

VIE/86/020

Rural Settlements Planning

**Sub-contract in Appropriate Technology
Transfer in Construction**

Inception Report

November 1990

VIE/86/020 Rural Settlements Planning

Sub-contract

Appropriate Technology Transfer in Construction

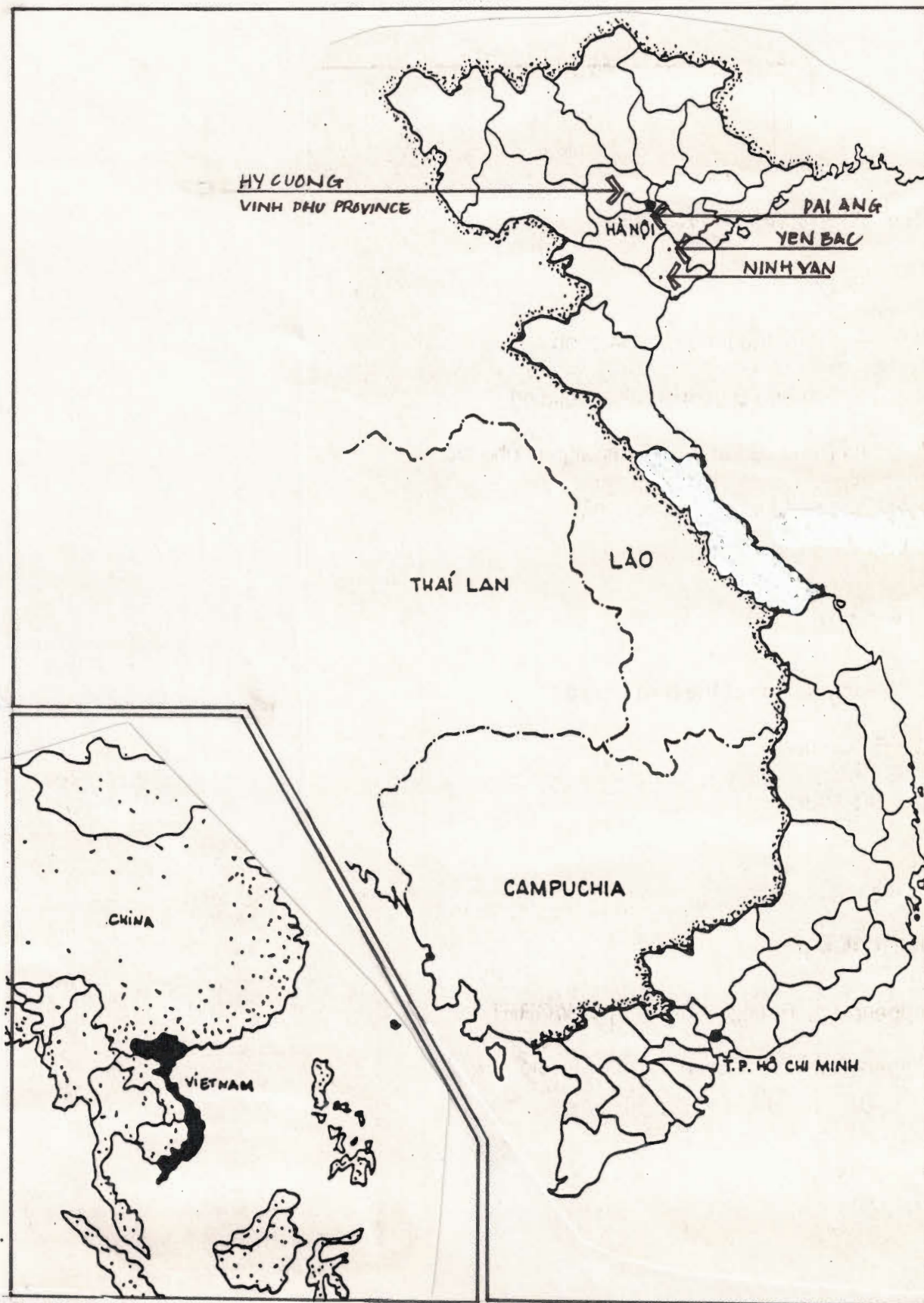
Funding Agency: UNDP

Executing Agency: UNCHS Habitat, Nairobi, Kenya.

Vietnamese counterparts: National Centre for Rural Planning & Development (NCRPD), Hanoi, Vietnam.

Sub-contractors: Development Workshop,
B.P.13, 82110 Lauzerte, France.
GRET (Groupe de Recherche et d'Echanges Technologiques),
213 rue Lafayette, 75010 Paris, France.

Vietnam: location of the pilot communes.



Summary of key points

1. To meet the workload of the VIE/86/020, the NCRPD needs to increase its staff, and to broaden its profile of skills, to include skills in social work in rural areas, graphics and communications, and economics.
2. The NCRPD needs to have a greater focus on training of counterparts and support staff at all levels, in the provinces and the districts, and in the Hanoi office.
3. The start of commune B2, to be identified, should be delayed until April 1991, so that work in communes other than Ninh Van Commune (B1) are better integrated into the overall planning and programming of the main project.
4. For work to proceed efficiently, it is essential that the NCRPD has full time interpretation available between Vietnamese and English. The NCRPD should also make sure that it has access to translation capabilities: it should not rely upon the budget available within the sub-contract for translation, which will be insufficient to cover all translation requirements.
5. The sub-contract programme is based on the understanding that the NCRPD team will continue to work on sub-contract activities during periods when the consultants are not in Vietnam. The consultants will ensure that suitable instructions and work plans are developed with the NCRPD staff beforehand, and target outputs agreed upon.

1. Introduction to the programme

Overall situation

In a country where a substantial proportion of the population live in rural communes, the aim of the project is to contribute to the improvement of their living conditions, both socially and economically, and by extension, materially. Towards this end the project VIE/86/020 aims to promote and develop the rural population's access to a similar standard of services, infrastructure and housing opportunities as it at present enjoyed by some of the inhabitants of the urban areas. To achieve these aims, the project proposes to develop the capacity of the National Centre for Rural Planning and Development (NCRPD) to plan Human Settlement activities in the rural areas, and to channel and manage funds and resources necessary for implementing these plans.

