/2005 for reform and effective enhancement of management and exploitation of irrigation structures.

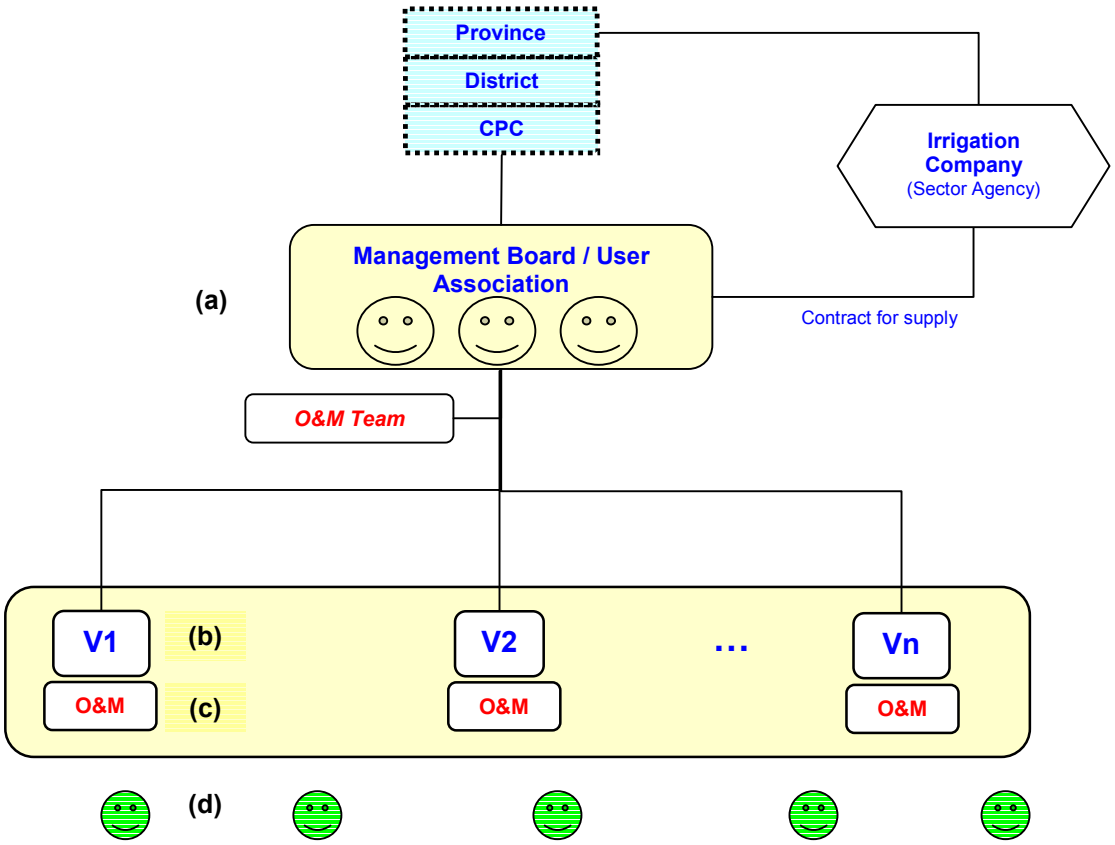
In order to provide practical support to communes for setting-up WUAs, the Centre for Water Resources Development and Environment (under the Vietnam Institute for Water Resource Research) compiled a detailed guidebook for setting-up WUAs and details concerning the management and operations of the WUA.

3.1.2 Organization Structure

In Gia Hanh commune, Can Loc district, and in Thach Hoi and Nam Huong communes, Thach Ha district, the WUAs normally consist of four key elements at commune and village levels as summarised below. See also Appendix 4 for copies of the actual Operation Regulations of Irrigation Water User Cooperative used in Nam Huong Commune and Thach Hoi communes.

a) WUA Management Board at commune level:

- The number of people in the WUA MB is between three and five people depending on the demand for irrigation management, based on the scale of the irrigation network and the number of WUA branches at the village level.
- The WUA MB in general has the following functions:
  - Contracting with an irrigation company for water supply. In the case of Gia Hanh commune, the WUA signed contracts for water supply with two irrigation companies, one a provincial company and the other a district company.
  - Making Plans for water supply to all branches in the WUA that are shown in the watering schedules for each type of crop.
  - Management of repair of the irrigation system based on the equal balance among WUA branches.
  - Providing training to members of WUA if necessary
  - Collection of fees to be paid to an irrigation company per contract signed.



Modal of structure of WUA in Gia Hanh, Thach Hoi, Nam Huong communes, Ha tinh province

b) WUA Branches at village level

- In most cases the village head is the chief of the village WUA branch working closely with O&M group and branch members.
- The village WUA branch has the following functions:

- Receiving plans from WUA MB, implementation of plans, organizing routine maintenance of irrigation canals, which are delegated to village branch for management.
- Receiving water and channelling it to fields of branch members in an equitable and timely way.
- Sufficient and timely collection of irrigation fees from members whose areas have been watered.
- Checking and having measures to be applied to people who damage canals or waste water.

c) *O&M group*

- The O&M consists of two or three irrigation persons depending on the field areas to be watered; as per the regulations of WUA each irrigation man will be in charge of about 10 to 25 ha of rice fields.
- The village branch O&M group has two main functions:
  - They are people who work the fields that receive water and manage the distribution to members' fields.
  - Protection of the canal system of the branch and implementation of routine maintenance of irrigation canals planned by the head of village branch.

d) *WUA Members*

- All members have to check their fields frequently to avoid over watering and wastage of water and the presence of insects that are harmful to crops.
- They are required to follow the regulations for protection of water resources and are not allowed to destroy paths at the edges of other members' rice fields.
- Members are responsible for full and timely contributions of irrigation fees and other duties as may be required.

3.1.3 O&M Mechanism

a) *For water supply:*

- Prior to the crop being harvested, the Management Board of the WUA signs a contract with an irrigation management company for water supply. Based on the crop calendar issued by the company a water distribution schedule is set up for watering fields of all WUA's members.

b) Payment to WUA MB and Head village WUA

- Members of the WUA Management Board will be paid a salary based on their effectiveness, work done and on the financial capacity of the WUA. The salary size will be approved by all WUA members at its congress.
- The Head of WUA is paid a salary by the WUA MB and rewarded on the completion of work. Again this salary must be approved by the WUA congress.

c) O&M of irrigation canal

- The WUA has to make an annual plan or crop plan for maintenance of irrigation canals. The WUA will take responsibility for the main canals while village branches will maintain those canals supplying their village land.
- A part of the irrigation fee collected from WUA members is used for the maintenance of the main canals, or in some cases it can be used for repair of canals or structures at the village level where person-day contributions from members are problematic.
- Maintenance of village canals involves contributions of labour from members based on the area of rice field watered. If members cannot make labour contributions, they have to contribute in cash so that the village branch can hire other people to do the work.

d) Accountability

- In the case of WUA of Gia Hanh commune, Can Loc district the WUA MB organized three meetings with the participation of all village branches to review and assess activities carried out, preparation of plans for each crop and financial disclosure of all incomes and expenditures to all participants. The WUA has its own bank account to aid transparency and accountability.
- At the village level WUA issues are normally combined into the monthly village meeting so that all ideas regarding O&M from members can be discussed and prompt action can be taken for

dealing with O&M matters. Previously when irrigation was managed by the commune, it took longer for such actions to be taken.

