

SAIL



IN PERU

Concise edition of the Spanish report
'Una semilla que cayó en tierra fértil'
for the evaluation team

'A seed that grew in a fertile land'

**Evaluation of the Educative
Programme for Urban
Environmental Management PEGUP**

Peru

**As part of
the SAIL Projects Programme**

Evaluation Team **SAIL** Programme for Peru
Ms Doris Balvin Díaz (FCPV)
Dr Marc P. Lammerink (FMD Consultants)

Peru/the Netherlands
June 2003

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Abbreviations

CONAM	National Board for Environment
DGIS	Directorate General for International Co-operation (Netherlands Ministry for Foreign Affairs), The Hague, The Netherlands
EU	European Union
IHS	Institute for Housing and Urban Development Studies, Rotterdam, the Netherlands
IE	International Education
ITC	International Institute for Geo-Information Science and Earth Observation, Enschede, the Netherlands
FAU	Faculty of Architecture and Urbanism, of the UNSA, Arequipa, Peru
FCPV	Forum Cities for Life
GAVIM	Governance, Poverty, Gender, Institutional Development and Environment
LABOR	NGO Labour, Ilo and Arequipa
PEGUP	Educative Programme for Urban Environmental Management, Peru
PDI	Institutional Development Plan
NGO	Non-Governmental Organisation
NLG	Netherlands Guilder (Exchange Rate: Euro 1 = NLG 2.20371)
NUFFIC	Netherlands Organisation for International Co-operation
SAIL	SAIL Foundation
SIG	Geographical Information System
SPP	SAIL Projects Programme
TOR	Terms of Reference
TU	Technical University, Delft, the Netherlands
UNI	National University of Engineering, Lima, Peru
UNSA	National University of San Agustín, Arequipa, Peru
UNCHS	United Nations Centre on Human Settlements
UPAO	Private University of Antenor Orrego, Trujillo, Peru

Executive Summary

SAIL foundation consists of 6 institutions of higher international education in The Netherlands. It was set up in 1994 to implement the SAIL Projects Programme for the Netherlands Government, in which over 45 projects have been implemented worldwide. One of these is the Peruvian Programme for Education and Urban Management (PEGUP).

The PEGUP was an initiative of Cities for Life Forum (FCPV) and IHS (Netherlands). The FCPV, a network of successful experiences of urban environmental management, was represented in several Peruvian cities promoting and strengthening Agenda 21 processes. IHS in alliance with ITC obtained Dutch financing through SAIL. PEGUP started in 1998 and was four years in full operation (six years partly in operation).

The initiative was right from the start on the Peruvian side, strongly focused on providing successful experiences of urban management for the benefit of the most vulnerable populations of the country. PEGUP's main strategy was to strengthen inter-institutional alliances among local governments, universities, NGOs, the private sector and the civil society in order to develop a training and research programme, and to solve critical urban environmental problems of cities, which could allow a more sustainable development. The PEGUP was approved, coincidentally, at the beginning of a new municipal period of mayors committed to environmental management. This context favoured joint efforts between universities, NGOs and municipalities and facilitated the project's development both in Trujillo and Arequipa. Here the encounter was produced between new knowledge and technological resources provided by PEGUP and needs of the municipality. Environmental problems were attended. The progress made is substantial.

The overall strategy to make the university more dynamic from both inside and outside has been productive. Two of the three universities managed to implement academic and extra-academic activities, as well as action-research. The master's programme on environmental urban management allowed a multitude of activities in the municipalities. Their participating teachers and authorities have capitalised on the benefits of the PEGUP. Changes in people provoked changes in institutions. These university authorities adopted new approaches. FCPV has been an important entity to relate the university with reality. The PEGUP '*sowed a seed in a fertile land*'. However, sustainable results at each university are very different. The project hampered a diversified strategy for institutional strengthening of each university and a flexible offer of services based on the needs of each entity. Still the outcome is a programme high in efficiency, effectiveness and impact, regular in sustainability and quite high in relevance.

The secret of success was to generate practical stimulus in people, coupling the academic work with concrete solutions to real environmental problems. Overall, the joint efforts turned the programme into an innovative and highly successful one, due to its clear social relevance and contribution to the university-society liaison. It became a great learning process for all parties involved with a strong multiplying effect. The sudden termination of the co-operation, did not allow a more organised phasing out of the project. It is a pity that the Dutch co-operation abandons space earned in the regions, where it has given valuable support to the universities and to local environmental management.

Key Project Data

Project Name	Peru Urban Management Education Programme
Acronym	PEGUP
Location	Peru, Lima, Arequipa, Trujillo
Targeted Region	Whole of Peru, but mainly the areas around Arequipa, Trujillo and Lima
Executive Agency	Forum Cities for Life (FCPV) / PEGUP secretariat
Implementing Institutes	Institute for Housing and Urban Development Studies (IHS) International Institute for Geo-Information Science and Earth Observation (ITC) Universidad Nacional de Ingenieria (UNI), Lima Universidad Nacional de San Agustin (UNSA), Facultad de Arquitectura, Urbanismo y Artes (FAUA), Arequipa Universidad Privada Antenor Orrego (UPAO), Trujillo
Contract Period	1 March 1998 – 31 January 2002
Mid-Term Evaluation	None
Extension	1 February 2002 – 30 June 2004
(budget neutral)	
Extension (new budget)	--
Total Project Budget	NLG 8,316,678 (equivalent € 3,773,943)
Contribution SAIL	NLG 5,921,635 (equivalent € 2,687,120)
Contribution VWU	NLG 2,395,043 (equivalent € 1,086,823)
Other Budget Contributions	
Financial Audits	BDO (16/12/02), (09/07/01), (25/09/00), (22/05/00) & 22/07/99

Short description

The Peru Urban Management Programme (PEGUP) has its origins in a common interest to establish regular urban management education at decentralised levels in Peru. The request came from FORO Ciudades para la Vida, Lima. This FORO has evolved as a national network institution from NGOs, Municipalities and Universities, which share a concern for urban development, and urban environmental management issues. The FORO Ciudades para la Vida has had a long-ranging relationship with the Institute for Housing and Urban Development Studies (IHS), Rotterdam. This culminated in collaboration under the DGIS sponsored Capacity Building for the Urban Environment (CBUE) Project, to document Best Practices in urban environmental management in Peru, in preparation to the United Nations HABITAT II Conference in Istanbul (1997). As a follow-up to different experiences in CBUE the FORO requested assistance to build up training, research and education capacities to IHS and ITC, which submitted this proposal to SAIL (August 1997).

The overall aim of the PEGUP project is the development and implementation of training and educational programmes for the Peruvian urban development sector. Three universities organised themselves under the umbrella of the PEGUP, assisted by a Secretariat of PEGUP in Lima, and developed and implemented (i) short term training and seminars/workshops for the civic society at large; (ii) training and education at the post-graduate level; (iii) conducted problem oriented 'action' research in the urban development field; (iv) gave technical assistance to municipalities for urban management and Local Agenda 21 in particular; and (v) have started to develop instruments for distance learning. The Secretariat has organised activities in Lima and at decentralised level, in Arequipa in the South of Peru and Trujillo in the North of Peru.

Preamble

Between May 21st and June 8th of the year 2003 we performed an external evaluation of the project named: Educative Programme on Urban Environmental Management for Peru (PEGUP), assignment executed in the framework of the evaluation of the SAIL Projects Programme that made possible the execution of the project. Below, you will see the corresponding report, in which we write down our observations, evaluative opinions and recommendations.

The evaluation has been developed following the guidelines of the Terms of Reference developed with SAIL and based on our own beliefs. It has been focussed as open and transparent as possible, establishing a dialogue with the people involved in the programme, reviewing the documents that were within our reach, interviewing qualified informers and visiting the universities where the project was developed. Thus, we were able to share with the universities, local authorities, students and former students of the master's degrees, opinions about the development of the programme.

Within the same context, the working meeting with the members of the FCPV was not only aimed at explaining our conclusions as evaluators, but also it was a kind of a self-assessment, of which the results were adopted in the report, with respect to the opinions of each actor.

We should put on record that in the whole evaluation process we had the generous collaboration and greatest willingness of the board members of the FCPV and the universities, and especially of Liliana Miranda and Aurora Ruiz, who provided us with the necessary information and materials that facilitated our duty. We are very grateful, and we expect that this report contributes to the goals established in the Terms of Reference, but above all, we expect to strengthen the consciousness of the local institutions participating in the programme and this report will be helpful to continue the important work done in the country.

Lima (Peru), June 2003

The Evaluation Team

1. BACKGROUND

1.1 SAIL Project Programme and the evaluation

The SAIL foundation consisting of 6 institutions of higher international education in The Netherlands¹ was set up in 1994 to implement the SAIL Projects Programme (SPP) for the Netherlands Government. Since its inception in 1996, this programme spends approximately 20 million guilders (EUR 9 million) annually, for which over 45 projects are implemented worldwide.

In the late 90-ies the Netherlands Government called for innovations in the field of International Education (IE). As a consequence, from 2003 onwards, new programmes are replacing the existing IE-programmes, the SAIL Project Programme included, which is envisaged to end by mid 2004. After almost 10 years of SAIL experience, the SAIL foundation felt it appropriate to identify the "lessons learnt" at programme level so as to benefit new and other programmes in the educational sector. Moreover, due to the cessation of SAIL Programme a number of the projects are facing an early withdrawal of donor funding and support, which calls for assistance in determining the road ahead and obtaining funding from other sources. Hence, the SAIL programme evaluation will draw upon the review of a number of these and other selected projects², on additional desk research and earlier evaluation reports. It is focused on the question whether the SAIL Programme and its projects contributed to achieving its specific and overall objectives of the IE programme and on lessons learnt in this respect.

This report deals with the evaluation of one of the selected projects only, namely the Peruvian Programme for Education and Urban Management (PEGUP) and seeks to serve the Peruvian and Netherlands partners under PEGUP. The evaluation results will become an integral part of the overall programme evaluation to be finished mid 2004.

1.2 The objective hierarchy

The SPP seeks to achieve mainly two objectives

- To strengthen institutions for higher education (in particular post-graduate training, higher professional education and related research) and
- To develop human resources so as to enhance educated professionals in number and quality.

These educational objectives are to contribute to a sustainable knowledge infrastructure and a broad human resource base in the country of co-operation, which is assumed to have an (direct or indirect) effect on poverty alleviation, one of the main aims of the Netherlands international education and foreign policy. Equal access to (quality) education for both genders, for ethnic minorities and economically under privileged as well as combating environmental degradation, are among the critical elements of the objectives to be addressed under the SAIL interventions.³

This so-called "objective hierarchy" constitutes not only the framework in which the SAIL project interventions took (or are taking) place, but also the immediate context for this integrated evaluation. Three research questions for the evaluation are defined:

¹ The International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE/Delft), the Institute for Housing and Urban Development Studies (IHS/Rotterdam), the Institute of Social Studies (ISS/The Hague), the International Institute for Geo-Information Science and Earth Observation (ITC/Enschede), Maastricht School of Management (MSM) later joined by Wageningen University and Research Center (WUR)

² Criteria were developed for that purpose.