In practical terms, the project aims to make advice on technical / technological issues available to communes in order to facilitate their human settlements development activities. In order to develop this capacity to advise and support commune development the project sets out to develop the general, methodological and practical knowledge of staff of the MOC at central, provincial and district level, so that they can help effectively in the planning and rural development process. It is the intention of the project that the activities of the project will serve as a methodological model for rural settlement planning and development throughout Vietnam.

Physical context

The project activities are at present concentrated in the northern half of Vietnam.

Overall objectives

The purpose of the sub-contract for Appropriate Technology Transfer in Construction is to develop the skills and knowledge of the staff of the NCRPD so that they can identify needs and resources and suitable techniques which can be used to improve living conditions, so that they can master where necessary the practical processes involved, and so that they can train counterpart staff at provincial and district level to assist them in these tasks.

Focus of action

The rural built environment.

Timing

The contract for the programme was signed on the 8th August 1990. Practical field work began on the 27th October 1990.

2. The working method: phased action in each commune.

2.1. The proposed overall programme.

The DW/GRET technical proposal of April 1990, subsequently accepted by UNCHS Habitat, outlined a programme based on a sequence of phases for the identification of needs, resources and potential solutions, and the subsequent transfer of selected actions to solve identified problems. Each of these phases was to be repeated in three pilot communes (B1, B2 & B3). Through the repetition of this sequence of actions, skills would be developed and staff trained, both at the level of the Hanoi based Centre for Rural Planning and Development (NCRPD) and the Centre for Appropriate Technology Transfer in Construction (CATTIC), and, equally important, at provincial and district level.

The overall sub-contract programme divides into four main phases. Phase 1 is also divided into two sub-phases. Training is regarded as an ongoing activity in every phase.

These overall phases are as follow:

Phase 1. A. Evaluation of Group A commune activities.

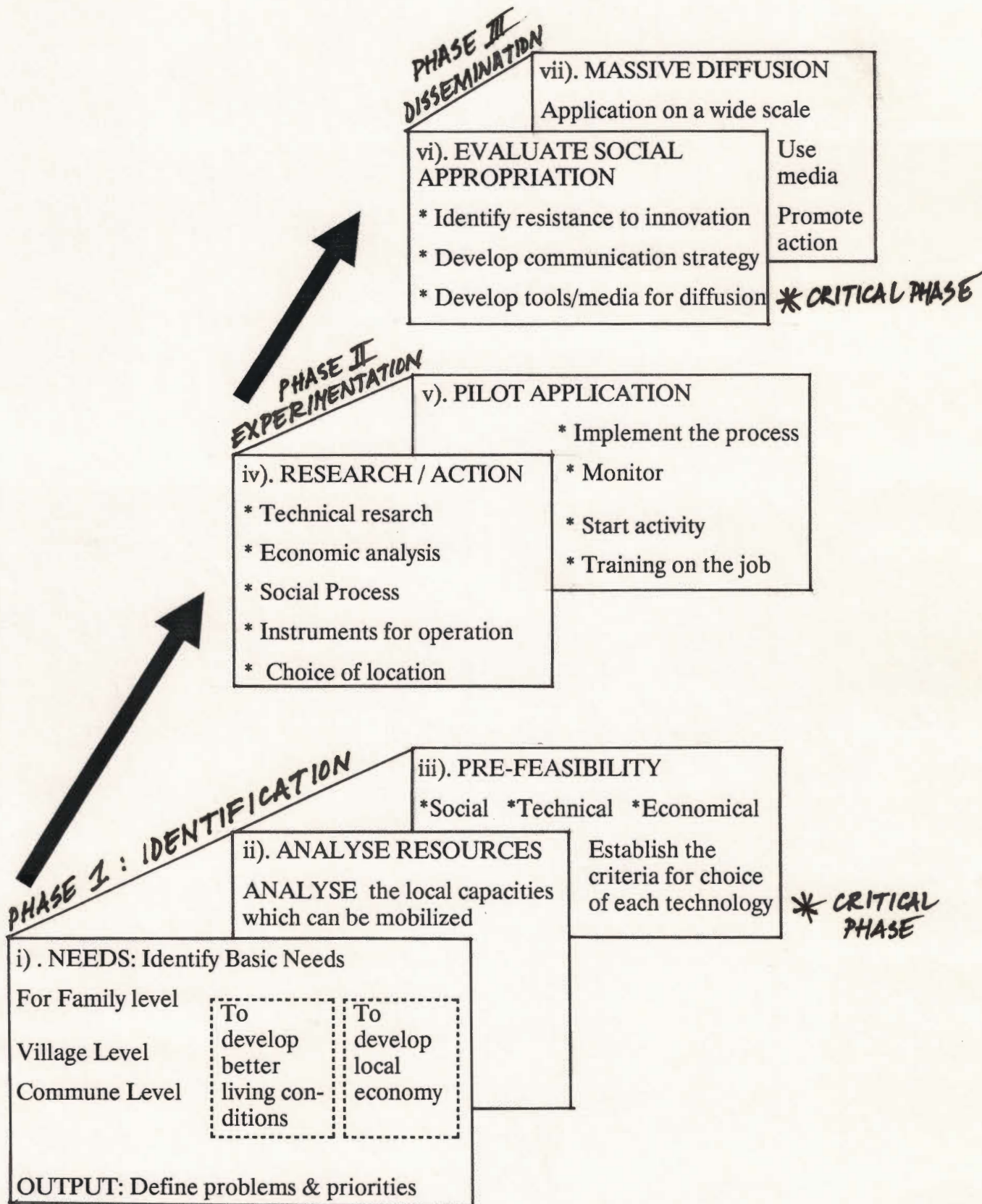
Phase 1. B. Identification: needs and resources analysis and feasibility analysis in Group B Communes.