- Below is a summary of incomes and expenditures of Gia Hanh commune in the year 2003.

Items		Quantity (tons of rice)	Unit price	Amount	%
Incomes					
	- Winter - Spring crop	50.5	1,600	80,800,000	
	- Summer - Autumn crop	50.5	1,600	80,800,000	
	- Total			**161,600,000**	
Expenditure					
	- Irrigation fees to irrigation company			93,120,000	57.6%
	- Maintenance and repairs of canals			45,531,000	28.2%
	- New construction of culverts and canals			12,839,000	7.9%
	- Costs for pumping waters			1,523,000	0.9%
	- Costs for repairs to pump machines			490,000	0.3%
	- Remunerations of Management Boards of commune and village			7,360,000	4.6%
	- Others			737,000	0.5%
	Total			**161,600,000**	100.0%

3.1.4 Contributions

- All members of WUA have to contribute fees for their field areas to be irrigated in accordance with instructions regarding irrigation fees collection issued by the Provincial People Committee of Ha Tinh No. 01 HD/LS/NN-TC dated 19/1/2005 and the decision for collection of irrigation fees issued by the Provincial People Committee No. 101/2004/ QDUB –NL2 dated 10/12/2004. (See Appendix 4)
- In addition to irrigation fees, members of WUA have to contribute person-days for routine maintenance of village level canals. The number of person-days contributed depends on the situation of each WUA and these contributions are approved by all members at their congress.

3.1.5 Training

- In parallel with the construction of irrigation infrastructure, in December 2002 some training on setting up a WUA and O&M of small-scale irrigation systems was delivered to WUA MB and key members from village branches by the Irrigation and Water Management Department, DARD of Ha Tinh. The training fund for this topic was included in the fund for construction investment of the irrigation infrastructure. This helped local people and the MB since they were equipped with basic knowledge and experience from other localities so that they were ready to receive the infrastructure for operation and management.

3.1.6 Strengths

- Local people were empowered to participate not only in the management of construction but also in operation and maintenance.
- The approach promotes responsible participation of local people in management of small-scale irrigation at commune and village level.
- Members of WUA were involved in discussion on water issues and set-up conventions that defined the rights of all members in an equitable way between those with fields close to the canals and those with fields on high land. Members also were aware of the need for timely collection of fees and watering of members' fields was better managed.
- Accountability of all incomes and expenditures has led to improved relations between households in the community because conflicts in terms of watering distribution, which were a problem previously, have been reduced significantly.

3.1.7 Weakness

- According to expenditure reports of WUA for 2003 of Gia Hanh commune, Can Loc district irrigation fees from members were just sufficient for routine maintenance and for some small construction of village level canals only. As with all WUAs in the province, they cannot finance periodic maintenance or major repairs to the canal systems.

3.2 Review of Clean Water Supply

3.2.1 Institutional Framework

- The National Rural Water Supply and Sanitation (RWSS) Strategy up to the year 2020 was developed in 1997-1999 with assistance from the Government of Denmark and ratified by the Prime Minister with Decision No. 104/2000/QD/TTg dated 25 August 2000. The key points of this strategy are:
  - Overall objective is 100% rural people to be using clean water with at least 60 litres / person / day and using approved hygienic latrines by 2020.
  - The interim objective is 85% rural people using clean water with 60 litres / person / day and 70% using hygienic latrines by 2010
  - Implementation of this strategy should be through the active promotion of community participation and a demand responsive approach.
- The RWSS implementation is supported by DANIDA technical assistance. This included preparation of a handbook which provides guidance on the use of community 'motivators' to establish the feasibility of water supply systems and to promote formation of user groups and management committees for infrastructure management.

3.2.2 Organization Structure

- In one example from Nam Huong commune, Thach Ha district, the Commune People's Committee contracted one man to deal with all the O&M issues concerning the commune's clean water supply system.
- His functions included:
  - Protect all main pipes, dams and the water purification tanks;
  - Do not let any household dig into the mains pipes to get water to their household;
  - Provide technical checks of pipes and water tanks and their repair
  - By the 10^{th} day of every month, collection of water fees from village heads or heads of user groups; after 5 more days if households do not pay their water fees, they will be disconnected;
- Sometimes water supply is managed by Cooperative Groups and sometimes by Water User Groups. CERWASS have provided technical support to such groups in carrying out their management functions, their operation and administration. They operate in a similar manner to WUAs in irrigation.

3.2.3 O&M Mechanism

- If the contracted person can fulfil successfully all these above tasks he will be paid 250,000 VND per month as his salary.
- The CPC will supervise his performance.

3.2.4 Contributions

- Each household individually connected to the water supply pays VND 20,000 per month while household who share a water tank with other households, normally about 5 to 7 families per water tank, are charged VND15,000 per month.

3.2.5 Training

- Initially the contracted person did not receive specific training for O&M of a clean water supply system but had to rely on experience gained while working.
- However, training materials developed by CERWASS and UNICEF now include:
  - a Handbook on Management, Operation and Administration of a Piped Rural Water Supply System (PWS) prepared by CERWASS to assist a PWS Management Committee of a Cooperative Group to carry out overall management functions and in particular to organize its daily operation and administration. It is anticipated that most of the water user groups (WUGs) will organize themselves into Cooperative Groups, but WUGs organized in other ways may also find the handbook useful. The handbook is designed to be used at a time when a new PWS is being set up and when systems and procedures are being established. However, the handbook can also be used by existing WUGs that wish to review or revise their existing operational and administrative routines.
  - The UNICEF Program complied a set of 3 guideline books for O&M of different types of water system such as gravity flow and piping systems, small piping systems, mini gravity

flow systems, etc., which targeted technical and management staff as well as users and primary schools and kindergartens.

3.2.6 Strengths

- Implementation of this type of O&M is not complicated.
- The CPC obtains funds from users for O&M, at least in this case sufficient for routine and small repairs, thus avoiding the problems of obtaining funds from its recurrent budget for maintenance of infrastructure that is managed directly by the Commune.
- Availability of training materials for O&M led to the method being applied in many provinces with support from UNICEF and DANIDA/CERWASS

3.2.7 Weakness

- Water fees from ethnic minority people living in mountainous areas can be difficult to collect since ethnic minority people are used to getting water free of charge from springs.