³ Financial agreement between SAIL and the Minister for Development Co-operation, November 1996

- Did the project activities contribute to achieving the specific project objectives?
- Did the individual as well as the joint SAIL-projects contribute to achieving the objectives of the SPP.
- To what extent did the SPP through its projects contribute to the aim of Netherlands IE policy (the umbrella for the SAIL programme) and to the national development aims pursued under the project by the co-operating country.

The findings are to be assessed in terms of sustainability, relevance, effectiveness and efficiency. These issues and other aspects of the evaluation are further expounded in the Terms of Reference (ToR).

1.3 Working approach, analytical frame, the team

It naturally emanates from the chosen evaluation context (the objective hierarchy), that data collection and analyses are to be done bottom-up, working upwards from the projects achievements to the programme results, assessing the possible effects on the general objectives of international education programmes and eventually on poverty reduction.

Enabling aggregation and comparison of the world-wide obtained evaluation data and results, key issues emerging from the objectives, subsequent evaluation benchmarks and specific questions (based upon the project interventions) related to sustainability, relevance, effectiveness and efficiency are developed at both project and programme level and reflected in an analytic frame. Attention is also paid to specific development objectives pursued by the national project institutes and the country itself, presumably always running parallel and complementary to the SAIL project and programme objectives. The framework, the distinguished benchmarks and the questions related to it are being used as guidelines, duly recognising the many different modalities of SAIL projects.

Four Netherlands evaluation members, constituting the core Sail Evaluation Team, are undertaking the programme evaluation based upon – as explained above – project evaluations. They will work in country teams of one Netherlands national and one member from the programme's host country. The 11 field visits (out of the more than 40 SAIL projects) are being executed in a time frame of about 10 months, working cluster wise (1st cluster includes 3 projects, the 2nd cluster 4 evaluations and the 3rd cluster 3 projects).⁴ The last cluster will be directed at attuning the project- and programme findings and deepening the conclusions and preliminary recommendations. These final evaluation results together with desk and document studies will establish the foundation for the general judgment on relevance, sustainability, effectiveness and efficiency of the SAIL Project Programme in the context of the overall development aim: poverty reduction.

The working approaches applied by the various country teams for data collection and assessment are in principle the same everywhere. In depth-interviews, focus group discussions with staff, trainees, graduates, resource persons and others in addition to plenary working sessions and participatory methods are being used considering that self-assessment gives the best learning spin-off.

⁴ Projects scheduled to be evaluated in (1st cluster) Peru, Ghana and Zimbabwe followed in 2nd cluster by Vietnam, Ethiopia, Tanzania and China and in the 3rd cluster by Palestine, Yemen, Vietnam and Colombia.

1.4 Evaluation methodology applied in Peru

The assessment team in Peru consisted of Ms. Doris Balvín, proposed by the FCPV, and Dr. Marc Lammerink, Dutch national, member of the core evaluation team of the SAIL Programme. The first person was related to PEGUP in the past due to the fact that she was a teacher (local expert) as well as an Advisory team member of the case study: Environmental Management Plan of Arequipa. However, she felt sufficiently independent and autonomous to be able to be objective member of the evaluation team in Peru.

The assessment was developed under the guidelines designed by the core evaluation team of the SAIL Programme and included 4 levels of analysis:

- The ability of the universities to give continuity to the efforts initiated by the project, which is the achieved institutional strengthening. This is being analysed starting from the formal recognition of the authorities towards the University, its strengths, economically speaking, the knowledge and skills achieved by the teachers, up to their interest to continue with the programme;
- The process of the knowledge development in the accessibility for its renewal and liaison with others, the access to the target groups, its social relevance, as well as its support in infrastructure and organisation;
- The incorporation in the educational programmes on awareness changes, the attitudes, the knowledge and the skills acquired by the students; and
- The organisational changes produced thanks to the project's intervention.

Goals of the Assessment:

- To obtain lessons learned from the accumulated experience in the development of the PEGUP.
- To determine the development level of the selected projects and, if necessary, to make recommendations for the future.

The assessment was performed following the agenda established in the Terms of Reference and the availability of the interviewed people. The agenda and the list of interviewed people can be found in the Annex 1 of the original Spanish report.

2. PERUVIAN DEVELOPMENT POLICIES AND THE PROJECT

2.1 Some national indicators

Peru – with 24 million inhabitants and an urbanisation percentage of 72, a percentage expected to increase to between 80 and 90 within the next ten years due an annual population growth rate of 1.9% – has been undergoing substantial changes during the last decade. During the early nineties, the Fujimori government had brought law and order to the country, practically eradicated terrorism, brought more security to the citizens, economic stability and he succeeded to reduce the hyperinflation. However, these results were coupled with the establishment of an authoritarian, corrupt and anti-democratic, human rights abusing regime, which collapsed in the second half of 2000. Nevertheless, important developments in Peruvian society have been: stabilised macro-economic policy and a changing role of the state. Despite some of the achievements of the Fujimori regime, the social and economic situation is very fragile due to the economic recession and the country has one of the highest poverty rates in Latin America. More than half of the population – a large portion of them living in urban areas – remains below the poverty line and half of the labour force is unemployed. The new regime under the democratically elected president has yet not been able to change this situation and is now in danger of losing its credibility among the population. During the mission's visit the 'state of siege' was announced, because of widespread protest against the economic policy of the government.

Although there is a continuing crisis of public finance after ten years of Fujimori governments, Peru is now hopefully back on track to democratisation and institutional reform, which may ultimately have far-reaching impacts for decentralisation and the role and positions of cities.

Peru was not known for its decentralisation policy, since the former president Fujimori created an enormous 'super' ministry under his direct supervision and many government functions were in the hands of the central government, rather than local governments. Decision-making was centralised, but actual investments of the state took place outside the capital of Lima. In the whole of Peru there were some 2000 municipalities, with an inadequate revenue base and a severe lack of technical and managerial capabilities. In that context, issues such as public-private partnerships in a variety of urban services and in poverty reduction, changing urban planning into improved management of local revenue bases and building up information systems for better planning and management were major tasks ahead.

2.2 Specific policy priorities of the country

The PEGUP is developed in a context of growing demand for the education of post-graduates in the environmental subjects. In mid 90's the Peruvian government initiated the Modernisation process of the State and incorporated environmental requirements to the enterprises. This, along with the growth of foreign investment, increased the professional demands of the environmental management specialisation. At the same time since the mid 90's, Peru was living a popular movement for the development of Local Agenda's 21 promoted by the Environment's Conference held in Rio in 1992. This process covers the whole development of the programme.

3. THE SAIL PROJECT: FROM IDENTIFICATION TO INCEPTION

3.1 History of the project

The PEGUP (Educational Programme for Urban Environmental Management) was developed by an initiative of the Cities for Life Forum (FCPV) and the Institute for Housing and Urban Development Studies (IHS) of the Netherlands. The FCPV, created in 1996 as a meeting place for successful experiences of urban environmental management, was working in several cities promoting and strengthening the Agenda 21 processes. FCPV had a relationship with IHS. During 1994-97 this has culminated in collaboration under the DGIS sponsored Capacity Building for the Urban Environment (CBUE) Project, to document Best Practices in urban environmental management in Peru, in preparation to the United Nations HABITAT II Conference in Istanbul.

FCPV organised in November 1997 a round table discussion to elaborate its Mission Statement. An Expert Seminar followed this up in February 1997 and in May 1997 CBUE organised a two-weeks National seminar for Urban Environmental Activists of Agenda 21 at the UNSA in Arequipa. At this seminar idea was born to develop a masters' programme with universities located in the regions to put decentralisation into practice. FCPV requested IHS for assistance to build up training, research and education capacities.

The IHS, in alliance with another Dutch institute, the International Institute for Aerospace Survey and Earth Sciences (ITC), managed to obtain Dutch financing to develop 3 masters' degrees with Universities in places where the FCPV had a presence, with the idea of speeding up the ongoing local processes. In 1998, the universities of Trujillo (UPAO), Arequipa (UNSA) and Lima (UNI) and the IHS signed an agreement for the implementation of PEGUP. The executors of the master's degrees would be the Architecture Faculties of the UNSA and the UPAO, and the Post-grade Unit of Architecture, Urbanism and Arts Faculty of the UNI. Thus, the programme would be implemented in two regions (North and South) and in Lima (centre).

The launch of the programme coincided with a high demand from cities for post-graduate training and professional education. The introduction of the master's programmes followed this sequence:

- a. Execution of a market research by the members of the FCPV in each of the regions, identifying the profile of the professionals that were to be educated and the criteria for successful environmental management.
- b. Definition of the curricular structure in a workshop in the presence of three experts from the IHS and one of the ITC, plus representatives of the FCPV who participated in the market research study.
- c. Each university defined the scholarship programmes within their educational strategy.
- d. The FCPV in co-ordination with the regional forums and universities was in charge of the extracurricular activities. In each area, they developed different execution styles. These activities increased thanks to local creativity. The FCVP, as an open forum, facilitated the incorporation of the students in the debate and exchanges of experience in different locations of the country, which nurtured PEGUP. This was a 'valuable asset of the process'.
- e. The definition of how to implement the case studies was prepared in a workshop organised by the FCPV with the participation of municipalities, NGOs and universities.

3.2 Executing agencies

- FCPV (*Foro Ciudades para la Vida – Forum of Cities for Life*), Lima -

FCPV is a network of 23 cities, 67 NGO's and 7 universities (as at end 2001) that has subscribed itself to a national campaign promoting the implementation of urban Local Agenda 21 in Peru. Presently several member cities of the Foro are actively involved in this process, either formulating or already implementing elements of such Local Agenda 21.

- UPAO (*Universidad Privada Antenor Orrego*), Trujillo -

UPAO is a private university with a democratic structure. It was recently founded with around 8,000 students. The authorities are elected in a general assembly and the students have participation in the University Council. Moreover, its payment structure and its non-profit status makes it accessible to different social sectors.

Before PEGUP's existence, UPAO had the intention to develop a master's degree in Local Development Planning and/or Urban Planning. This had been defined in an internal workshop.

- UNSA (*Universidad Nacional de San Agustín*), Arequipa -

Bolívar founded the prestigious University of San Agustín (UNSA) 400 years ago. Now, the university counts some 45,000 students. The introduction to the master's degree at the UNSA was open and with a direct commitment from the rector himself. The Academic Vice-rector gave the necessary support to the project. Therefore, there was a direct support starting from the rector's up to the dean's office. Because of this the procedures and petitions were significantly shortened. However, when the rector and the master's degree promoter resigned to assume the position of Provincial Mayor and councilwoman respectively, the bureaucracy prevailed once more. The public nature of the university in the master's degree management added to this.