Phase 2. Experimentation: selection and field testing of appropriate techniques to solve identified problems.

Phase 3. Dissemination: communal widespread application of techniques.

Phase 4. Evaluation of overall programme and dissemination of project conclusions and results.

Diagramme of phases of action and methodology



2.2. Phased action in the B Group communes.

In practice, for each of the B group communes, activity covers only three of these phases: Phase 1B (Identification), Phase 2. (Experimentation), and Phase 3. (Dissemination).

In turn, each of these three phases includes several steps. They are shown in the diagramme opposite and described below. The fourth phase, "Evaluation of overall programme and dissemination of results", will be a general activity concerning the whole sub-contract, and will be undertaken by the NCRPD with the consultants at the end of the contract period.

2.2.1. Phase 1B Identification.

This phase includes three stages of action: (i) Needs; (ii) Resources; and (iii) Pre-feasibility.

i). NEEDS.

Objective: Basic needs identification at family, village and commune level. The identification of needs is divided into:

(a) needs to directly develop better living conditions;

(b) needs to develop the local economy.

Method: Enquiry based on household interviews, observation, and discussion/interviews with authorities, enterprises and producers. Analysis of markets and activities.

Results: Define priorities and main problems at family, village and commune level.

Output: Illustrated report on needs and problems and current practices in the commune (in English and Vietnamese).

ii). RESOURCES

Objective: identification of resources (human, material and financial) which can be mobilized for resolving problems in the commune.

Method: Enquiry based on household interviews, observation, and discussion/interviews with authorities, enterprises and producers and transporters; visual survey of resources.

Results: Classification of resources and capacities which can be mobilized at the family level (making distinction between rich, medium and poor families), at village level, and at commune level. Classification of resources by type (and quantity): social; natural; built environment; capital installation; human resources; and economic resources.

Output: Illustrated report on resources and capacities for each commune (in English and Vietnamese).

iii). PRE-FEASIBILITY

Objective: Prepare the performance specification for identified actions which can resolve (or help to resolve) the identified needs with the resources and capacities which are available and / or could be mobilized.

Method: Comparative review of needs and resources: assessment of economic affordability, social process and acceptability, and technical viability.

Result: Production of detailed list of performance criteria for the selection of each type of action, whether the action concern technology, organization, finance or all three.

Output: For each identified problem, a dossier in English and Vietnamese listing the criteria on which a technology or action will be chosen, with detailed list of resources which can be used, and description of the problem which is to be solved, and who (in detail) the target group and beneficiaries will be.

2.2.2. Phase 2. EXPERIMENTATION

This phase has two parts: (iv) Research / Action; and (v) Application.

iv). RESEARCH / ACTION

Objectives: for each of the identified fields of action, select the exact technical, organizational and financial method and necessary equipment to implement the action in the commune and to meet the performance criteria set in Phase 1/iii Pre-feasibility.

Method: staff to undertake a series of actions, in each case referring to the performance criteria. For different problems and actions, the time taken to complete this phase of activity will vary, and may be short or long. In each case, local partners (builders, technicians, health workers, material producers etc.) from the district and commune should be involved and consulted as much as possible, both to contribute to the development of ideas and for ongoing assessment of viability.

The actions are:

- undertake technical research to identify what techniques, skills and technologies exist (a) locally in the neighbourhood of the commune, (b) nationally elsewhere in Vietnam, and (c) internationally (if nothing available in Vietnam) which can meet the performance criteria; establish first shortlist of potential actions;
- undertake a detailed economic analysis of selected potential actions or technologies including capital and operational costs, and likely distribution of benefits (if any); establish second shortlist, eliminating those techniques which are not economically viable;
- undertake analysis of the social process for operating/using each potential action, including analysis of benefits and likely social resistance to the proposed action; on the basis of these three steps, make final selection of action or technology to be applied.

In some specific cases the conclusion will be that no action is possible regarding a specific problem, because the performance criteria can not be met. If this is the case the next two steps should not be undertaken, and work on this particular problem would be discontinued for this commune. Meanwhile other activities in the same commune would continue to be developed.

- for the selected action, choose with local participation the place where the action or technology should be installed or developed.
- for the selected action, undertake the development or purchase of necessary appropriate instructions for operation (such as manuals, or guidelines for organization of meetings, etc.) and the development/manufacture or purchase of necessary equipment or tools. Manufacture could already be in some cases undertaken in the commune itself.

Results: specific techniques, actions or products ready for pilot application in the commune.

Output: report (in English and Vietnamese) documenting the process and results of each of the above stages; appropriate instruction documents for operation of the selected action; tools and equipment required for application in the commune.

v). APPLICATION

Objective: for each selected action, pilot application in the commune to enable in use evaluation and training.

Method: application on a small scale of each selected action, involving the following steps:

- establish agreement with local partners who will be trained, and will later be responsible for training others and for execution of action.
- implement action, using instruction documents or materials and using tools and equipment developed in the preceding stage.
- train local partners to carry out the action, including training on site for practical work.
- monitor the application process; check costs, material quantities and labour inputs for each stage of implementation, and monitor time involved in training. Monitor materials supply process and delays. Monitor user and public reaction.

Result: small number of pilot applications of selected action or technology completed.

Output: for each technique, a report (in Vietnamese and English) documenting the entire process and quantities and time involved; several examples of pilot application.

2.2.3. Phase 3. DISSEMINATION

This phase has two parts: (vi) Evaluation of social appropriation of the action; and (vii) Wide scale dissemination of the technique.

vi). Evaluation of social appropriation.

Objective: for each action (technique or technology), the aim is to assess what local resistance there is to the acceptance and use of the new technique or to the wider dissemination and encouragement of an existing and proven technique already in the commune, and to assess how this can be overcome; to develop a strategy for the wide-scale application of the technique; and to develop the necessary materials (media etc.) needed for dissemination of the technique.