3.3 Review of Markets

3.3.1 Institutional Framework

- In Thach Hoi commune, IFAD supported the building of one market together with contributions of local people of about 10% of the total cost. After completion of the construction, IFAD PMU prepared guidelines to communes to set-up regulations for O&M of the market.

3.3.2 Organization Structure

- The Market Management Board (MMB) of the market consists of three members who look after all the O&M issues of the market.
- See Appendix 4 for a copy of the Operation Regulations of Market for Thach Hoi Commune

3.3.3 O&M Mechanism

- The Market Management Board signed a contract with the Commune People's Committee for the right to collect fees from people who use the market facilities (stall holders who then pass on the cost in their prices).
- Every month the MMB has to collect at least VND2.5 million, of which 15% is used for small repairs and routine maintenance while 85% is transferred to the commune budget.
- Salaries of the MMB are paid from the VND2.5 million collected each month.

3.3.4 Contributions

- Fee rates are set by the Commune People's Committee to ensure they are not too high for local people based on trade turnover.

3.3.5 Training

- The MMB said that apart from some guidelines for market regulations from IFAD PMU, the MMB has not received any training for O&M of the market.

3.3.6 Strengths

- MMB is small but effective.

3.3.7 Weakness

- If the MMB cannot collect an amount of VND2.5 million per month members of the MMB will not be paid.

3.4 Review of Roads

3.4.1 Institutional Framework

- Central and Provincial Governments have a policy for O&M of roads that are assigned to the commune level authorities for management and utilization. Under this policy, the CPC and local people have to take full responsibility for O&M. While the policy itself is clear there is confusion as to how it should be implemented.
- One of the features of road infrastructure is that it is a public infrastructure serving not only the people in a local community but also people from outside that community. Therefore formulation

and operation of Road User Associations (RUA) is more difficult than for irrigation and funding is one of the main obstacles to the wider application of this model in communes.

- With funding and technical support from IFAD for construction of new roads in several communes in Ha Tinh province, the setting-up a RUA for O&M of these roads is an IFAD requirement. In Nam Huong commune, a RUA has just been established for IFAD roads running through 2 villages No. 6 and 7. The rest of the 9 villages do not have a RUA since roads in these villages were built with contribution of local people and not by outside sources.

3.4.2 Organization Structure

- The organizational structure of the RUA in Nam Huong commune, Thach Ha district is in general similar to the WUA model. However the RUA is less independent since all members of the MB are staff from CPC and it does not have separate bank account, relying instead on a specific budget item in the commune budget. The RUA of Thach Hoi commune, Thach Ha district is still in the stage of formulation and is not yet operational.
- See Appendix 4 for copies of the Operation Regulations of Road User Associations of these two communes

3.4.3 O&M Mechanism

- The members of the RUA Management Board are not paid by the RUA because they are all staff of Commune People's Committee.
- Village heads report any damage to the road to the Boards who are responsible for making a cost estimation and repair plan, this mechanism reflecting closely the CPC administrative management model rather than that of an independent RUA.
- The RUA appoints local people to undertake the repair work as need arises, either from labour contributions or paid labour if compulsory contribution already fulfilled.

3.4.4 Contributions

- Beside the contribution of compulsory labour days, local people in the 2 villages have to contribute VND30,000 per person and VND40,000 per 'labourer' (people of working age) per year for the purpose of O&M of 2.7 km of road in good condition. All contributions in cash have to be put in the commune account.
- The village has set up a gate to collect fees from trucks carrying loads of over 5 tons but income from this source is limited.

3.4.5 Training

- Participants in the meeting said that IFAD had guidelines for setting up the RUA rather than technical instructions about maintenance.
- O&M Program by RT2:
    - The Ministry of Transport (MOT) has established a two-year support program for the RT2 provinces that addresses their individual needs to manage and maintain their rural road network through tailor made packages of management services and training. A 'Partnership Agreement' has been signed between the project and each of the RT2 provinces.
    - The First Year program of handbook training for district and commune staff by PDOT trainers was started in October 2003 and was completed in September 2004. A total of 193 courses have been held in the First Year in 43 provinces (including the original 40 RT2 provinces plus 3 new provinces formed from existing RT2 provinces). A total of 5600 Communes and 340 Districts have been trained for the Handbook of Rural Road Maintenance.
    - This training has been extended to non RT2 provinces in the rest of the country through the DFID funded SEACAP programme and managed through the MOT's Transport College in Vinh city, Nhge An province.

3.4.6 Strengths

- The Community can be in charge of routine maintenance since this requires only labour contributions from local villagers, can be organized and implemented by local people and does not require advanced technical skills or involve high costs.

3.4.7 Weakness

- It remains very difficult for Commune People's Committee to raise sufficient funds for periodic and emergency maintenance.
- For those remaining villages whose roads are still in a poor condition adoption of the RUA model must await the rehabilitation of their existing roads.
- It seems that the RUA did not organize WUA style review meetings, but instead raised RUA issues at combined village meetings with the result that local villagers did not have chance to discuss fully the operations of the RUA.
- The operation of RUA is weak and there is no clear policy from central or provincial levels on setting up user group to manage and maintain roads. Another reason is that where such groups exist they are headed by commune staff who are at the same time responsible for a range of CPC issues such as irrigation or cadastral matters. It is also difficult to collect money contribution from road users because they can still use roads without paying any fees.