- UNI (*Universidad Nacional de Ingeniería*), Lima -

In the UNI the processes were not that simple. The UNI is an old university that has a Post-graduate College with many years of existence. Since the 50's it offers master's degrees on Urban Planning. The project found a College with teachers of vast trajectory and a history of master's degree education. There was a very old planning tradition in place. They had had quite a lot experience in developing Municipal Cadastres, urban leading plans, etc. It already had a sufficient group of teachers with a master's degree or a PhD. Many of them had studied abroad: United States, Europe or Latin America. The project found a teaching staff with own ideas that stood up for their 'beliefs', besides the internal political fights among groups. Some wanted to promote changes and others were interested in keeping things like they were. At the UNI there were several advisory projects at work; its consultants visited ministries and embassies.

In this context the master's degree programme was initiated after strong arguments with a specific group of teachers. The Post-graduate Director and the co-ordinator were highly motivated to change and promoted the programme. In this process, the UNI negotiated the products that the programme had to offer: they accepted the PhD scholarship but not the master's degrees; the ones that were changed by high-level short courses and seminars.

During elections of new university authorities, the most conservative group won and changed the curricula for the second year of the Master's programme according to their own criteria. This caused many problems for PEGUP with their offer of missions. In 2001, the PEGUP decided to discontinue its co-operation with the UNI.

- PEGUP secretariat -

A secretariat of PEGUP was established in Lima and consisted of:

- A Director, role executed by Dr. Florian Steinberg, (1998 to 2002) with parallel activities of the IHS in Bolivia and others, for up to twelve months.
- An Executive Secretary, post fulfilled by Architect Liliana Miranda, (fulltime from 1998 to 2002) and since 2002 up to June 2003 of 4 days a month.
- A part-time assistant, activity carried out by Architect Gina Gaete (1998 to 2002).
- A full-time administrator (1998 to 2002) and since then part-time.
- A full-time driver from 2000 up to the beginning of 2002.

The project strategy planned for this office was that in the second phase it should be funded by resources coming from the universities and from the development of the extra-curricular activities. This plan never materialised.

3.3 Implementing agencies (partnering)

- Institute for Housing and Urban Development Studies (IHS), Rotterdam -

The IHS, established in 1958 was involved in urban development in Rotterdam after World War II. Since then it evolved from training institute into a postgraduate institute, aiming at strengthening local capacities in housing and urban development. Its focus is on urban management, urban environment and urban housing. IHS offers training and education, advisory service and research directed at the developing world. IHS core competence lies in analysing needs and options for staff training, in the design, implementation and management of training programmes and in conducting policy-relevant research programmes.

- International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede -

The International Institute for Geo-Information Science and Earth Observation, established in 1950 is an autonomous organisation, closely linked to Twente University. It is the oldest and largest international higher education institute in the Netherlands, and seeks to promote the sound application of geo-information technology through programmes of research, education and project services. ITC aims at capacity building and institutional development of professional and academic organisations and individuals directed at the developing world. The education is based on knowledge exchange between scientific and professional organisations in less developed countries on the one hand and those in the Western world on the other, whereby ITC acts as a two-directional gateway for knowledge exchange. ITC core competence lies in geo-information science and earth observation, which consists of a combination of tools and methods for the collection – through aerospace survey techniques -, storage and processing of geo-spatial data, for the dissemination and use of these data and of services based on these data. It's approach is application-oriented, directed at finding solutions for and strengthening civil society in addressing issues of local, national and global dimensions such as the multifunctional use of scarce resources, including space, the effects of climate change and environmental security.

3.4 Assessment of the inception phase

Lessons Learned:

- The initiative was right from the start at the Peruvian side – it started as a clearly demand-driven programme. The Dutch Institute has been able to adapt itself to the movement in Peru. This has produced a very strong trade-off for the rest of the programme.

- Nevertheless, the Dutch implementing agencies have not been able to maintain a demand-driven programme also in their co-operation with the three universities. They have not been able all the way through to leave the initiative at the Peruvian side. This has no doubt produced certain frictions.
- Probably these frictions are best seen in the University in Lima (UNI), where the project did not succeed very well. Here it can be seen that it is important to involve the teachers in the project right from the start and let them fully participate in the design. Also, in the same line, a detailed analysis should have been made of the offer of the local counterparts in the specific subject matter, in this case (in the UNI) environmental management, in order to develop a well-designed educational offer incorporating the local teachers. A balanced combination of local and international capabilities in one proposal should have been the outcome⁵. This could turn the design of the master's degree into a participative process with the teachers, incorporating including the ones who in advance felt threatened by the change.
- During the inception it should be understood that changing institutions is a lengthy process and requires precise intervention strategies.
- With universities such as the UNI, converging strategies should have been applied right from the beginning – talking and having inter-academic contact first and only then signing agreements with the authorities. A closer contact may provide clues for the search of services that are really necessary and reprocessing materials and instruments.
- It is also important to determine the academic responsibilities from the beginning. Establish an equitable partnership, based on genuine co-operation, mutual trust and joint learning as well as a human, horizontal and friendly relationship among teachers during the implementation of the programme. This usually brings positive results and teachers can take more advantage of these relationships.
- Putting a lot of attention on the development of a horizontal relationship of trust, dialogue and understanding is a pre-requisite for the further implementation of such a demand-driven programme. Of course, that also accounts for financial matters.
- If institutional change is not the objective of the programme then priority should be given in the selection process to universities where there are good conditions for such a project to succeed, which again was not the case in the UNI.
- Nevertheless, the master's degree at UNI supported by the PEGUP was an example for the development of the administrative management of the master's programmes in the other universities, with regard to teacher's assessment, budget charts, curricula design.

⁵ This process in the UNI was arranged with the previous authorities and did not involve the teachers enough, they were negotiating the participation of Dutch teachers and local experts without taking into account the local teaching staff's expectations.

4. IMPLEMENTATION AND PROJECT ACHIEVEMENTS

4.1 Project objectives and related activities developed

PEGUP aims at combining efforts of international, national and local institutions in the field of urban management in order to strengthen the local capacities and provide successful experiences for the benefit of the most vulnerable population groups. It tries to balance a high quality of professional academic education with the demands of the market.

PEGUP's main strategy was to strengthen inter-institutional alliances among local governments, universities, NGOs, the private sector and the civil society in order to develop a training and research programme which could contribute to solving the critical environmental problems of the cities and lead them to sustainable development.

Long-term objectives:

- To develop and implement training and educational programmes for the Peruvian urban development sector at postgraduate level;
- To provide technical assistance to FCPV's member cities as part of the academic/teaching missions or as part of applied research (case studies);
- To support human resources development in the government sector, private sector and in the community sector through academic and non-academic outreach activities;
- To develop the PEGUP secretariat into a sustainable service organisation.

Short-term objectives:

- The organisational development of the PEGUP secretariat;
- The development of capacity of counterpart universities to conduct academic and non-academic activities and to undertake advisory services;
- The training of university teachers;
- The development of curricula for a range of short training courses and for master's courses;
- The development of outreach activities for the civic society, by means of distance learning modules, a website, workshops and radio programmes;
- The assistance or implementation of Local Agenda 21 activities, combining academic and technical assistance activities.

Among the main services that the project offered we can find:

- Missions of Dutch experts as teaching staff of the masters' degrees,
- Executive and high-level seminars (combining curricular and extracurricular activities),
- Scholarships for local masters' degrees,
- PhDs, master's degrees and short courses in the Netherlands, in Environmental Urban Management in the IHS, as well as in Geographic Information Systems in the ITC.
- Counselling to the universities that did not have Post-grade areas formed.
- Support to the research related to reality throughout Case Studies.

The PEGUP implemented the master's degrees with a wide range of teaching staff: foreign experts (provided by the IHS and the ITC), local experts and teachers of the universities. In Annex 2 there is a list of the teachers who participated in PEGUP, their profession and their participation in each master's degree.

-Overall-

The PEGUP has obtained the following achievements:

PEGUP in Figures

- More than 115 master's degree graduates in Lima, Arequipa and Trujillo.
- More than 3500 participants in the FCPV events – Almost 60 organisations involved.
- 10 short courses with around 300 participants.
- 16 cities with Agenda 21 processes that received technical assistance (Arequipa, Trujillo, Villa El Salvador, Lima, Ilo, etc.).
- "Research-Action" Case Studies:
 - o Environmental Atlas of Arequipa.
 - o Environmental Management Plan of Arequipa: Agenda 21.
 - o Urban Land Registry of Trujillo.
 - o Agenda 21 of Nuevo Chimbote.
 - o Agenda 21 of Villa El Salvador.
 - o Ilo XXI Century (institutional aspects of the Environmental Management, A21L).
 - o Environmental Atlas of Metropolitan Lima.
 - o Experiences on the implementation of the Agenda 21 in Negritos.
 - o Urban Environmental Profile of Peru.
- 7 manuals issued by PEGUP:
 - o Implementation and Management of Local Agenda 21.
 - o Improvement of the municipal incomes.
 - o Municipal Environmental Management.
 - o Urban Strategic Planning.
 - o Integrated Systems of Municipal Information.
 - o Community Action in the Prevention and Management of Disasters.
 - o Leaders for the Local Agenda 21.
- PhD Research (in process):
 - o Ecological Shanty Towns – Lima.
 - o Sustainable Urban Transportation – Arequipa.
 - o Participation of the Community in Environmental Initiatives – Trujillo.
- International Scholarships (in the IHS and ITC in The Netherlands) for master's degrees and short courses for the Training of Trainers.
- Web Page of the PEGUP: www.ciudad.org.
- Preparation of pilot courses at a distance about Agenda 21.
- Preparation of complementary projects' initiatives (ICLEI, EU, OTI, UNCHS).

4.1.1 Human resource development

- Strategy to strengthen the teaching staff -

The strategy to strengthen the teaching staff was mainly to provide scholarships in the Netherlands for teachers of the three universities involved:

- 4 scholarships for 3-month short courses in the IHS;
- 4 scholarships for 16-month master's degrees in Urban Management and Environmental Urban Management in the IHS;
- 4 scholarships for 16 or 12-month master's degrees in Sciences or a second specialisation in the ITC;
- 3 PhD scholarships, "sandwich" style – two in the IHS and one in Spain.

The courses were taken and 100% appreciated. Two scholarships for PhDs are still ongoing, while the IHS cancelled one, because the UNSA did not comply with the requirements on time.

Each university selected and presented their candidates. The IHS and the ITC made the final decision, mainly checking English language skills, considering certain gender equity, as well as selecting teachers that were already hired or about to be hired.

Both the UPAO and the UNSA, having completely new master's degree programmes, required strong support for the training and hiring of their teachers and the training of their own staff. The universities provided PEGUP's scholarships to their pre-grade

teachers in order for them to come back and be part of the master's degree teaching staff. They were given scholarships and opportunities to be trained in the first cycle of the master's degree programme offered in their universities, since due to the limited number of scholarships or due to their poor English, many could not obtain an international scholarship. Most of these teachers, once graduated, continue teaching either in the pre-grade or the post-grade.