Method: undertake, for each action, three steps: the assessment of local resistance to the introduction of the new idea, the development of the strategy for wide-scale dissemination, and the preparation of media and tools for implementing the strategy.

- assessment of local resistance: undertake a survey of resistance to the technique, the survey to cover the whole range of people involved, including resistances which can be identified amongst the targeted users, the builders or producers, the local technicians, the local people's committee and cooperatives, the local authorities, the staff of the NCRPD and of the CATTIC, and any other people involved.. The survey should also be conducted to resistances to practical aspects of the technique, for example, objections to the type of material, to the technique of construction, to the design, to appearance, to the finished product, to the way it can be used, etc..

Resistances should be classified by type:

objective resistance, such as ideas about material limitations, or lack of technical understanding;

and

subjective resistance, for example, because the technique looks 'old fashioned'.

- According to the type of resistance (who has objections, what sort of objection, etc.) identify how these resistances can be overcome, and what steps to take to achieve a wide-spread application of the technique. For example, a new technology might involve organizing several village level training programmes, organizing an information campaign, carrying out several demonstrations, and mobilizing the population. To develop a strategy also requires a review of the traditional and popular methods for communicating information, as well as new techniques such as video which can also be useful.

- Prepare media and tools for dissemination of each technique. Based on the results of the two preceding steps, this stage develops the media and tools which will be used in the wide-scale dissemination of the new idea. In practical terms this can involve a variety of actions, such as the design and production of posters, the organization of public information campaigns using radio or public meetings, house to house visits, the distribution of information through the schools, the design and production of films and videos, the preparation of booklets or information leaflets designed for local use (where for example literacy may be quite low), the organization of public presentations.

Result: A clear understanding of resistances against the acceptance and use of the new idea, and an understanding of how it needs to be changed; a revised product or process to overcome these resistances (if possible); a strategy for wide-scale dissemination; identification of local people and methods which will serve to spread the information and the technique; the materials necessary for the dissemination.

Output: a report (in Vietnamese and English) documenting the overall process and findings for each action; materials required to implement the wide-scale diffusion of the proposed action, including instructions on how to proceed.

vii). Wide-scale dissemination.

Objective: for each selected action (technique or technology) the aim is to achieve wide-scale application or replication.

Method: for each selected action, apply the strategy developed in the previous stage and use the materials (media and tools) which have been prepared, to achieve wide-scale replication; for each action, undertake an evaluation of the results and achievements compared with the original criteria chosen in Phase 1.

Result: Wide-scale replication and use of the selected technique. Improved living conditions and or improved income for the target group in the commune.

Output: report in English and Vietnamese documenting the process and the results of the dissemination exercise.

2.2.4. Overview of action in a commune.

For each commune, there are two phases within this overall process, phases (iii) and (vi), which are extremely critical to the success of the transfer and the ultimate wide-scale replication of techniques.

3. Institutional structure:

3.1. Institutional framework.

For a diagramme explaining the institutional structure of the VIE/86/020 project, see Annex 1.

3.2. Developing the NCRPD capacity.

Developing the capacity to identify and transfer techniques to improve living conditions in rural communes requires two types of action:

(a) developing within the NCRPD of a solid team with skills and practical knowledge of methods; the outline for this work has been described above.

and

(b) the development of a hierarchy of local partners who can participate in identifying problems and providing support to the communes and support to the NCRPD staff.

To achieve this, the NCRPD needs to focus on developing the skills and interest of local partners at provincial and district level who can help the Centre in undertaking its work. It is important that a decentralized capacity develops which can reach a much larger number of communes than is at present possible. Thus a second major activity for the NCRPD should be to develop training skills and training materials to enable it to efficiently transfer its techniques to its provincial and district level partners.

As local capacities develop, the NCRPD should increasingly be able to devote its time to providing advice and guidance about methods and techniques which can be used, and it should need to spend less time operating as the supervisor of implementation actions at the commune level.

The diagramme on the following page illustrates the key roles, and the hierarchy of skills which should develop.

Diagramme: development of provincial and district capacity to assist in commune and village development.

National

NCRPD: Provincial planning; monitoring action; prepare training materials; training national staff & province / district counterparts; provide support through identification, research & development of technologies .

Provincial

Provincial team of MOC
 * acquire skills in choice of technology & transfer;
 * train district workers