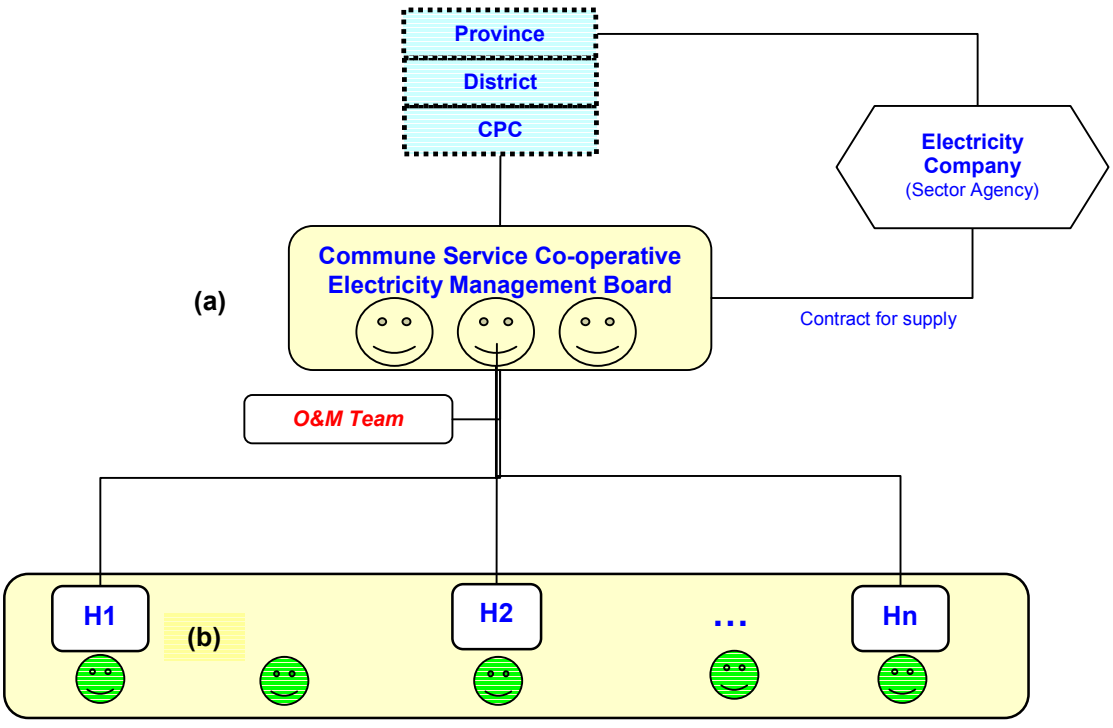
3.5 Review of Electricity

3.5.1 Institutional Framework

- In most cases, newly constructed electricity projects are handover to the Commune People's Committee for operation. The Commune People's Committee takes full responsibility for setting-up the Electricity Management Board (EMB) for operations, collection of electricity fees and payments to the Management Board, etc.,
- Regulations for EMBs vary from commune to commune but in general, regulations for the EMB are in accordance with guidelines from Electricity Department of Province and are approved by the Commune People's Committee.

3.5.2 Organization Structure

- At present there are two models of EMB at the commune level:
  - (a) The EMB is integrated in the Commune Service Co-operative (CSC), which provides services of irrigation, electricity and others like fertilizers to farmers in the commune. In this case, the EMB shares a bank account with the CSC for specific budget items.



Modal of structure of Electricity Management Board

  - (b) The EMB belongs directly to Commune People's Committee. One member of the CPC is the head of the EMB. This model uses CPC's persons such as an accountant, a clerk

and the commune bank account. One O&M team was set up by the EMB that consisted of 2 to 3 persons. This O&M team has the functions to help households to connect to electricity lines, to collect electricity fees and check lines for repair. Maintenance of line and sub-station is done by technical staff from the Electricity Branch of the District or supply company.

3.5.3 O&M Mechanism

- The EMB contracts an Electricity Company to supply power and pays the Company according to the amount of KW/h consumed, as shown by the electric meter at the sub-station.
- The EMB hires 2 to 3 persons to work on the O&M team, which serve all households in the commune.

3.5.4 Contributions

- Households using electricity pay electricity fees to the EMB which in turn pays the electricity supplier.

3.5.5 Training

- Prior to operation of electricity infrastructure, the Electricity Company and District Electricity Branch provide some basic training to EMB and the O&M team on operation of lines and safety of users.

3.5.6 Strengths

- Organization and management of electricity operation in a commune is simpler than other types of infrastructure since the O&M team and EMB's main duties are the collection of electricity fees. It does not undertake any actual maintenance work on electricity lines and sub-stations, as this is undertaken by the Electricity Company.
- As with irrigation infrastructure, electricity infrastructure brings direct and tangible benefits to individual households in a commune, and the rights and duties of households for O&M and the collection of electricity fees from households is easier than for road infrastructure.

3.5.7 Weakness

- Due to the high price of electricity, many households, particularly poor households, experience financial difficulty in meeting their payments. In rural communes the cost of electricity ranges from VND700 to VND1,100 per kwh while city households pay from VND550 per kwh for the first 100 kwh per month, which is comparable with rural consumption levels[1].

3.6 Review of school

3.6.1 Institutional Framework

- In all cases after completion of construction, school infrastructure is handed over to Commune People's Committee and the Commune School's Council for management and utilization. The school will take responsibility for setting up operational regulations and nominating specific persons for operation and maintenance.

3.6.2 Organization Structure

- The School's Council will set up a Pupil Parent's Association for supporting the school in educational affairs in general, including the O&M issues of the school.

3.6.3 O&M Mechanism

- The School's Council and Parent's Association set up a team for O&M. This team has the responsibility to protect the school, assess the need for repairs and report to the Headmaster of the school.
- The O&M team may be an individual, such as a teacher or security guard employed by the school, or a team including teachers and parents.

[1] Based on a household using electricity for lighting and some electric fans only.

3.6.4 Contributions

- Contributions for O&M are through contributions per pupil, the level of contributions being different for kindergarten, primary and secondary education. Contributions are normally paid at the beginning of the new school year.

3.6.5 Training

- Not clear

3.6.6 Strengths

- The school is used every day apart from the three month summer holiday, which means the O&M team can repair any damages as they arise.
- It is very easy to raise funds for O&M based on contributions per pupil.

3.6.7 Weakness

- Many families have financial difficulties, particularly those with more than one child going to school and all of them have to make contributions right at the beginning of the school year.
- Routine maintenance is neglected in most cases.

3.7 Review of Commune Health Station

All aspects of the management of health stations are very similar to that of schools. After completion of construction of a Commune Health Station, the Health infrastructure is handed over to the Commune People's Committee and the Commune Health Staff for operation. The Commune Health Station will take responsibility for setting up operation regulations for operation and maintenance.

4 Summary of Analysis of 'new' models

The infrastructure models that best support effective O&M all adopt a similar approach – a variation on a theme.

This theme or approach is that some form of 'management board' or 'user group' is set up for the overall management of the infrastructure O&M, and some form of O&M team is set up under this management board. For some infrastructure types such as irrigation and water supply, there may be 'sub-management boards' at village level.

4.1 Management Options

For the management boards, there are several options as to how they are operated.

- ► Management boards can be based on administrative units (Commune and Village) or by catchment area. The choice will depend on the type and size of the infrastructure. In most cases, local people will understand the administrative unit basis better than catchment areas and be more comfortable in linking in to existing administrative authority systems.
- ► Management Boards may be given legal status and operate their own bank account, or they may simply be given a dedicated line item in the CPC budget. Separate bank accounts support accountability and transparency to users, but require high province level support for management boards to be given the necessary legal status. Separate accounts provide an additional assurance that funds collected for a specific infrastructure system cannot be used for anything else as may happen if under the CPC budget.
- ► Management boards may be headed by CPC staff or an independent community representative. Often CPC are extremely busy and may not have the time necessary to dedicate themselves to a particular infrastructure system. Independent heads may prevent the politicisation of management board decisions, although a CPC head ensures a minimum level of support from the local government and government hierarchy.

4.2 O&M Implementation Options

There are also several options as to how O&M is managed and implemented:

- ► Monthly salary, performance based contracts.
  An individual or family is paid a monthly salary to look after a section of infrastructure. If the quality of the infrastructure deteriorates due to poor maintenance, the payment will be reduced or

stopped. This option is particularly suitable to irrigation and road infrastructure, but can also be applied to public buildings such as schools, clinics and markets.