A new strategy was developed by the UPAO. In order to strengthen its teaching staff, it combined teachers of several levels and skills: the 'wise', the 'experts' and the 'young/dynamic' just joining the profession. Dr. Aurora Ruiz, co-ordinator of UPAO's Post-graduate College, states that 'the combination of teachers is the secret for sustainability.' The teachers were enriched by the theoretical/practical experience of the 'wise', introduced to modern technologies, methodologies and use of instruments by the 'experts' and enthused by the dynamism, creativity and initiative of the 'young/dynamics'. 'The dialogue among the three types of teachers has changed the knowledge produced in the university', according to Dr. Aurora Ruiz.

The UPAO also used the scholarships granted by the PEGUP to encourage the group of young teachers. Many of them travelled to the Netherlands for master's degrees and short courses, and others completed the international master's degree offered by the university. Now they are part of the teaching staff of the UPAO. This strategy produced a multiplying factor for other master's degree programmes of the university, because teachers of other programmes have followed this example and looked forward to studying for master's degrees.

- The strategy developed by the PEGUP to strengthen the institutions -

The staff of the Management and Executive Office of the PEGUP, as well as several experts who came for short missions, mainly from the IHS, have provided permanent advice and direct company, both present and distant, to staff in charge of the master's degree programmes. This advice has been particularly intense in the UNSA and in the UPAO – due to the fact that both universities did not previously have a master's degree programme – and partially in the UNI. As mentioned in chapter three this university already had a clear organisation and institutionalisation of its master's degree programme and in most cases was used as a role model and example for the development of new master's degrees.

The main goals of this counselling were

1. To consolidate an organisational structure,
2. To organise internal standard guidelines (formal approval of the master's degree curricula, thesis regulations, criteria for the hiring of the teaching staff),
3. To elaborate and approve an institutional development plan and a budget that guarantees the sustainability of each master's degree.

This generated the formalisation of the master's degree programmes in the UNSA and UPAO through university council resolutions, as well as the formal establishment by the universities of a small team responsible for the co-ordination and/or management of the post-grade and master's degree units. These teams were formed by a secretary and technical support staff, a technician and professional responsible for the computer centre, a master's degree co-ordinator, a post-grade college director, and in the case of the UNSA, an academic office that worked for over a year. It was cancelled due to a lack of resources.

The Institutional Development Plan was partially executed by the UNSA and the UPAO, universities that prepared the professional profile of the graduated, regulated their registration requirements, their university entrance conditions and the permanence of the participants, as well as the thesis approval process, elaborated their posters, brochures and advertising material, established a dissemination system,

looked for "focalised" students and the teaching staff evaluation system, determined in a better way the target groups to educate, improving the curricula and contents of each course, and guiding them towards the specific demand of each contacted institution, and initiated the budget process for the financial sustainability of each master's degree. In addition, the universities and the FCPV received training and logistic support for the administration of their libraries. The PEGUP hired a professional to design software and to enter into the database almost a thousand books that were in the office of the FCPV. Then a person was trained in each university in the same sites (Trujillo and Arequipa) and installed the software to ensure good handling of the material. The library administration and maintenance was under the responsibility of each university. When the cancellation of the second phase of the PEGUP was communicated, the counselling focused on finishing and validating the advances, mainly the budget, and consolidating the participation of the fellow teachers in the Netherlands through their appointments and formal contracts within their universities.

Factors that influenced the performance in human resource development:

1. *The context:* In Trujillo the PEGUP programme was set up in a fertile land because it started at a good moment. The UPAO was starting its master's degree programmes in 4 different faculties, so the PEGUP was received with open arms. Moreover, in the local context, a new stage of municipal government was starting, which was part of the FCPV. What was learned in the master's degree was applicable to the Metropolitan Plan of Trujillo. The same happened in Arequipa, where the rector signing the agreement, initiated his period as the Provincial Mayor. Currently, the Agenda 21 process is starting a new phase due to the initiation of a new local government, which is less interested in these issues. However, the current Dean of the Faculty of Architecture is planning all the necessary actions and contacts to maintain the relations established with the previous Mayor to avoid losing the progress made in Agenda 21.
2. *The academic traditions:* The master's degree in environmental urban management in the UNI generated resistance from the teachers due to their long academic tradition in planning. Some teachers did not want to accept the objectives of the programme because of difference in focus or because they felt they did not need help. The name of the master's degree also created problems: the UNI teachers preferred 'master's degree in planning' instead of 'environmental management'. At the UNSA too, there were internal tensions within the Faculty of Architecture, related to different visions on the role of universities in the development process, professional jealousy and individualism, probably intensified by academic and economical differences. This is one of the reasons why the university as an institution did not consolidate the achievements of the project, as expected.
3. *The innovative educational proposal:* In Arequipa this generated a significant change among the university teachers. A personal development and a 'change of attitude in the teachers' were observed, as mentioned by an active member of FCPV. Furthermore, it produced positive synergies of knowledge within the university. This influenced post-graduate units of other faculties and even areas outside the university, since the liaison between the university and the local government of Arequipa became closer and more fruitful. Likewise, the master's degree has not only contributed to the development of environmental management in Arequipa, but it also made possible the application of this knowledge in other areas. An example is the Risk Management's Map that some teachers are developing in the city of Camaná, located at the coast of Arequipa Region.

4. *The institutional culture:* The culture, inherent in each university, also had a great influence. There are significant differences between a private and a public university, between a university in the province and one in the capital. In Lima, it was much more difficult to establish the links which were developed in the regional universities. Lima required another strategy. Along with that, the tendency to bureaucratisation is inevitable. The creation of a new unit, the Post-graduate Unit of Architecture, in the UNSA has produced bureaucratic obstacles.
5. *The shortage of funding:* The impact of this has been very strong because the institutional strengthening processes initiated could not be finished. This particularly affected those doing their PhD thesis. The process was cancelled in Arequipa and in Lima the approval process is pending due to the delay of the Dutch promoters' opinion. The ones doing their master's degree thesis do not count on further support from the Dutch advisors.

4.1.2 Education and training

- Master's degree design -

The three universities jointly designed the master's degrees during a workshop held for this specific purpose in the presence of a Dutch expert from IHS. The programmes developed from the design were:

- A master's degree in Environmental Urban Management and Planning (UNSA) and
- A master's degree in Environmental Urban Management (UPAO).
- Readjustment of the existing master's degree in Regional and Urban Management and Planning at the UNI, creating the second specialisation in Environmental Urban Management.

The master's degrees offer a study programme of 24 months. The curriculum is divided into 4 semesters and 5 modules. The first module establishes the theoretical and methodological foundation. The second and the third module develop the emphasis on environmental urban management. The fourth and last modules are designed for each participant to prepare his/her thesis based on a problematic issue related to his or her work environment and/or practical interest.

As seen in Annex 3 of the official Spanish evaluation report, the curricula have the purpose of responding to the needs of a multi-disciplinary and diverse group of participants, as well as to the characteristics of environmental problems of the cities. They include all that is necessary for environmental management at an urban and business level, as well as the execution of inter-sector activities. The different topics and contents of the master's degree programmes are all related to the central topic: learning how to manage the urban environment through a comparative analysis of real and relevant experiences. This is enriched by the experience of the participant, who must have a minimum of five years of professional experience.

Although aware of the risk of sacrificing the quality of the degree, the master's degree programmes were scheduled during the late study shifts so that students could combine work with study, because the students cannot afford the real cost of USD 250 per month. After the first class of graduates, the UPAO developed a self-evaluation of the whole programme. This resulted, among others, in a readjustment of the curriculum of the master's programme. This process was included in other master's degree programmes of the UPAO and by the FCPV. However, this was not seen in the other universities.

- Educational Strategy -

Universities, NGOs and municipalities, as members of the FCPV, as well as IHS and ITC, carried out academic and extra-academic activities.

Academic activities were:

- Master's programme and post-graduate courses for professionals (from the municipalities, NGOs, private institutions and companies) in Peru;
- Foreign scholarships for university teachers;
- Basic equipment (computer centres and libraries).

The extra-academic activities were:

- Seminars/workshops for the civil society;
- Coaching Agendas 21 processes in cities;
- Technical advisory services to the municipalities in the field of urban development and environmental management;
- Elaboration of 7 manuals about environmental management instruments, (manual about Agenda 21, environmental offices (units), strategic planning, leadership, risk management, territorial information systems and municipal finances);
- Elaboration of 11 technical 'action-research' case studies.

The main idea was to generate a multiplying effect in society through courses organised by the master's degree programme. Likewise, all advisory activities were directed towards the Environmental Management Plan, the Strategic Plan, and the Wastes' Plan of the municipalities.

In all the extra-curricular activities, there has been co-funding in order to guarantee the sustainability of the FCPV action without PEGUP in the medium-term.

- Currently, the FCPV has an agreement with the Catholic University for the gradual publication of manuals, products of PEGUP's programme.
- IDESI (National Institute of Civil Defence) and the United Nations Habitat (UN-Habitat) will jointly publish the manual on Risk Management.
- Negotiations with the Vice-Ministry of Housing are ongoing to turn these manuals into Guidebooks.
- The liaison with the international organisation ICLEI and the German Co-operation Agency GTZ is strengthening the activities of the FCPV in the promotion of the Agendas 21 of the cities.

The educational strategy generated an important dynamism in local processes. It also generated the training of professionals linked to reality. In interviews mention is made of the changes people underwent as a result of the master's programme. Now, the graduates have a greater commitment to change their own reality. They say that 'the teachers who came have brought a new vision of things'. The master's degree programme developed attitudes and skills, changed the consciousness, and introduced new approaches about the development and responsibilities of the population and their organisations.

Being a young university, *UPAO* already had some tradition in linking its students with reality in the pre-graduate education. This was done particularly in courses organised to support the community based on an agreement with the municipality. Under the influence of PEGUP this experience has been strengthened, allowing interaction among people from NGOs, the university and the municipality. PEGUP permitted an efficient process of interaction between the university and society and improved the position of professionals in the labour market. Also in Trujillo several NGOs were established. New spaces are being promoted. The master's degree students have participated in the development of the Environmental Management Plans, the Metropolitan Strategic Plan, the Management Plan, and finally in the Environmental

Atlas of their cities. It has positioned the students in a different way, and has opened new labour perspectives for the specific field of sustainable development.

In Arequipa, PEGUP had quite a strong impact on the whole group of participants within the master's degree programme. It has enriched a lot the 'strategic approach' and provided, according to the director of the Post-graduate Unit, "update and modernity", which generated a new positioning of UNSA. Now, most of the graduates work for local government, some in the districts with the mayors, others have created their own NGOs and companies.

4.1.3 Research and consultancy

The Project promoted three levels of research: the master's degree thesis, the PhD thesis and the case studies, as complete packages. Moreover, many mini-studies were promoted within the same master's programme, for example about green areas and about wastes. The contribution of the master's programme to the municipalities was essential. It has been the foundation for the definition of policies and local regulations. In some cases, it has obtained national recognition, such as the Air Quality Law of the Municipality of Arequipa.