Another province

District

DISTRICT
 Trained staff

District 2
 Trained staff

District 3
 Trained staff

Other districts

Commune

C1

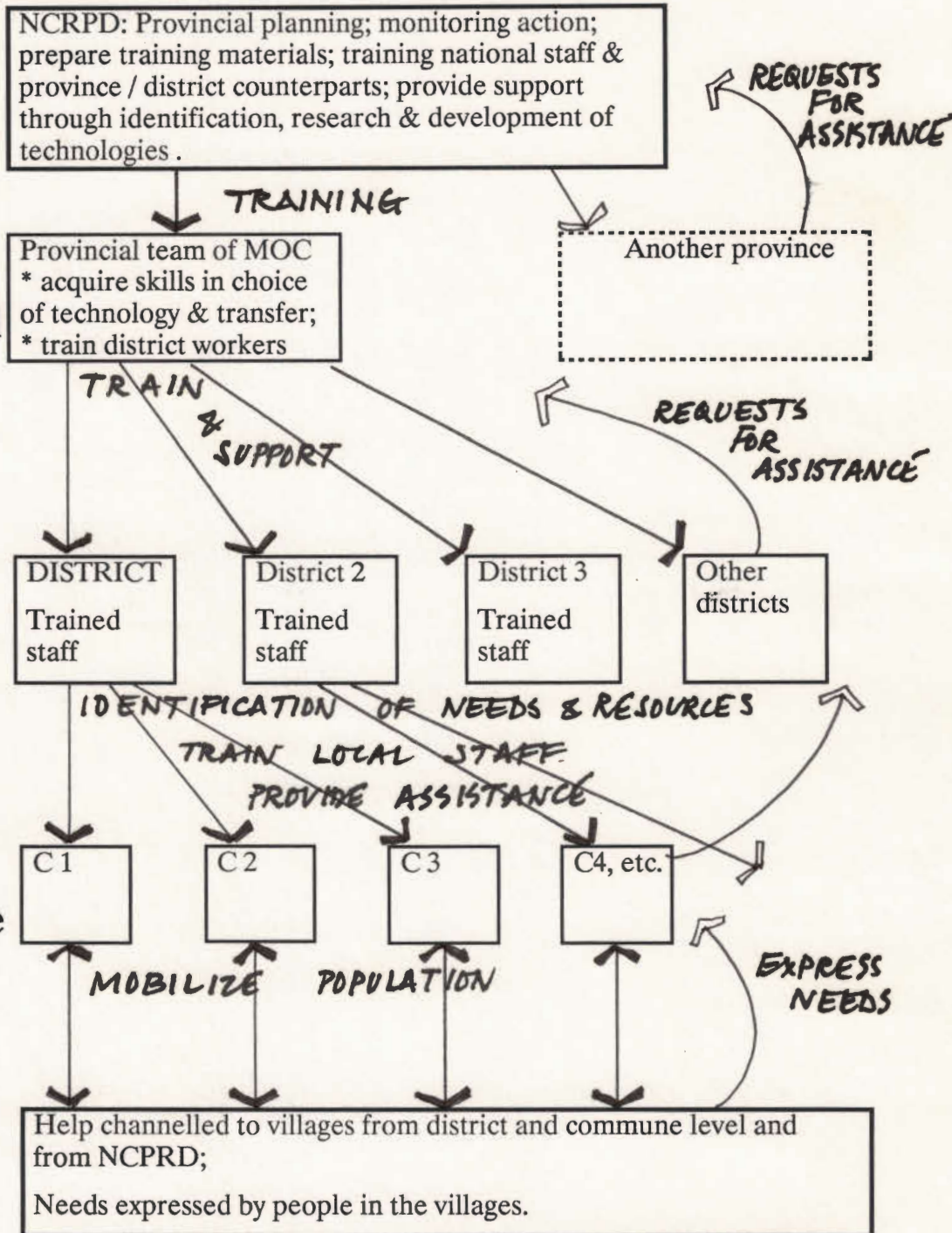
C2

C3

C4, etc.

Villages

Help channelled to villages from district and commune level and from NCRPD;
 Needs expressed by people in the villages.



3.3 Current capacity of the NCRPD and the staffing of the VIE/86/020 project, and consequences.

3.3.1 There are three points that have needed to be considered:

- i) existing work commitments of NCRPD in A group Communes;
- ii) the work load expected for sub-contract work in B group communes, beginning with B1 Ninh Van Commune;
- (iii) the workload on NCRPD staff which will now increase as the overall VIE/86/020 starts planning work in a new province.

3.3.2. Existing work commitments of NCRPD in A group Communes;

Although the NCRPD was created in June 1990, the VIE/86/020 project "Assistance in Human Settlements Planning and Development in Rural Areas" has been in an operational phase since November 1989. Prior to the start of the main operational phase, work was already being undertaken by the Vietnamese staff using the VIE/86/020 project preparation funds, in the Group A communes of Dai Ang, Hy Cuong and Do Son. More recently in 1990 Yen Bac (originally a Group B commune) was brought forward for action following the difficulty in achieving results in Do Son. The NCRPD has ongoing commitments based on signed contracts with the concerned communes to assist in the provision of services and facilities. These commitments include road building, public facilities construction (school and clinic in Hy Cuong), tree plantation, public and private water supply and filtration, biogas plant construction, improved stove construction and some latrine building.

These activities currently place quite a heavy work load on the available staff. As yet, although the field based activities have been going on for some time (in Hy Cuong and Dai Ang since 1988), the Hanoi project staff are still required to undertake a substantial amount of supervision work in the communes: this highlights the need for the project to train local counterparts.

3.3.3. The work load expected for sub-contract work in B group communes, beginning with B1 Ninh Van;

The start of the VIE/86/020 sub-contract "Appropriate Technologies in Construction" marks also the start of work in the first of the B group communes, Ninh Van, which thus implies an additional amount of work to the NCRPD team. Over the duration of the sub-contract, there will be periods of intensive activity during DW/GRET

consultant inputs; the sub-contract programme also calls for ongoing activity even when there are no DW/GRET staff present.

3.3.4. The workload on NCRPD staff for the overall VIE/86/020 planning work in a new province.

In addition to the above two points, the start of the sub-contract closely coincides with the start of a new phase of work for the overall VIE/86/020 project concentrating on new planning at the level of a complete province, (see page 1 of UNDP Tripartite Review Report, Project VIE/86/020 - Rural Settlements Planning, by X. Thuan, dated the 22nd October 1990) which will also represent an increase in the amount of work to be undertaken by the NCRPD staff.

3.3.5. Conclusion.

With an increasing work load, the overall situation highlights the need for an increase in staffing in the NCRPD, and an increased focus on training. Current overall staffing levels is given in Annex 2. The staff are spread over all the activities of the NCRPD (including CATTIC staff allocated to the NCRPD and the VIE/86/020 project). Our understanding is that a larger number of national staff are stipulated in the project document than is at present the case, which would confirm what has been said above regarding the need for an increase in the national staff at the NCRPD to deal with an increasing workload as project activities develop and gather momentum.