- Daily rate as per need / work done
  As the need for minor repairs becomes noticeable, the Management Board prepare a plan for repair works and appoint individuals to undertake the work. This may be part of their labour contributions or as paid labour per day of work. This is the most common option implemented at present, but is difficult to plan and budget for. It is best suited to emergency or major repairs.
- Contract with CPC to collect user fees
  An individual or small team are contracted by the CPC to operate and maintain an infrastructure system. This team collects user fees from which a set amount is paid back to the CPC, a set amount is retained to cover O&M costs and the remainder is for their remuneration. If quality of infrastructure deteriorates due to poor maintenance, it will become more difficult to collect user fees, and therefore the incomes of the O&M team will decrease. This practice has been found in Markets and Water Supply.

4.3 Commune Participatory Review

During the consultations with the three communes in Ha Tinh Province, the participants were asked to assess the models used for different infrastructure types in terms of how effective these models were for O&M implementation and management.

The results of their assessments are shown in Appendix 5. The assessments were undertaken jointly by CPC members, members of user groups and members of civil society organisations. The assessment included their perceptions of policy and guidelines on O&M, management board / user group organisation, contributions from local people and the government, management efficiency, O&M training, and quality of construction. The assessment included all infrastructure, including the 'new' models as well as infrastructure constructed by the people themselves where external support was not provided.

The overall score for each infrastructure type ranged between 2.5 (poor) and 4.7 (good) as shown in the summary table below:

Infrastructure Type	Overall O&M effectiveness score	Relative importance score
School models	4.7	2.0
Irrigation models	4.3	5.7
Health centre models	4.2	3.0
Road models	4.0	6.3
Electricity models	3.9	5.3
Market models	2.9	1.0
Water supply models	2.5	3.5

Interestingly, roads, irrigation and electricity were considered the most important infrastructure needed by the communities. Possibly schools and education received lower scores of importance because construction of these buildings is essentially complete in all communes and as can be seen above, O&M is relatively well managed for these. There seems to be less demand for markets, which receive the lowest importance score.

Appendix 5 also includes a matrix summarising the models being evaluated in this exercise.

4.4 Strengths and Weaknesses

The consultation process of the implementers of the models described above, suggested the approaches had the following overall strengths and weaknesses.

Strengths:

- Local people empowered to manage infrastructure at all stages of design, construction, operation and maintenance
- Improved quality control and supervision of construction
- Better ownership of and sense of responsibility for infrastructure; improved awareness and motivation to look after the infrastructure provided

- ► User group discussions lead to democratic decision making and establishment of local conventions / regulations for management, operation and maintenance of infrastructure
- ► More efficient and equitable distribution of infrastructure benefits
- ► Reduced conflict over distribution of user benefits and cost recovery
- ► Regulations can include provision for reductions or exemptions from user fees for poorest households
- ► Improved accountability of revenues and expenditures

Weaknesses:

- ► User fees and community contributions are generally insufficient to cover all O&M costs, even for levels 1 and 2. No project has yet solved the issue of providing funds for all levels of O&M.

4.5 Keys to Success

- ► User groups were established early on to identify infrastructure needs and to select the most appropriate type and level of infrastructure to be provided.
- ► Empowerment of communities to manage their own infrastructure ensures sustainability
- ► Training and support during the construction process provides better technical appreciation and understanding of the infrastructure that is essential in its operation and maintenance.

5 Application under P135

5.1 Challenges for P135 adoption

Many aspects of the approaches described above are already incorporated in the implementation of P135. However, there are some aspects under P135 that will need increased emphasis during implementation. In addition, the adoption of some aspects of these approaches will be complicated by the attempt under P135 to establish O&M models to infrastructure already constructed and in use.

The following paragraphs discuss the particular challenges that will need to be overcome in the design and implementation of the P135 pilot O&M models.

5.1.1 Empowerment of Management Boards

An effective and sustainable O&M model requires a very high level of participation and ownership of users and local communities. This is unlikely to be achieved unless the management boards are 'empowered' to become the Client of the infrastructure construction projects. This not only requires a shift in attitude to rescind government control of the construction process, but a substantial increase in the support and effort of these organisations to improve the technical and management abilities of community management boards, and to facilitate the formation of groups, decision making and defining user and O&M regulations.

At present, P135 uses Steering Committees to ensure coordination between CEM and line agencies. This will not be sufficient to meet the needs of the new approach and the Province and District level management of P135 will need to be strengthened by inputs from technical experts and community facilitators to provide the additional support required by the community management boards.

5.1.2 Additional Training Programme

The new approach will also require extensive technical and management training for both management board and O&M team members. Management boards will require training in management skills including financial management, planning, contract management, and negotiation skills. O&M teams will require technical training in all aspects relevant to the infrastructure they are responsible for looking after and ensuring continued good quality service of the infrastructure.

It is recommended that a comprehensive and modular 'toolkit' of training materials and instructions be prepared, which includes very simple and easy to understand O&M guidelines and technical manuals. This should cover each of the different types of infrastructure; the different levels of maintenance required; and the different management and O&M options that may be adopted.

Each province can modify the 'toolkit' to suit local conditions, and a tailored toolkit can then be prepared for each management board including only the sections relevant to the specific infrastructure for which they are responsible and the particular management and O&M options they have chosen.

The training given needs to be 'hands on' and participatory, not the traditional 'lecture' style of training.

5.1.3 Pre-Construction / Post Construction

The ideal situation for adopting these community management models is to establish the management board before design and construction is underway. The formation of the group, their training and development of regulations becomes an integral part of the design and construction phase. Current regulations allow funding for such support and training to be included as a line item in the design and construction budget.

However, government efforts have been extremely successful in providing most of the basic infrastructure required by communes already. This means that some infrastructure for which these O&M models are to be applied may already be several years old, and may already have started to deteriorate due to a lack of effective maintenance.

It is generally accepted that local communities can only undertake routine maintenance activities – general maintenance and minor repairs. They need the relevant technical line agencies or companies to undertake and supervise medium and major repairs. This means that if infrastructure has deteriorated to a poor condition, the commune cannot undertake the necessary repairs – a commune cannot maintain a structure that is not already in a maintainable condition, i.e. in good working order. Unless the infrastructure is brought up to a maintainable standard, routine maintenance will be ineffective and the structure will deteriorate until it is inoperable or unsafe.

This means that some infrastructure will need further investment from higher levels to undertake such repairs before the commune can be tasked with its future maintenance. For P135 pilots, each participating commune should undertake an inventory and condition survey to identify which infrastructure they can accept responsibility for maintaining and which needs external support to bring to a maintainable condition.