- The master's degree thesis -

This type of research was integrated into the curricular programme. The fourth module was organised in order for the students to prepare their thesis. However, according to the mission, the research-related results need to be reinforced. The number of students who have presented their thesis is higher than the Peruvian standard, but still very low at an international level. In Arequipa, 8 out of 25 students presented their thesis and at UPAO only 10 out of 47 students presented their thesis.

Most of the students do not graduate because they do not finish their thesis. The reason for this has not been detected yet: is it because of lack of resources (students have to pay their registration fee debts before presenting their thesis); is it because of work overload (many students work and study at the same time); is the reason lack of systematic support (teachers support is quite irregular and not gradual like in other programmes of IHS); or is the reason the use of an inadequate methodology to integrate the thesis development within the course modules (students do not know how to define their thesis subject).

In the current master's degree programme of UPAO this last module has been redesigned, integrating the elaboration of a thesis within the third module in order to guarantee that by the end of the courses, the student has finished the thesis.

The guidelines for the master's thesis were decided in a research methodology workshop developed in Lima, with the participation of local teachers, a Dutchman, teachers of other universities, representatives of FCPV and some students of the master's degrees, chosen as delegates. This became an interesting debate. It became clear that the methodological orientation of the theses was strongly influenced by a tendency towards positivist science research. There was resistance to the incorporation of other approaches more oriented towards action-research. IHS experts contributed a lot to bringing about a change.

The shared common vision achieved on how to advise and assess the master's thesis was: it should be applied, involving some commitment with management of real processes. It should be relevant for problems of the community. It should involve some management of space as an important variable for management of the territory and environment in general, and should generate valid, objective and reliable information and knowledge. It should strengthen values, sponsor sustainable development and should contribute towards generating a culture of environmental consciousness.

In terms of contents, it was accepted that a thesis could be theoretical or practical, even though the theoretical one should be based on concrete problems, leading to a concise document (breaking with the tradition of very voluminous theses without quality). It should show coherence between the problems and issues introduced; the theoretical-conceptual frameworks developed, the goals, the questions and the development of the research itself, and clearly lead to conclusions (practical and theoretical) and recommendations.

This debate resulted in thesis regulations for each post-graduate unit and a thesis assessment form. This included the evaluation of the research context and questions to find out if the work was performed in an independent and structured way, if there was a critical discussion of the relevant literature and a critical thinking regarding the subject. Further it paid attention to the methodology that was used, the ability to analyse data and draw conclusions. Finally it reviewed the quality of the report, how it is written and the thesis' graphical and oral presentation.

- The PhD thesis -

The project funded a PhD thesis for three persons, one person from each university. There were similar problems in the three experiences.

- Strict rules by the Dutch institution, requiring repeated reformulations and thus loss of time
- Lack of support by the home university
- Limited scholarship so that the research had to be combined with regular academic work
- Difficult communications with the Netherlands: lack of feedback
- Requirement to present the thesis in English: more difficult for the candidate, less useful for the local context
- Lack of respect for often highly qualified persons by the Netherlands institution

- Case studies -

For PEGUP the main objective of the case studies was to relate to people involved in local topics and replicate interesting experiences of Local Agenda's 21. The case studies are examples of action-research of practical activities related to the urban issues. Funding of the case studies was a negotiation process between the universities and the partners of the FCPV.

Two types of case studies were defined:

Case studies as action-research processes: studies that permitted the local participants to become more dynamic, and at the same time experiences of systematisation, achieving greater involvement of the local population and an enrichment of their vision on processes in the future. Examples: Negritos, Ilo, Nuevo Chimbote and Arequipa.

- In the case of Nuevo Chimbote the process initiated by the case study was much more enriching than the study itself. It generated an entirely new process of management in Chimbote.
- Negritos was selected because the municipality started an Agenda 21 process with its own resources. This initiative is unique in Peru. The municipality had the complicated task to dynamise the local economy, which was in crisis after the oil shortage. The systematisation was useful to help the local actors identify their strengths and weaknesses. It revitalised the Local Agenda 21 process and increased the self-esteem of the inhabitants. It also led to a proposal to increase curricular diversification in education. It also allowed the promotion of projects, such as the handling of solid wastes and others and it influenced the academic debate. This case is being analysed in the master's degree programmes in Piura and Arequipa, which also helped to systematise other experiences.

Case studies for the strengthening of local environmental management instruments: The ones that corresponded to a need of the municipalities to get acquainted with specific management instruments. Different entities participated during its elaboration (municipality, enterprises, public institutions and university).

These case studies, which were led by the universities, were supporting municipalities in the training or strengthening of management instruments, like Municipal Cadastre in Trujillo and the environmental atlas of Arequipa. These case studies were more related to the university tasks. The cases strengthened the image of the universities in the municipalities.

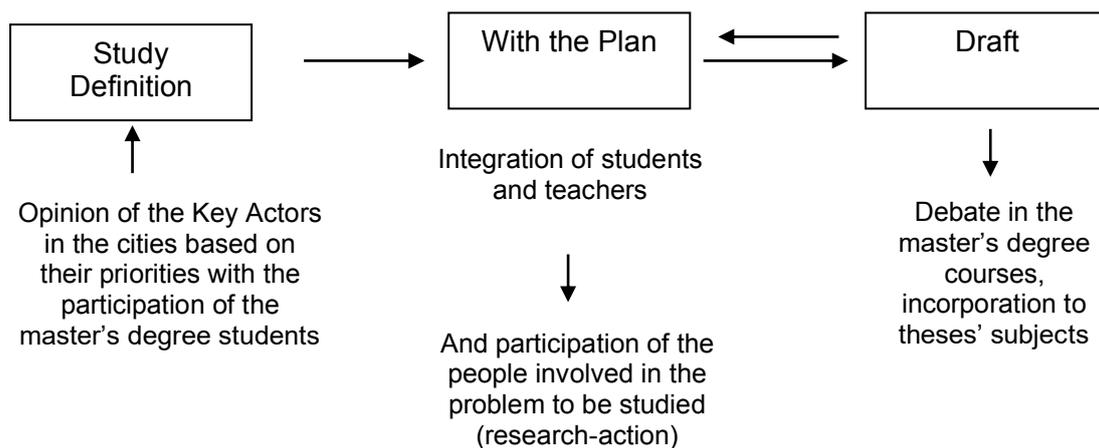
The case studies in Arequipa were the outcome of an assembly of the Southern Forum, with the participation of the university, the municipality and several partner NGOs. It was agreed to elaborate the Environmental Atlas and the Environmental Management Plan of Arequipa as well as the systematisation of the environmental management experience of Ilo. The key challenge was to demonstrate that it is indeed possible to manage the environment by combining and influencing actors. For that reason, a case study (action-research) was formulated to develop an Environmental Management Plan in a concerted way. In this project – led by the Municipality – all parties were brought together who could take initiatives: leaders and representatives of institutions, among them the UNSA, transportation unions, health entities, Ombudsman's Office.

Lessons learned from the case studies: The evaluation mission noted some clear lessons learned regarding the role of case studies in the master's programme:

- The relationship with the master's degree students must start from the beginning in order to involve them and build a bond and commitment between students and local problems. In some case studies, the goal of involving the students has not been achieved. These studies have been somehow isolated from the master's programmes, although the universities supervised them. The implementers have been working as if they were consultants, in some cases even though master's degree students participated; it was not dependent or related to the university.
- They have helped the universities to view the research in a broader and less formal way with an action-research approach.
- Inter-institutional networks like the FCPV produce a dynamic process that allows lessons learnt to be quickly incorporated in the master's programmes and even in practices of the universities themselves
- The interaction of missions with the case studies was successful because the academic criteria ratified what was promoted in the case study.
- The process of adaptation of the universities to the products and results achieved in the case studies is slow and requires specific strategies in order to change authorities and the creation of new units such as the Post-Graduate Unit.
- The new dynamism that this type of studies generates, results in an attitude change among the university teachers and in active participation of the master's degree students. Such is the case at UNSA, where they provided significant support for the data collecting for the elaboration of the Environmental Management Plan. They also participated in the workshops with the municipality and collaborated in the key subjects with research and the use of instruments like GIS.
- The case studies have been clear instruments for demonstrating the link between the academic activities, training and technical assistance, in which all institutional actors were involved. The publication of these documents for a broader public would require identifying the lessons learned from the processes in order to take these as examples applicable to other contexts, and to become role models somehow. The mission sees it as a challenge for the master's degree programme to define: how can this type of experiences be systematised?

- According to the mission in general the balance of the case studies is good, but not optimal. In our view only part of their potential has been used. When correctly selected, these case studies can develop co-ordination, mobilise capabilities and other resources, and help solve concrete problems.
- For the university, the main goal of participating in the case studies was to strengthen the research role of the master's programme in local situations. However, for the FCPV the goal was that the master's programmes should help acquire information allowing analysis of the causes of the critical problems of the urban environment. It should promote processes that can solve such problems. It should also validate these environmental management experiences as part of the national agenda and as such strengthen the institutionalisation of the FCPV in this process.
- The former master's degree students, who gave their opinion about the case studies, indicate that these were good means to get a more optimistic view of reality. However, the studies should also provide more realistic approaches. The selection process organised by the PEGUP prioritised the reality of the environmental issue, but the involvement of the master's degree students in the studies was not very well organised.

Feasible phases for a more organic link between the university and the case studies:



4.1.4 Documentation and information

A total of four libraries were equipped: two in Lima, at the UNI and at the FCPV office, and the other two in UPAO and UNSA.

The first way of obtaining the books for the library consisted of a combination of requests to the Executive Secretariat of the PEGUP and offers made to possible acquisitions. The other type was photocopying important books and documents, such as the best collection of papers from students that were collected in the libraries for a documentation centre.

There are around 3,000 books in the office of the FCPV. This contrasts with the books at the universities, especially in Arequipa where the number is very small. Of course this is thanks to the contribution of the PEGUP, as well as the own acquisitions of the FCPV from donations received pre and post PEGUP. According to the Executive Secretariat, PEGUP's contribution must have been around 1,500 books. There should be a similar amount of books in each university. The mission could not confirm this.

In addition, different course contents at UPAO were compiled on CD-ROMs. These were used as a reference for the other teachers once the missions stopped after the end of the project, and as a mechanism of knowledge renewal.

4.1.5 Infrastructure

The universities complied with their duties and provided an adequate infrastructure for the functioning of the master's degree programmes. The UNI, UNSA and UPAO have quite a good infrastructure, including a laboratory each. These have been very useful for the operation of computer systems, such as the GIS and it allowed access to Internet for every student and the urban environmental management. This has also helped the students to keep direct contact with the Dutch experts for the support on their theses.

4.2 Project management and financial management

4.2.1 Organisation and management

The organisation's process followed by the PEGUP's project was the following:

- Pre-project situation: Training Course for environmental officers promoted by IHS and FCPV.
- Formulation of a proposal based on the three actors in the triangle (Universities, municipalities and NGOs), all partners of FCPV. The idea was that PEGUP should provide the scientific-academic support to the experiences in environmental urban management in Peru. Leaders of FCPV were promoting many of these experiences. This interaction would allow the renewal of the university.
- Launching of the master's programmes in three universities.
- Development of spaces for action between the master's programmes and the actors in environmental management, such as the municipalities. The regional forums of the FCPV promoted this. It canalised the flow of innovation and allowed learning from successful experiences between cities.