3.3.6. Sub contract staffing requirements.

For the sub-contract, DW/GRET estimate that the Vietnamese staffing requirement directly attributed to the sub-project over the period of the coming year needs to be at least as follows:

ROLE	TIME INPUT	SPECIALITY
A: CORE TEAM		
1. Coordinator	6 months	planner
2. Technical coordinator	6 months	architect/engineer
3. Communication	6 months	graphics/media
B: IN HOUSE SPECIALISTS		
4. Water technician	3 months	
5. Energy technician	3 months	
6. Transport/roads	2 months	
7. Economist	3 months	Should be staff member.
C: OTHER NATIONAL SPECIALISTS		
8. Ethnologist	2 months	
9. Community worker	3 months	
10. Others	6 months	
D: LOGISTIC SUPPORT		
11. Secretary	6 months	
12. Interpreter	6 months	
13. Documentation	2 months	

The total (excluding secretarial support and drivers) amounts to 48 months of staff time. Within this staff allocation, a smaller core team has been selected for work on

Ninh Van commune, see 3.7. below. It should be noted that at present many of the skill profiles indicated in the above list do not exist within the NCRPD, and they will need to be recruited. This would be in keeping with the development of the NCRPD as a major planning and development centre, where activities will additional skills to those of engineers, planners and architects.

From the experience of the first four weeks, emphasis must be placed on the importance of having full time interpreters available to work with each of the sub contract staff during their missions, without which work will be severely hampered in the future. Professional interpreters have not as yet been available. The NCRPD is in the process of trying to recruit suitable staff for this purpose. In addition, the NCRPD need to make staff available to translate documents, since the 2000\$ fund available in the DW/GRET contract will be insufficient for the total amount of translation that is going to have to be done over the coming year.

3.4. Programming of work.

The original proposal for work in the sub-contract was that activities would develop sequentially in communes B1, B2 and B3. As the programme progressed, there would be decreased inputs by the sub-contractor and increased inputs in actions by the national staff as their skills developed. By B3 commune they should typically have been able to run the main programme with the consultants providing monitoring support.

In Ninh Van (B1 commune, see map), work started in mid November, according to schedule. Work in B2 (unspecified commune) was to start at the beginning of December 1990, and work in B3 (unspecified commune) to start at the beginning of April 1991.

Two factors have needed to be taken into special consideration in the re-programming of work for the sub-contract activities and in deciding on the starting dates for work in communes B2 and B3. These considerations are:

(a) NCRPD staffing levels and work load.

Until the staff capacity of the NCRPD has time to increase, it seems realistic at present to reduce the work load on NCRPD staff by delaying the start of work in Commune B2 until April 1991.

(b) Re-programming of the overall VIE/86/020 project.

During the tripartite review of the project in October 1990, the decision was made that the planning activities for the project should now be concentrated on one province. As part of this planning process, communes which will subsequently participate in the project cannot be selected until the province has been chosen, and until the planning activities at provincial and district level have been undertaken. It has now been suggested that at least one (and perhaps more) of the "B Group" communes should be in this province, and that their selection is thus dependant on the Provincial planning process. This implies that the decision to start work on the B2 commune cannot be made at present.

It is thus more realistic to consider that for both B2 and B3 communes work could begin at the same time in April 1990. The situation needs to be reassessed at the start of 1991, since a major delay beyond April 1990 in starting work on these communes would have a negative effect on the degree to which the sub-contractors could participate in the process and provide assistance in technology choice and in implementation.

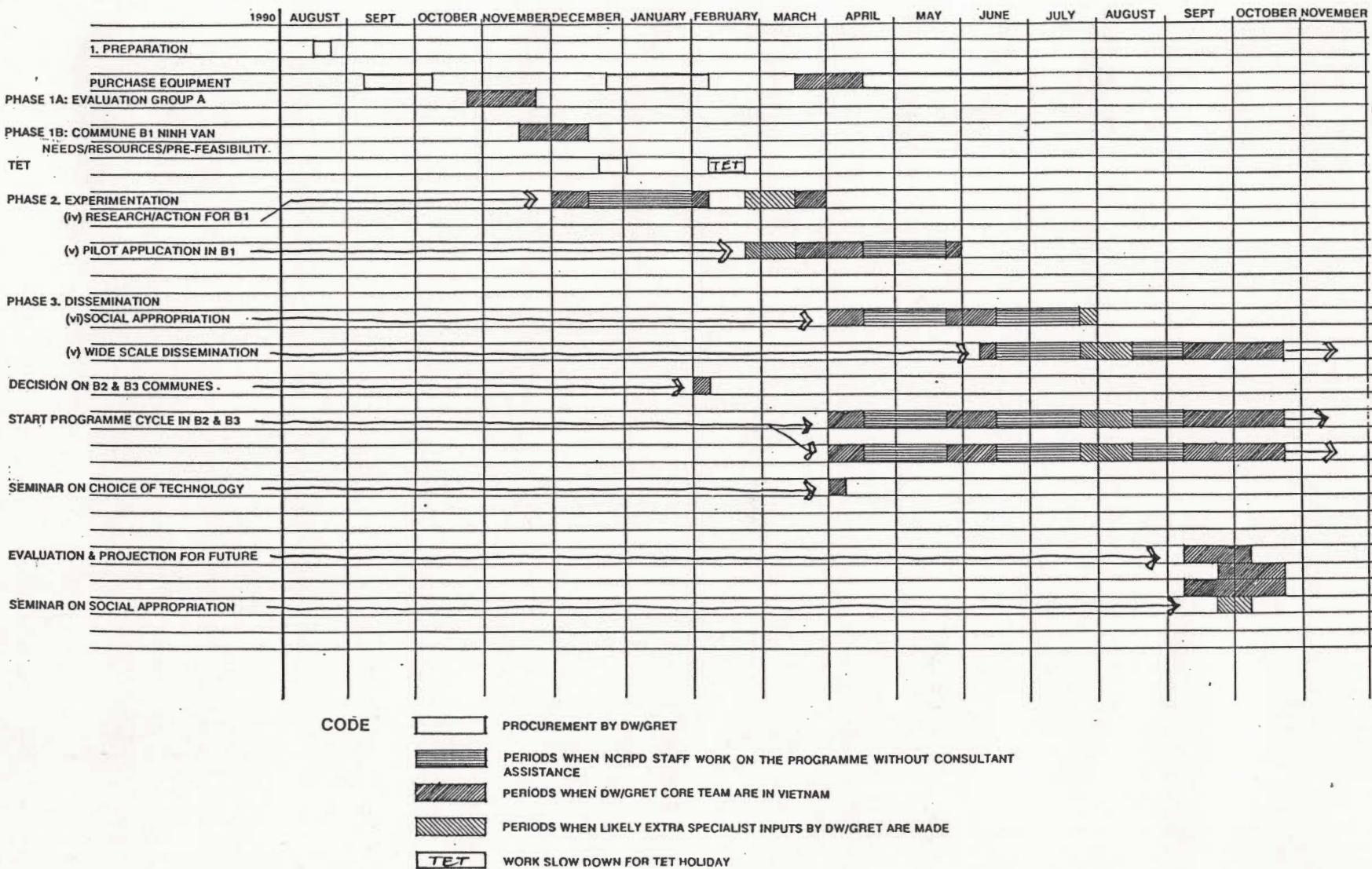
3.5. Conclusion on programming.