5.2 Funding Issues

5.2.1 User Fees / Contributions

The projects that have been reviewed have all involved collection of contributions or user fees from the local communities that benefit from the infrastructure provided to cover O&M costs. Examples include:

- Irrigation – household fee per area of land irrigated
- Water supply – household fee dependent on private or shared supply
- Electricity – household fee per kW used
- Schools – fee per child
- Clinics – health care contributions
- Community Centres – cultural contributions
- Roads – collection at toll gates, fines for overloaded vehicles and contributions from roadside communities

There is much evidence to suggest that the burden of community contributions and cost recovery fees in rural communes is disproportionately high. During the consultation process, data of typical household contributions / fees and incomes was collected from the three communes and compared against averages in Hanoi and Danang city. A summary is presented in the table below, with further details provided in Appendix 6.

Table showing comparison of relative contributions of rural and urban households

HH annual contributions / incomes	Average in City	Average in Rural Commune	Rural / City ratio
Total contributions / fees	380,000	530,000	1.39
Average Income	13,200,000	4,130,000	0.31
Contribution as % of income	3%	12%	**4.5**

(annual incomes and contributions in VND per average household)

This shows that already, rural communes are giving 12% of their income to support the running of their commune and community, whilst city dwellers are only giving 3%. This means that the relative contribution of rural households is over 4 times that of city dwellers – who often benefit from better quality and wider choice of facilities and services.

P135 focuses on supporting the poorest communes in the country, whose incomes are significantly lower than the three communes for which the above data is provided. In some communes, households have no cash income and are coping with food insecurity. It is not possible to collect any further contributions from such communes and therefore an exemption and subsidy system will be required to address this, although it would of course be better to try and make sure the poorest are given employment opportunities as O&M team members.

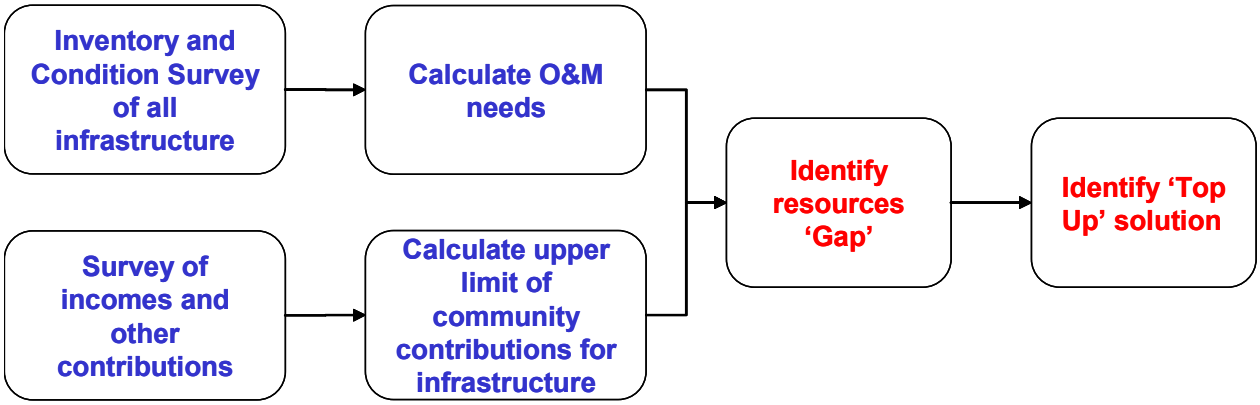
5.2.2 Mobilised funds vs. actual needs

At present, most commune authorities have no real handle on their maintenance needs. Planning is based on what can be mobilised rather than what O&M work is required.

In order to address funding issues, it is necessary to identify the 'funding gap'.

This involves a process of identifying the need through undertaking a commune wide inventory and condition survey of all infrastructure in the commune. From this it is possible to calculate the cost of bringing the infrastructure to a maintainable condition, and the annual costs for O&M.

At the same time, a survey of contributions and incomes will enable calculation of an upper limit of community contributions for infrastructure O&M. The difference between the need and the upper limit of contributions that can be mobilised is the 'funding gap'. (see diagram below)



Once the gap is known, a strategy is need to top up funding to communes so they can manage and maintain their infrastructure in a sustainable way. This will of course require external financial support from state budgets. For the pilot models under P135, international donor funds could be used if it is not possible to access project funds for this purpose (as the current project regulations suggest).

5.3 Proposal for pilots

The design of the pilot models for P135 will include all of the above suggestions.

It is recommended that the P135 O&M pilots take a holistic approach to infrastructure O&M, in that it addresses the O&M need of all infrastructure in a commune rather than only certain types of infrastructure or only on infrastructure constructed through P135 support. The reason for this is to ensure that it is not only small areas that benefit but all communities and societal groups within a commune. This approach was reinforced by the feedback at the Joint Progress Review workshop in September.

Depending on the level of funding available for pilot implementation, it is recommended that 4-5 provinces are selected to participate in the pilots providing a geographical spread representative of P135 communes (Mekong Delta, Coastal, Central Highlands, and Northern Mountains). Within each province, one district would be selected and all communes eligible for P135 support within that district would participate in the implementation of the pilot models.

Selection criteria would include:

- ► Provinces should be selected in which participatory approaches have already been piloted under other programmes in at least one sector.
- ► Where a minimum level of literacy and numeracy of village heads is met – e.g. completion of at least primary education, preferably completion of secondary education.

Appendix 1: List of people consulted

The Centre for Water Resources Development and Environment

Prof. Dr. Hà Lương Thuần, Director of Centre

Oxfam

Oxfam HK
Mrs. Nguyễn Thi Oanh, Senior Programme Coordinator

Oxfam GB

IFAD

Mr. Nguyễn Thanh Tùng, Policy Development Officer

ActionAid

Mr. Nguyễn Tất Quân, Northern Regional Manager

UNICEF

Mr. Lê Quang Vinh, Assistant Project Officer- Water, Environment and Sanitation, UNICEF

CEM

Mr. Triệu Hồng Sơn, Expert of Policy Department for Ethnic Minority, CEM

HRDP Ha tinh

Mr. Trần Đình Hòa, Director
Mr. Nguyễn Viết Tuấn, Community Facilitator

CEM Ha tinh

Mr. Nguyễn Xuân Thai, Director, CEM
Mr. Nguyễn Minh Hòang, Policy section, CEM
Mr. Trần Dõan Cường, Expert of P 135, CEM

DARD Ha tinh

Mr. Nguyễn Hồng Lam, Deputy Director of PCERWASS, DARD Ha Tinh
Mr. Trần Đình Dũng, Head of Irrigation Department, DARD Ha Tinh

HCCD Ha tinh

Mr. Lê Văn Định, Deputy Director, HCCD
Mr. Trần Đắc Việt, HCCD
Mr. Võ Công Hoan, HCCD