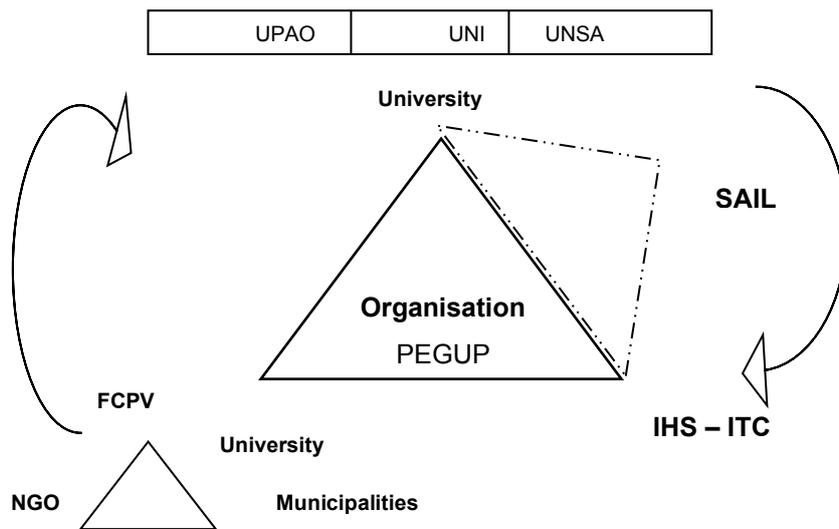
- Betting on triangulation -

The innovative part of PEGUP's programme was its 'triangular' organisational outline, which provided a lot of potential. The diagram shows the kind of inter-relationships established between the actors and the level of relations.

The outline combined a liaison between Dutch institutions, three universities and FCPV. FCPV is also formed by a triangle: the universities, NGOs and municipalities.

This 'triangular' organisational structure, in an unco-ordinated country like Peru, is the foundation for success. It allows the optimisation of local resources: 'together we have more opportunities for success'. Also, the quality of the products significantly improved. It is feasible to replicate this outline in similar contexts.

The core of the triangle in this case was FCPV. FCPV incorporates leaders of the different social actors who were involved in the project. This permitted to weave a thin net of relationships. It in a sense it allowed to enter into each one of these structures in order to change them. The diagram shows the inter-relation produced among the different institutions that got together for the development of the project, as well as the triangle that forms the FCPV with the purpose of revealing the key role played in the development of the project.



Due to the intervention of FCPV, the long-term sustainability of the project was improved because the participation of the municipalities was guaranteed. The process was long and difficult though, due to longstanding taboos, fear and distrust among the actors. An example of this was the hesitation to provide information during the development of the Environmental Atlas in Arequipa.

Through the project, the universities have been able to provide useful studies to the municipalities in order to solve different environmental problems, e.g. ravine's management, solid wastes and landscapes. Some have even been used to implement municipal laws. The NGOs became facilitators between the different actors. This process requires high levels of specialisation, in which the FCPV's partners have demonstrated to be quite efficient. The 'triangle' allowed universities to come up with their technological resources, while the NGOs complemented this knowledge with the social reality of environmental management. This provided the municipalities with solutions for practical problems. The actors in the triangle support and strengthen each other: the municipalities have a demand for advisory services on specific issues; the universities are in charge of the theory in the educative processes and the praxis is led by the NGOs. This approach changed the working method of the universities.

Of course there were also tensions in the project's management. The Dutch institutes, for instance, kept a direct and strong relation with the university authorities and the master's programmes, because for them the central axis of the project was to strengthen the universities. Little attention was given to the link with the FCPV, to its regret. The set-up with FCPV assemblies was luckily useful for providing co-ordination and a forum for achieving agreements.

The Secretariat of PEGUP was located in Lima, where the Director of the PEGUP made all the decisions about the administration of the budget, payment of checks, etc. The main academic decisions were taken during workshops of curricular design, thesis and master's degree regulations. Then the universities made more precise decisions, with the teachers of each course. The Executive Secretariat mainly functioned as the general co-ordinator and facilitator between the different parties of the PEGUP (events, case studies and relationship with third parties for the promotion of Agendas 21 of the cities).

According to the director of the Post-graduate Unit of UNSA, when referring to the administration of the budget: 'this structure was centralistic and the way of making decisions was not clear enough, the centralism in Lima was seen as generosity'. 'Besides, we did not understand very well the role of the Executive Secretariat of PEGUP. The agreement was between ITC, IHS and UNSA, but within the agreement it is stated that the Executive Secretariat belongs to the FCPV'. This generated problems with the university because they did not agree with the fact that the Executive Secretariat should be deciding about activities of the university. The same kind of perception was noticed in the UNI.

This perception is in contrast with the information provided by Executive Secretariat who indicates that the signing of the agreement was a democratic process. It was sent to each university for its review and then discussed in a meeting with the active participation of UPAO, UNI and UNSA, who approved its content and contributed to define the role of the Executive Secretariat. Then, the agreement was signed by the rectors with the approval of the deans of each faculty.

It seems that the delayed incorporation of some teachers to the PEGUP's activities, who were not informed by their predecessors, generated these confusions. It may also be the result of internal conflicts or the resistance to more bureaucratic tendencies that still prevailed.

- Conclusions -

IHS and ITC formulated the project with the participation of FCPV and UNSA, who were the promoters of the idea. In spite of the inflexibility of the products offered, the IE's let them be carried away by the impulse of the organisational strength of the FCPV during the implementation. These joint efforts turned the programme into an innovative and highly successful one. However, there is still a long way to go in order to institutionalise this innovating 'triangle' of joint action.

The PEGUP developed the ability of the counterpart institutions to implement academic and extra-academic activities, as well as action-research, which allows them in future to offer these services as advisory services. However, there are currently no research or advisory services strategies implemented. The participating teachers and authorities of the programme have personally capitalised on the benefits of the PEGUP. Such is the case of the former dean of the UNSA and former president of the FCPV, who is currently in charge of an important position in the INDECI, a governmental entity, where he has been appointed National Director of Risks' Prevention.

FCPV has been an important and dynamic entity to relate the university with reality. The resulting strategy was, on the one hand, quite innovative in developing ways of changing the context. On the other hand, however, the same level of results was not achieved everywhere because the products were insufficiently diversified. The mission concludes that the overall strategy to make the university more dynamic from both inside and outside has been productive. However, a diversified strategy for each context and more flexibility in the offer of services was required.

The liaison between the FCPV and IHS has brought substantial gains for both organisations. At the beginning, the FCPV proposal was seen as doubtful. However, both IHS and ITC quickly accepted it as a challenge. It resulted in a great learning process for both parties and a strong multiplying effect. This alliance allowed:

- The Dutch teachers from IHS and ITC to realise that it was necessary to work with actors at several levels: teachers – local actors (municipalities) – leader actors (representatives of the civil society) – NGOs.
- To better focus the topic and the relations between the academic and extra-academic spheres in Peru.

- A change and learning process to take place at IHS. For example, during the development of the programme, the positioning in its organisational structure was changed – from the urban management area it was changed to the environmental management area. This allowed the environmental theme to be institutionalised and consolidated in the IHS. The Dutch experts came from the urban area and were not so much aware of the environmental urban nature of the master's programme. The interventions of the forum during the process were important to generate this change.
- A stronger positioning of FCPV in Urban Environmental Management due to its links with IHS. It has become one of the most important promoters of Environmental Management of Sustainable Cities. In the balance of the Johannesburg Summit, Peru has been acknowledged as second country in line that had advanced most in the implementation process of Agendas 21, coming right after Brazil. This multiple relationship and alliance has allowed the subject to be reinforced at municipal level through the master's programmes, case studies and the promotion of Local Agenda 21 processes.
- To produce a critical mass of highly committed graduates of the master's programme. They will guarantee the sustainability of the subject in the future.
- FCPV to strengthen its relationship with other universities, other municipalities, business associations and other non-governmental actors.
- An innovative process in the universities, which has strengthened the role as social actors of these academic entities.

The situation generated by the end of the agreement with *UNI* was not the healthiest for the university or the project. For future programmes, one should be aware that it is possible to find this kind of resistance. Indeed it is quite common in old public universities with a site in the capital of the country. To deal with this situation, a clear organisational development strategy, a previous analysis of the situation and context of the university signing the agreement with, should be considered in order to apply the best strategy. It is more difficult to introduce changes in a university like the *UNI* with a long history and experiences, than introducing changes in two regional universities where everything still had to be done.

The agreements established in this type of projects require guarantees for transparent budget handling and open information to all the interested parties, even to the master's degree holders of the educational programme.

4.2.2 Budget and financial transparency

The budget was decided between IHS and ITC. They allocated around 30% of the budget for local activities in Peru and 70% for the Dutch institutions. They also defined the types of products to be offered by each one of the Dutch institutions, such as the experts' missions, scholarships for short courses, master's degrees and PhDs.

Out of the local budget, the Peruvian universities directly received goods and services determined in the agreement with the PEGUP, such as lab equipment, books for the library and funds for the case studies. Partner institutions of the FCPV received the funds for such studies, through the directors of PEGUP (mainly the deans from UNSA and UPAO). The same modality was used for the dissemination activities of the PEGUP. In this case, the funds were reimbursed after completion of the activity.

The budget allocation, based on the products offered by Dutch partners, gave little flexibility in its execution. Sometimes quite difficult negotiations were necessary to realise the objectives. An important omission in the project budget was funds for publications to encourage academic production. The FCPV had to appeal to other donors to guarantee the publication of some of the manuals and case studies.

The agreement included a budget for the libraries, but so far the financial accounting regarding the total amount spent on books has not been done properly yet. The co-ordinators are not clear about the total expenses in this field, despite several discussions on this issue. Generally a lack of transparency in the administration of this budget item was felt. The balances were not clear even for the leader of the PEGUP and this was one of the conflicts with the IHS administration, as well as local administrator who was fired because she was considered inefficient. The Executive Secretariat found out that several expenses related to strengthening the library management were charged to the book allotment. Likewise, it appeared that other expenses have been charged to the 'library' allotment, such as furniture purchase, purchase of basic material for the library, the expenses of a library that was paid by PEGUP to design its software and to train the universities. There was considerable confusion, and by some accounts the 'accounting software used by the PEGUP was bad and did not provide reliable balances'. Recently, IHS has changed the whole system in the Netherlands .

The mission stresses, that the project should have put more emphasis on transparency about the budget functioning, regulations and decisions. A statement like: 'We did not know who had the cheque book' and opinions about the lack of transparency are not at all positive for a programme. The current Director of the Post-graduate Unit of UNSA states in this regard: 'this did not generate suspicion, but distance. The budget was defined in head office in Lima where the checks were written out. It was never known how much was paid'. From UNSA's perception, this lack of transparency was generated due to centralism and got worse due to changes in the authorities (change of the dean in the case of UNSA).