Sub-contract activities should concentrate for the time being on developing activities and the methodologies in B1 Ninh Van Commune, with a strong focus on developing the training capacity of the NCPRD team. Work in Commune B2 should now start at the same time as B3, which was in any case scheduled for April 1991. In effect, based on the experience of work in the B1 commune, the NCRPD staff are more likely to be involved in developing the provincial and district capacity to replicate the B1 approach in the communes of the new province.

3.6. Revised timetable; work inputs.

The table "Revised timetable - November 1990" shows the recommended revised programming and schedule of inputs by the sub-contractors, including indications when it is likely that extra consultant support will be provided by DW/GRET, in addition to core team inputs. The sub-contractors request that UNCHS provide their written consent to this amendment as per clause 2 of the contract. Please note that the level of inputs and outputs have not been changed.

Revised Timetable of actions and consultant inputs.



It should be noted that there are periods when the NCRPD staff are expected to work on sub-contract activities without the presence of DW/GRET consultants in Vietnam. The first of these periods will be from mid December 1990 through to the end of January 1991, when the NCRPD staff will undertake the first stages of research into identification of solutions for Ninh Van commune. For this and all subsequent periods when no technical support will be available, the consultants will provide a detailed programme of tasks to be undertaken, methods to be followed and expected outputs.

3.7. Establishment of a Core team for B1 (Ninh Van) Commune.

To undertake the work in B1 commune (Ninh Van) it has been proposed that the NCRPD constitute a core team whose task is two fold:

1. Undertake the work of analysis and implementation in Ninh Van Commune, including training local counterparts.
2. Pass on the experience of the Ninh Van work and the techniques and methods that have been used, to their colleagues in the NCRPD through training sessions, so that the NCRPD will develop a strengthened capacity to both apply and to train others in these techniques. The core team will also be responsible for developing, with the consultants, training materials necessary for undertaking these tasks.

The core team which has been discussed is as follows:

Coordinator (planner): M. Nguyen Dinh Khoi

Technical Coordination: Mrs Nguyen Thuy Nha

Water & Sanitation: Ms Phan Thi Lien

Energy: M. Tran Nguyen Chinh

Roads: M. La Quang Binh

The core team will be supported in their activities by other members of the NCRPD and CATTIC, and other experts from associated Vietnamese institutions. (see Institutional framework in Annex 1.)

3.8. Consequence of revised planning on the schedule of payments.

As a result of the revision in programming, it has been agreed in principle by the NCRPD director and the CTA (Bob Hardy), subject to confirmation by UNCHS Habitat, Nairobi, that the production of interim reports as mentioned in the contract documents (1st Interim Report, 2nd Interim Report and 3rd Interim Report) should be produced to coincide with the following phases of work in B1 Ninh Van Commune:

- 1st Interim Report: end of month 4 coinciding with completion of "Phase 1 Identification" (pre-feasibility study) in B1 Ninh Van Commune.
- 2nd Interim Report: end of month 8, coinciding with advanced development of "Phase 2 Experimentation" activities in Ninh Van Commune.
- 3rd Interim Report: end of month 11, coinciding with the Advanced development of "Phase 3 Dissemination", stage 6 activities (Evaluation of Social Appropriation.)

These interim reports will consist of two parts:

a). A progress report reviewing progress on the overall sub-contract activities made up to the date of the report, including problems encountered if any, achievements, etc.;

and,

b). The technical reports (manuals, notes etc.) produced during the period by the sub-contractor and / or the project staff with the assistance of the sub-contractor.

The numbering of months are the same as those used in the timetable and schedule of inputs included in the sub-contractor's technical proposal of April 1990 which was accepted by UNCHS Habitat.

4. Progress to date.

Field work for the project sub-contract began on the 26th October (missions by J, Norton from the 26th October to the 25th November 1990 and G. Chantry from the 15th November to the 13th December 1990.).

During weeks 1 to 3 the NCRPD staff have undertaken an evaluation of activities in the Group A communes of Hy Cuong, Dai Ang and Yen Bac.

Work on Commune B1 (Ninh Van) started on the 19th November, and Phase 1 (Identification) is scheduled to be completed in mid December 1990. To date the programme is running to schedule.

Reports on these two activities (Group A evaluations and Ninh Van Phase 1 Identification activities) will be completed in December 1990 and will constitute the 1st Interim Report.