Gia Hanh commune, Can Loc district

Mr. Nguyễn Văn Trinh, Secretary of Commune Communist Party
Mr. Nguyễn Sĩ Minh, Chairman of Commune People's Committee
Mr. Nguyễn Quỳnh, Head of Commune Water Association
Mr. Lê Nuôi, Head of Water Association, Village 2
Mrs. Nguyễn Thị Minh, Head of Water Association, Village 4
Mr. Phạm Đăng Tuý, Head of Commune Water Association, Mỹ Lộc commune
Mr. Lê Quang Mận, Head of Water Association, Village 1, Mỹ Lộc commune
Mr. Nguyễn Công Ty, Farmer, Village 1, Mỹ Lộc commune

Thach Hoi commune, Thach Ha district

Mr. Nguyễn Văn Á, Secretary of Commune Communist Party
Mr. Bùi Văn Tuyết, Head of Commune Water Association
Mr. Trần Minh Nhụ, Vice Head of Commune Water Association
Mr. Bùi Văn Diện, Head of Commune Road Association
Mr. Trần Văn Đợi, Market Management Board

Nam Huong, Thach Ha district

Mr. Dương Đình Xuân, Secretary of Commune Communist Party
Mr. Nguyễn Sĩ Quý, Deputy Chairman of Commune People Committee
Mr. Phan Văn Thạch, Deputy Chairman of Commune People's Council
Mr. Trần Hậu Đức, Deputy Chairman of Association of Road
Mr. Trương Phước Công, Deputy Chairman of Association of Water
Mrs. Bùi Th ị Phượng, Accountant of Road Association

Appendix 2: List of documents reviewed

General Documents

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Appendix 3: Workshop Presentation and Feedback

The presentation overleaf was given at the CEM organised Joint Review of Progress workshop on 28 September 2005. Below is a summary of the subsequent discussion and feedback from the workshop participants. The suggestions have been taken on board in the design of the pilots for P135 and presented in the P135 O&M Pilot Design Report.

WSP O&M Pilots – Feedback

Son, CEM

- Population density of the 3 communes visited – how does it compare with P135 mountainous communes to assess expenditure / contributions per head etc? *Believe it's similar, but don't have statistics. Will review statistics against P135 and give an answer later.*
- Risk – how do contracts between companies and communities take into account risk? E.g. if crop fails how can farmers pay fees? *We will need to look into this further and include in the design of the pilots.*
- Road tolls – is it legal to collect tolls from road users, and what about on larger roads? *The issue of road tolls and barriers is a grey area. We believe that PPCs can issue a decision to allow this to happen. For pilots we would need to make sure that it is legal in the pilot province / district.*
- Community Supporters – what is meant by this? *This seems to be a translation problem, we are talking about community facilitators who can help in forming the user groups and their regulations etc.*

Simon Lucas, DFID

- Fund management – what are first thoughts re: allocation of funds between infrastructure sectors; public / private facilities; cost of O&M, fund flows. *Identifying the 'gap' is critical. The problem is different for the different infrastructure facilities. The pilots should be a good way of testing these options.*

Australian lady

- Equity issues – are there guidelines on who should pay / exemptions for the poor to prevent increased burden on the poor? *The groups themselves know who is the poorest and who should be subsidised or exempt from fees. There are examples in user group regulations regarding this.*

Alwyn Chilver, DFID

- Institutional arrangements – can we make use of existing organisations such as commune supervision boards rather than new groups? *No new structures are being created. CSB becomes the O&M team etc. We will clarify this in the report.*

Chairman, CEM

- O&M of infrastructure in communes is small scale and P135 has other investment areas. Need to analyse the scale to which O&M can be conducted
    - Institutional arrangements
    - Net fees per head
    - O&M procedures – at which levels of infrastructure and for which levels of maintenance (small repairs, major repairs, rehabilitation etc – routine / periodic)
    - Revenues – exemption of fees for poor hh. These may be a large % in some communes. Can't always rely on people's contributions
    - Need to calculate how much can raise locally and how much needs to be from the State budget.

Son, CEM

- Presentation has shown that people's contributions in rural areas are high compared to city dwellers. It would be useful to replicate the exercise. Need MOF intervention to subsidise rural areas.

Binh Phuoc Rep

- Can't replicate this model. Under P135 after building, operation goes to line ministries and they collect fees etc, therefore PPC / CPC cannot collect fees. CPC budget should provide the funds.
- Non-P135 communes get roads and no fees are collected, why should P135 communes pay fees?

Chairman, CEM

- O&M should be for all infrastructure works in a commune, not just for P135 funded infrastructure. The study needs to be for all infrastructure.
- School heads manage schools, same for clinics – they are responsible for maintaining their infrastructure assets. CPC only involved in State Management of project.

Hoa Binh Rep

- We need to agree on words for O&M based on MoC definitions.
- In Hoa Binh is difficult to collect fees to fund O&M. Funds should come from central budgets. CPCs get a budget for maintenance and they choose how to spend it. It may be sufficient to pay for routine maintenance e.g. Lengthmen.
- CPCs can also release funds for emergency maintenance, although this should come from central funds.
- Shouldn't have Management Boards. CPC should be in charge of O&M implementers.

Discussion on Inventory / Condition survey to calculate 'gap'

- Simon Lucas said it seems there is an urgent need to undertake an assessment of commune inventories and estimate the full O&M requirements in some communes to help define the design process.
- KM agreed, but would need to revise contract TOR etc.
- Alwyn suggested that if Joint Committee think it is important, DFID will support additional work
- Chairman said 'yes' it was important.

Appendix 4: Decisions and Regulations relating to 'new' models implementation

Copies of the following decisions and regulations relating to implementation of 'new' models currently being implemented in Vietnam, and referred to in Section 3 of this report are provided as below.

The table below lists the documents provided in the English and Vietnamese versions of this report (only a few have been translated into English).

Infrastructure Type	Reference	Description	English	Vietnamese
Irrigation	48/2005/QD/UB-NL	Ha Tinh PPC Decision for wide application of WUAs in all small-scale irrigation systems	✓	✓
		Nam Huong CPC Operation Regulations of Irrigation Water User Cooperative	×	✓
		Thach Hoi CPC Operation Regulations of Cooperative for Irrigation Water Use and Agricultural Services	×	✓
	01/HD/LS/NN-TC	Ha Tinh PPC Guideline from Joint Departments of Agriculture and Rural Development and Finance for implementation of Decision 101/2004/QD/UB-NL (on irrigation rate and water charge)	✓	✓
	101/2004/QD/UB-NL	Ha Tinh PPC Decision on rate for irrigation, water in Ha Tinh Province	✓	✓
Water Supply				No documents
Markets		Thach Hoi CPC Operation Regulations of Market	×	✓
Roads		Nam Huong CPC Operation Regulations of Road User Association	✓	✓
		Thach Hoi CPC Operation Regulations of Road User Association	×	✓
Electricity				No documents
Schools				No documents
Health Centres				No documents