The practice of budget definition within PEGUP was not consistent with the theory it proclaimed in the master's programme on 'participative budgets and accounts rendering' processes. As was already mentioned, the formulation of the project was very rigid. It became more dynamic thanks to the creativity of the local counterpart of FCPV. The FCPV designed and implemented a mechanism for the recuperation of VAT ('BTW'). In five years it was able to recover around 60 thousand dollars to perform extracurricular activities. Due to the delay of procedure of recovery with the SUNAT, some funds are still expected in the near future (approximately 3 thousand dollars), which would allow the executive secretariat's office to continue operating partially after June 2003, as PEGUP is running out of funds by then.

There were strong disagreements concerning the proposal of doing the PhD theses in other countries than the Netherlands and it was also difficult to invite Latin American teachers (with a vast experience in subjects related to urban environmental management in Latin America), since there was not enough budget assigned for these activities. The budget rigidity did not allow for the use of some missions for administrative activities or for advisory services related to the institutional strengthening of the universities. Finally, everything related to the improvement of infrastructure was defined in advance: how many computers, how much software, etc.

The mission noticed a lack of transparency in the budget administration and in the management structure: there was a master's programme and at the same time several projects that were not controlled by the Post-graduate Unit. The Unit co-ordinators felt that the case studies and the extracurricular activities were not their responsibility. UNSA developed the case study on the Environmental Atlas in Arequipa, they hired the working team that performed the Atlas, the document was printed twice, was presented in public events of the Municipality of Arequipa and distributed to each and every one of the authors, as well as to authorities of the city and Lima. A total of 30 master's degree students of the UNSA participated in the elaboration of the Atlas of Arequipa and more than 20 teachers from the FAU and other faculties of the UNSA.

This reality contrasts with the perception of some authorities of the Post-Graduate Unit, who informed that the university did not have the leadership of the product, nor the responsibility in the selection of the executor group, nor the budget. This perception is probably due to the change of authorities and the lack of information transference among them about the development of the project.

The PEGUP lost the opportunity to involve organically the Post-Graduate Unit of the UNSA in the implementation of the overall project. Nevertheless, the creation of this Unit was a result of the project. The Post-graduate Unit did not participate in the organisation of most events or missions. The persons who maintained the link with the PEGUP abandoned the university without leaving any documentation. This replicates the confusion that existed between the former dean and his role as president of the FCPV. For the current authorities the participation in PEGUP's activities was carried out more at a personal level than at an institutional one. This was the case with the Management Plan, the 'Plan Director', which were co-ordinated the current Director of the Post-graduate Unit.

4.3 SAIL programme support and follow-up

PEGUP's project outline was perfectly decentralised and responded to the requirements of SAIL. From a Peruvian point of view, SAIL has carried out a positive and relevant role in the development of PEGUP. It contributed to the environmental and gender subjects when the project was approved. This support helped (as some university workers and authorities refused to accept these subjects) to understand that these issues formed a basic part of the agreement. At the same time, SAIL had influence in the decisions about the budget implementation: it intervened to reduce the long-term expert's assignment to 36 months and to increase other activities such as scholarships.

Likewise, SAIL was seen positively since it puts some kind of pressure on the IE's. The experts used an account's rendering mechanism to report expenses to their own institutions and the partner institutions of PEGUP in Peru and the Peruvian government entities. SAIL was introduced by the IE's as the surveillance and control entity, the one they should depend on.

The presence of SAIL became weaker during the final months of the PEGUP's execution. When PEGUP II was cancelled, IHS and ITC requested budget changes without the consent or knowledge of the FCPV and the partner universities, transferring balances of some accounts to others. The counterpart institutions in Peru only afterwards found out these decisions when the approval letter from the SAIL was issued. There was no direct contact between SAIL and the Peruvian counterparts in order to verify the decisions and to prevent that these kinds of facts do not occur or at least to listen to the counterpart's points of view before the decision was taken.

In general, it can be confirmed that SAIL permanently executed and expressed its interest and willingness to share all its information. It promoted the exchange of PEGUP's counterparts with other SAIL projects in Latin America. It invited the Executive Secretariat to key meetings in the Netherlands to discuss new policies of co-operation for the post-secondary education. Every time that the FCPV contacted SAIL, the information and communication was fluent and productive.

The SAIL representative visited PEGUP in two of the three cities of Peru. In every contact with the members of PEGUP, he highlighted its achievements, its success and the good performance that he had perceived. PEGUP was compared with other similar projects that, with the same or increased budget, achieved fewer results, of lesser quality and without the big impact in the development processes of their communities. One of the most attractive expressions during this visit of the SAIL representative was:

'I just found out that this is a process and not only a project'. He gave many suggestions for improving the structure of the semester report of PEGUP, since it did not represent the richness of the practical area. The director of PEGUP adopted some of these recommendations, although the reporting in English did not allow a more active participation of the Peruvian partners.

The positive feedback on the quality and amount of work that had been done was a constant factor during the visits of the SAIL staff and that contributed to improving the team spirit and consolidating the strategies and activities performed.

4.4 Relations between Dutch institutions and local organisations

The master's programmes at UPAO and UNSA were launched thanks to the support of the PEGUP. Previously, the lack of teachers in particular had been a major impediment. The Dutch missions coming from ITC and IHS facilitated the incorporation of new concepts, principles and values (sustainable development), methodologies, knowledge, tools like the GIS, as well as infrastructure. They combined a variety of services: course's assignment, thesis support for students, community conferences and support to the Local Agenda 21. In this process the experts also learned, because they complemented their education with training in other areas and analysis of the local situation.

The international organisations got carried away during the development of PEGUP's project by the dynamics of the process. They enriched the process while taking care of the demands. Such is the case of ITC where one of their teachers provided important support to the Municipal Cadastre Study in Trujillo and after he learned about the experiences with the Environmental Atlas in Porto Alegre which was promoted by the FCPV, he introduced the same type of experience in Arequipa and later in Trujillo.

It is important to highlight that the contribution of the financial and technical co-operation was useful to motivate and promote processes, which were developed with counterpart contributions from the universities but also from other actors.

4.5 Conclusions

The Executive Secretary of the CONAM, authority related to the government's environmental area, appreciates the achievements and results obtained. He agrees that PEGUP has helped to fill the gap that exists in the public sector's training in environmental management, especially due to its links with environmental problems at local level. Most appealing is its becoming a 'forum', that allows academic education to be compared to reality. After two graduations of the master's programmes he observed that these professionals had increased the discussion level in their towns. According to him, many of these professionals fulfil at the moment positions at management level in technical groups promoted by the CONAM, in municipalities or in ministries.

The university authorities have changed and have adopted new approaches. It can be concluded that changes in people have provoked changes in institutions. Some of the persons interviewed also noted significant changes in the attitudes of teachers of great academic knowledge. An example is the current Director of the Post-Graduate College of UNSA, a professional with a long trajectory in university teaching, and a prominent urban architect. Motivated by PEGUP and with the help of new methodologies, he led the elaboration of the Strategic Plan in Arequipa. He could count on a strong advisory team. 'Now, his perception about university teaching has changed and his working methodology as well'.

One of the problems that the mission found at UNSA was the difficulty to capitalise on the achievements in the master's programme to strengthen the Post-Graduate College institutionally. The branch of this institution was not shown as one of the main executors of the studies. This, despite the fact that the former Dean of the Faculty of Architecture and at that moment supervisor of the master's programme of UNSA, was at the same time President of the FCPV. In this influential double role it would have probably been easy to achieve institutional recognition for the College. Besides, institutional recognition of the Post-Graduate College will be a long process, due to its recent creation and to the periodical changes of the university authorities.

The mission did not encounter a diversified strategy related to the institutional strengthening in each university. In a certain way, an ideal situation for 'institutional strengthening' was found in Trujillo. Here was a new university, with no vested interests or established traditions, motivated to establish a programme. In Arequipa, a more traditional university was found, with a trajectory of 400 years and with strong internal conflicts between groups. Finally, in Lima there was a high-prestige university, with a vision about architecture that goes far beyond the country frontiers. These three situations were so divergent that a different strengthening strategy would have been needed for each university, which considered its specific context, customs and traditions. Unfortunately, the project could not offer this.

The project considered each university as an entity requiring the same treatment. The products offered were not enough to comply with the goal of becoming sustainable institutions. For this reason, provided with same services, there were very different achievements at each university.

According to the mission, these kind of projects need to develop clear systems of democratic decision making, transparent systems of renewal of teachers based on quality, a system of evaluation of the academic programme and teachers. It is necessary to create a formal co-ordination framework so that the Post-graduate Unit as an institution can benefit from research done, advisory services rendered and case studies implemented.

There appear to be some difficulties for the "new" professionals from the master's programmes to be absorbed into the labour market. Having received better training, they should receive a better salary, but in Peru it is traditional to hire expensive 'experts' from Lima. Therefore it is quite important for the Post-graduate Units to keep good relationships with their former master's degree students and former grant holders in order to promote them.

Moreover, the mission considers it a weakness to develop a master's degree programme in environmental management under the responsibility of only one faculty in each university. Environmental management is a multidisciplinary programme. In future, a more flexible educational programme is necessary, e.g. offering a second specialisation (requiring one year plus a report), since the master's programme implies two years and a thesis. An eventual future agreement should be established with the Council of Faculties. This could guarantee its multi-disciplinary character and the university system permits it. This would give more versatility to the programme.

The mission also stresses that universities need to establish creative mechanisms in order to encourage the students to finish their thesis. For instance, an action-research fund could be established such as the "case studies" promoted by each master's programme unit. This fund must have clear rules for access, for example clarity about priority subjects which are relevant for environmental management. The subjects should be previously defined by the local authorities and the Programme, and become part of a group of studies being developed by the NGOs, members of the FCPV. The participating students win if their research proposal responds to such priorities and

receive the funds to make the developments possible. The funds are assigned and charged according to advances in the activities. Thus, research can be oriented to local priorities. The actors, members of the 'triangle' (see paragraph 4.2.1), will be linked in a practical way.

Providing continuity to the educational programme, with special attention to its quality, requires capitalisation of resources. This is sufficient reason for starting short courses on GIS. The institutes could even offer short courses during the weekends. This would generate funds to update and maintain equipment and to specify promotional activities for the master's programme. Bureaucratic procedures in the administration of the resources should however be reduced. The units should worry more about marketing themselves as an urban environmental management group. They could inform their former master's degree students, via e-mail, about interesting events.