5. Documentation and Equipment supplied.

The following equipment and documentation has been handed over to the NCRPD during the first phase DW/GRET inputs. Additional items not available at the start of the Phase 1 missions due to availability problems will be delivered at the time of G. Chantry's second mission in early February 1991

- * Building with Earth. A Handbook, John Norton, Intermediate Technology Publications, 1986, 62pp.
- * Earth Construction Primer, Volume 1, CRATerre.
- * Soil Analysis for building, John Norton, GRET (Rexcoop), 1989, 21pp.
- * Equipment for compressed block production, John Norton, GRET (Rexcoop), 1989, 21pp.
- * Using CEB in building houses, John Norton, GRET (Rexcoop), 1989, 21pp.
- * Is there any future for burnt clay cottage industries, J. Gué, CSV/GRET, 106pp.
- * Dossier "Presses à briques", M. Marciano, GRET, 1985, 45pp.
- * Briques et Tuiles, B. Mestiviers, Dossier no.6, GRET, 1985, 47pp.
- * Compressed earth block plant in Ethiopia. S. Jaffrelo, GRET, 1988, 70pp.
- * Laboratory programme on Soil/Technical reports, T. Des Lauriers, GRET (MUDH/Rexcoop), 1984, 247pp.
- * Social Acceptability of Earth Technology, Catherine Becdelièvre & Isabelle de Boisenue, GRET/MUDH, 1990, 36pp.
- * Soil block presses/Product Information. Gate
Bloc de terre comprimée, ACP-CEE
Raw earth construction: French equipment, Craterre, 79p
Tecnias mixtas de construcción con tierra, Craterre, 152p
- * Les éoliennes de Pompage: Théories, matériels et réalisations, GRET,
- * Maîtrise de l'Énergie et Développement, supplément to Réseau no.33, October-November 1985, publ. by GRET.
- * Séminaire "Réunion des Chercheurs Foyers Améliorés", CILSS, 1986, 96pp.
- Le dossier du BIOGAZ c: Équipements périphériques et maintenance; d: Stratégies de développement/Études de cas, GRET
- Maîtrise de l'énergie dans les pays sahéliens, BLACT/CFECM/GRET
- Manual for constructing a community building. J. Norton, Development Workshop. 1985.
- * Water Treatment and Sanitation, H.T. Mann & D. Williamson, Intermediate Technology Publications, 3rd ed, 1982, 96pp. [Handbook of simple methods for rural areas in developing countries.]
- * Community Water Development, ed. Charles Kerr, 1989, 112pp. [60 articles from Waterlines and Appropriate Technology.]
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780 technical pamphlets published by GRET
AT Microfiche library, and reader. Volunteers in Asia

Equipment

Casgrande apparatus

Soil testing sieves 100 mm dia

Mesh sizes in millimetres: 20, 10, 5, 2, 0.5, 0.2, 0.08, Base and lid.

Soil testing sieves 200mm dia

Mesh sizes in millimetres: 25, 16, 10, 5, 3.15, 2, 1, 0.5, 0.2, 0.08, Base.

Mesh sizes in millimetres: 10, 5, 2, 0.5, 0.2, 0.08, base with drain; lid for washing.

Shaker

Graduated sample flask 1000l x 1

Graduated sample flask 500l x 1

Density metre 1000-1050g/l

Pressure gauge 0 - 150 bars

6. Logistic and space requirements.

The NCRPD needs to make space available for the following: Documentation Centre, and office space for the sub-contractors.

6.1. The documentation centre

DW/GRET have already begun supplying documents, and a microfiche library, for which a room is required. In addition, the NCRPD should make arrangements for someone to operate and control the documentation centre. It would seem most worthwhile that the NCRPD also consider developing a computerized system for monitoring documents and to facilitate search for information. We also recommend that the NCRPD purchase an additional computer for use for word processing by the secretary, the latter needing to be proficient in typing in English and Vietnamese.

6.2. Office space.

At present no office space is available for the sub-contractors. This needs to be provided in time for the next consultant input in February.



Annex 2. Current staffing levels of the NCRPD.

LIST OF PROJECT STAFF (full time)

1.	Nguyen Van Than	(NCRPD)	NPD	-	
2.	Tran Thanh Van	-	Arch. Secretary	Project	
3.	Hoang Linh Quy	-	Chief Planner		Daiang, Kimlien
4.	Nguyen Manh Chu	-	Chief Planner		Yenbac, Dason
5.	Nguyen Dinh Khoi	-	Chief Planner		Hycuong, Ninhvan
6.	La Quang Binh	-	Civil Engineer	Road Designing	
7.	Dam Quang Tuan	-	Architect	Designer	
8.	Pham Cong Binh	-	Architect	-	
9.	Tran Nguyen Chinh	-	Civil Engineer	Energy Supply	
10.	Nguyen Thanh Nam	-	Civil Engineer	Water Supply	
11.	Nguyen Thuy Nha	(CATTIC)	Civil Engineer	Material of Constr.	Hycuong
12.	Phan Nhat Trung	-	Civil Engineer	Material of Constr.	Hycuong
13.	Dang Xuan Luong	-	Civil Engineer	Material of Constr.	Hycuong
14.	Pham Thi Lien	-	Civil Engineer	Water Supply	
15.	Nguyen Van Thu	(NCRPD)	Civil Engineer	Computer	Hanoi
16.	Pham Trong My	-	Computer Progr.	ORACLE	-
17.	Hong Hai	-	Computer	computer	-

LIST OF PROJECT STAFF (part time)

1.	Nguyen Thinh	(IURP)	Civil Engineer	Energy supply	
2.	Dang Ngoc Quy	(CATTC)	Civil Engineer	Material of constr.	Hycuong, Ninhva
3.	Le Hoang Huan	(DURM)	Chief Planner		Yenbac
4.	Dao Ngoc Nghiem	-	Architect		Yenbac
5.	Nguyen Thiem	(UIRD)	Chief Planner		Kimlien
6.	Do Tu Lan	-	Architect		Kimlien
7.	Cao Si Que	-	Chief Planner		Ninhvan
8.	Do Du	-	Civil Engineer	Water supply	Ninhvan
9.	Dang Hung	-	Civil Engineer		
10.	Phan Thien Co	(CWS)	Chif Engineer		
11.	Tran Van Ngo	-	Civil Engineer	(Sanitation)	

SUPPORTER (full time)

1.	Nguyen The Bao	(NCRPD)	Driver		Hanoi
2.	Dang Ngoc Quynh	-	Driver		-
3.	Dao Tuyet Van	-			-
4.	Nguyen Lan Anh	-			-