Appendix 5: Commune Participatory Review

Scores from community assessment of O&M models for different infrastructure types

Items of O&M issues	Irrigation / Thủy lợi				Road / Đường				School / Trường				Health Clinic / Trạm Y tế				Electricity / Điện				Market / Chợ				Water Supply / Nước sạch			
	Gia Hanh	Nam Huong	Thach Hoi	Avr	Gia Hanh	Nam Huong	Thach Hoi	Avr	Gia Hanh	Nam Huong	Thach Hoi	Avr	Gia Hanh	Nam Huong	Thach Hoi	Avr	Gia Hanh	Nam Huong	Thach Hoi	Avr	Gia Hanh	Nam Huong	Thach Hoi	Avr	Gia Hanh	Nam Huong	Thach Hoi	Avr
Policy, Guidelines on O&M	5	5	5	5.0	3	5	5	4.3	5	5	5	5.0	5	5	5	5.0	4	4	5	4.3	1		5	3.0	1	1		1.0
Management Board / User Group	5	5	5	5.0	3	4	4	3.7	5	5	5	5.0	5	5	5	5.0	3	5	4	4.0	3		5	4.0	1	2		1.5
Contribution for O&M																												
- People	5	5	4	4.7	3	4	4	3.7	5	5	5	5.0	3	1	5	3.0	3	3	5	3.7	1		5	3.0	1	4		2.5
- Gov	2	1	1	1.3	2	4	4	3.3	2	5	5	4.0	2	5	5	4.0	1	4	1	2.0	3		1	2.0	1	4		2.5
Management Efficiency	5	5	5	5.0	4	4	5	4.3	5	5	5	5.0	5	5	5	5.0	5	5	4	4.7	3		5	4.0	5	3		4.0
O&M Training	5	5	3	4.3	4	5	3	4.0	2	5	5	4.0	3	1	5	3.0	5	4	5	4.7	1		1	1.0	1	1		1.0
As-built Structure Quality	5	5	4	4.7	5	5	4	4.7	5	5	4	4.7	5	5	4	4.7	5	1	5	3.7	1		5	3.0	5	5		5.0
Provider	AA People	IFAD	IFAD		WB People	IFAD	IFAD		AA People	IFAD	Danida		Korea	ADB	WB People		Gov People	People	People				IFAD		AA People	Gov		
Important level of infrastructure types	**7**	**6**	**4**	**5.7**	**5**	**7**	**7**	**6.3**	**4**	**1**	**5**	**2.0**	**3**	**2**	**4**	**3.0**	**6**	**4**	**6**	**5.3**	**1**		**1**	**1**	**2**	**5**		**3.5**

Hanh communes, Can loc district, Thach Hoi and Nam Huong communes, Thach Ha district, Ha tinh province regarding O&M issues

/ Thủy lợi	Road / Đường	School / Trường	Health Clinic / Trạm Y tế	Electricity / Điện	Market	Clean Water Supply
idelines from nment for O&M ciation	- Not have details guidelines as compared with irrigation	- Having specific guidelines for O&M	- Having specific guidelines for O&M	- Having specific guidelines for safety utilization, not for maintenance	- Just having some guidelines from IFAD PMU	- No guidelines
-up and operated nes per 3 d	- Just established in 1 communes per 3 communes visited	- School's Council and the Association of Pupils' Parents	- Directly managed by the Head of the CHS	- Electricity Management Board (or Service Co-operative)	- Market Management Board in Thach hoi commune	- in the case of Nam Huong commune, CPC contract with one person for O&M
n irrigation fees by province; r routine d some minor ts to management	- Contribute from compulsory labor and cash contributions; - These contributions are enough for routine maintenance.	- Less financial problems for O&M of schools because parents have to contribute for schools unless their children are rejected by the schools. The Headmasters are in charge of the O&M of schools	- In some communes contributions per households for health development	- Contribution per KWh used with rate about from 600 to 1000 Vnd per kwh - Enough for management people and power losts on conduct line	- Contribute fees from people using facility of the market	- Water fees from household 20,000 per household for independent use and 15,000 for shared use
ve funds for O&M	- CPC do not have budget for O&M, just have some supports from compulsory labor funds	- CPC do not Have budget for O&M	- CPC do not have budget for O&M	- CPC do not have budget for O&M	- Every month the Market Management Board pay CPC 2,5 million for major repairs	- CPC do not have budget for O&M
ommune and rk well, d sustainability	- Not so effectively as compared with irrigation			- worked effectively	- worked effectively	- worked effectively
ulation of WOE er projects or	- Not specific training for RUE; - Handbook training by RT2	- Simple training	- Local participants did know about O&M training specific for CHS	- Training for safety utilization for lines and electric equipment, policy for electricity fees	- Not yet	- Not yet
	- Good quality	- Good quality	- Good quality	- Good quality	- Good quality	- Medium quality
Action Aid	- WB, IFAD	- AA, IFAD, DANIDA	Korea, ADB, WB	Government and local people	IFAD	
ty since its has	**1st priority**	**6th priority**	**5th priority**	**3rd priority**	**7th priority**	**4th priority**

Appendix 6: Local Contributions Issues

Typical rural and urban household contributions per year based on average family sizes. There are a some additional costs that a typical household may have to pay each year that are not included in this table such as school fees, which will vary depending on the number of children going to school and their education levels.

No.	Items of contributions	Contribution/ household/ year in rural areas			Contribution/ household/ year in city area	
		Nhan Loc Can Loc	Thach Hoi Thach Ha	Nam Huong Thach Ha	An khe - Danang	Aa Hà nội
	Contributions					
1	Tax for residential land	16,000	9,600	7,200	80,000	269,000
2	Social welfare		140,000	60,000		
3	Fund for infrastructure development	0	0	80,000	100,000	
	Fund for rural transport development	50,000				
4	Compulsory labour fund	60,000	60,000	60,000	120,000	120,000
5	National Security Fund	20,000	30,000	20,000	12,000	10,000
6	Tinh nghia	10,000	6,000	8,000	10,000	10,000
7	Irrigation fees	240,000	246,000	264,000		
8	Fund for educational development	40,000	30,000	0		
9	Agricultural Extension Funds	60,000	24,000			
10	Fund for children	0	8,000	8,000	5,000	500
11	Fund for calamity prevention		6,000	8,000	8,000	8,000
12	Fund for Community Health	0	20,000	0		
13	Fund for Pro-Poor				5,000	5,000
	Total Contributions	**496,000**	**579,600**	**515,200**	**340,000**	**422,500**
	Total average Incomes	**3,600,000**	**3,400,000**	**5,400,000**	**14,400,000**	**12,000,000**
	Ratio of all contribution per total incomes	**14%**	**17%**	**10%**	**2%**	**4%**