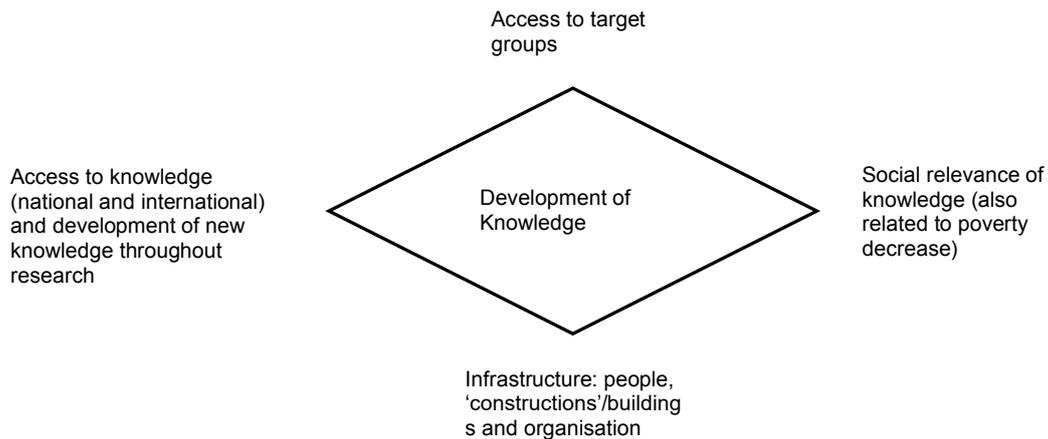
Another point is the effective selection of scholarship holders: it should be avoided that people benefit from the scholarships without contributing to the consolidation of the master's programme at the end. A personal contract of rights and duties could be signed with the scholarship holders in order to guarantee their support to the master's degree programme for the education received; otherwise a penalty should be assigned. In addition, the agreement between the project and the university should include terms in order to integrate the trained professionals as master's degree teachers.

When the master's degree programmes were launched, the financial support of the PEGUP was essential, due to the precarious economic situation of the universities. The sudden termination of the co-operation, did not allow preparing for a more organised phasing out of the project. It is quite a pity that the Dutch co-operation abandons space earned in the regions, where it has given valuable support to the universities and to local environmental management.

5. KNOWLEDGE DEVELOPMENT

In this chapter, the results and impact on the development of knowledge achieved by the PEGUP during the four-years process in Peru will be evaluated. This is based on the analysis of documents and evaluations, interviews, workshops and visits to Trujillo, Arequipa and Lima. The observations are related to the four issues detailed in the diagram below. The mission evaluated if the new post-graduate centres of the regional universities already have enough quality to renew their knowledge base on environmental urban management.

It is an aspect of the sustainability of a higher education centre.



5.1 Accessibility to new knowledge

The PEGUP has put emphasis on the analysis of methodologies, case studies, urban management experiences and use of technological tools to optimise urban management. This allowed students to have access to this knowledge and to elaborate practical proposals in their professional areas. For example, up to 20 students of the master's programme were involved in the case of Municipal Cadastre in Trujillo and later in the environmental atlas. The graduates from the master's programme have grown professionally and have diversified their action. Professionally they position themselves in public and private fields, where they are re-creating the acquired knowledge.

According to the director of the Post-graduate Unit of the UNSA, the knowledge renewal will continue in the future but with less strength. It would be good to keep the support of the PEGUP consortium, because it is taken more seriously. 'A Peruvian can be excellent, but he is from Arequipa, he is not foreign'. Foreign experts are more appreciated, so there is a tactical reason to maintain such a link.

The master's programme has been strongly related to environmental management. This is a global and quite generic subject. The subjects developed in the master's programmes are now multiplied in the pre-graduate studies, as well as in shorter and more specialised courses. Currently, there are several companies of environmental management in Arequipa, one of them formed by 4 former students of the master's programme. For the future, it is important to focus on more specific environmental issues, such as monitoring environmental control or the management of solid wastes, air quality, etc. Thanks to the master's programme and to the activities with the municipality, the awareness of the people has been developed, but now the help of

specialists in environmental management fields is also needed. It is important that the results are motivating. In the view of the mission, a more diversified package is now required, such as master's programmes based on distant learning, modular courses and more technical offers.

According to the co-ordinator of the Post-graduate College in Trujillo, the link with PEGUP has changed the knowledge production in the university. 'It is noticed that our teachers have passed through an integral evaluation process. Their worldview has expanded. They have improved because the experts that came brought new ways of looking at things. Now they have a bigger commitment to change their own reality. The teachers of Architecture and other faculties are being motivated to complement their training, by studying in other places for their improvement and by working with other actors of the society'.

5.2 Accessibility to the target groups

According to an active member of the FCPV since its conception: 'the case studies helped groups outside the university to get close and relate with the university. This decreased the existing divorce'.

In the specific case of Arequipa it allowed to get the environmental topic on the political agenda as a number one priority. In the case of Trujillo, the Municipal Cadastre study satisfied a very practical need highly valued by the municipality. The case study of Nuevo Chimbote generated the validation of the Agenda 21 process. The case study in Ilo, evaluating participation in the elaboration of the Agenda 21, was useful to reconsider a 20-year process. It gave ideas on how to create a culture of dialogue and to support the national legislative framework.

For the mission the interesting part is that non-university actors participated in the educative process. This made the interaction possible between academic and social-political fields. The case studies were the means for support, information, knowledge, and lessons learned of the social actors' tasks. The university contributed with methodologies to understand and recreate popular knowledge. In that sense, PEGUP breaks with the traditional standards of knowledge development, getting closer to the social processes and their actors.

The former councilwoman of the municipality of Arequipa and university teacher, said: 'The importance of a project such as the PEGUP is the result of generating important social processes, with a relatively low budget. It involved key actors and at the same time received the political support of the Municipality of Arequipa'.

The execution of the case study on Agenda 21 started dealing with the subject of air contamination, which was fundamental for the population. Initiatives from the community about this issue were gathered during workshops, which resulted in maximum support and the approval of a proposal for a municipal law, which was a good reflection of what the population wanted. The success achieved was due to the consultation, one of the educational tools proposed by the PEGUP. This became a rule for the Municipality. Then based on the same experience, all the actors were consulted for the elaboration of the Environmental Management Plan (Agenda 21 of Arequipa). In this Plan key projects and programmes were defined. Some of them were also developed with the support of the master's programme, others are still pending.

The PEGUP also allowed filling in serious information gaps. Some institutions kept information "for themselves" and did not want to share it. The case study of the Environmental Atlas, led by the UNSA, was important, because it developed a database which was key information for the studies that were developed afterwards and for the decision making process in the municipality.

In Trujillo, the process was possible because there was an already existing relationship between the municipality, the university and NGOs. This allowed the exchange of experiences and the gathering of experiences from other cities such as Ilo, Arequipa and from the environmental activist. Since its establishment, the UPAO has had an organic link with the Municipality of Trujillo. In a sense there were positive conditions during the implementation of PEGUP to link the university duties with the dynamics of the locality. PEGUP was able to capitalise on this, due to the participation of the UPAO in the FCPV network.

The participants from the UPAO realised that it was possible to "fight" with others, to apply new methodologies rehearsed in other places and to learn from others' experiences. This knowledge and exchange of experiences helped the process of Agenda 21 in Trujillo to become more dynamic. According to the former dean, 'Also in the FCPV we became aware of the need of respecting the space of others working with us. This was possible in the master's programme because many of the students were part of the FCPV and came with working experiences of NGOs. In that sense, the support for PEGUP by FCPV was essential in Trujillo'.

With the master's programme experience, one of the teachers of the UPAO and student of the master's programme became councilwoman for the Municipality of Trujillo. She strongly projected her work on environmental urban management issues. She continued activities around the case study of Municipal Cadastre. Now she is developing, together with the university and some neighbourhood organisations, the project on "guided occupation of land" in risk prone areas of Trujillo.

According to the current mayor, the relationship with the university has changed. Before the PEGUP, the Municipality of Trujillo made agreements with all the universities, 'because we understood that the universities' role was to do research about reality. However, the universities did not establish research institutes and the results of their work do not have any quality. In the case study on Municipal Cadastre a positive result was achieved because of a combination of factors. The expert was designated to the university and from there he led the study involving teachers, students and politicians. The connection with the master's programme became an extra stimulus for the quality of the advisory services.

In order to have access to the target groups they started with their concrete needs. This became one of the instruments from urban management. Out of this need specific advisory services pointed towards Municipal Cadastre. This study became the denominator that opened up the eyes of the municipality to project its management towards sustainable development, making use of the existing relationships. In this case, out of the first result (Municipal Cadastre), it was possible to realise the second one: the environmental atlas. In short, the master's programme is and has been a great opportunity for Trujillo. It allowed the technological progress the municipality needed. Furthermore, now the NGOs participate in the conferences at the UPAO and go to the established library. Since then, some professionals have also registered in specific courses of the master's programme ('continued studies').

5.3 Social relevance of the acquired knowledge

In Peru, there is no strong relationship between the university and the society. The few co-operation relations are somehow established through projects of social projection. The PEGUP programme has helped to create new levels of knowledge development. This means that the university was fed by practice, which allowed a real attitude change. New abilities were developed in close contact with reality. The students stated to the mission that their attitude has changed and that they see the world with different eyes (see appendix 5).

This has occurred in the Faculties of Architecture, both in Trujillo and Arequipa. The examples that made this happen were:

- The development of the Municipal Cadastre of Trujillo.
- The case study Ilo, which reviewed the experience of 20 years of Environmental Management and which allowed regulatory changes.

Arequipa: The process by which the Integral Development Plan of the Municipality of Ilo was elaborated was highly participative. It used different ways of information collection such as: focus groups, interviews, drawing programmes with children, murals and stories about the development vision of Ilo. Moreover, it allowed the participation of the master's programme students of the UNSA who made field visits and analysed and evaluated the proposals. This allowed feedback from the practice to the university. Then, the university could contribute to the development projects, which were derived from priority axis of the plan.

In Arequipa, the knowledge provided is reflected in the new legislative framework at national level. For example, by law, the municipality has to discuss its Sustainable Development Plan. Specific projects have been developed about life quality in the peripheral areas of the city and about the cultural changes of the city as a result of immigrations. In this context, subjects like child and woman abuse have also been developed.

An important issue for master's thesis was the quality of life in the "Campiña" (cultivated valley of pre-Inca origin in Arequipa), which is being threatened by the real state companies that want easy land for housing construction. The use of these lands for the construction of buildings can have serious implications for the future of the city. A group of people related to the master's programme is against the occupation of the Campiña. These issues are directly related to the master's programme, and to subjects as the environment, the urban transportation, the solid wastes (the garbage). The city was not aware of these elements, which are now high on the agenda (waste, transportation, Campiña). Almost all courses have been developed based on the reality of Arequipa and have been applied.

All the research studies have been related to societal problems. After four years of this type of work, the strong impact is apparent: Recovery of the Chili River and the Campiña. 'Before, nobody spoke about these topics, now everybody in Arequipa is talking about them'. Moreover, the nature of the master thesis subject's chosen is contributions to concrete social and environmental problems.

The situation in *Trujillo* is similar. Here the close relation with the municipality has resulted in several practical studies that were incorporated into the municipality's duties. The clearest example is the Municipal Cadastre that has contributed to a much more systematic urban management and a countless number of initiatives.

Although there was a previous experience in the pre-graduate courses on community work in the UPAO, with the master's programme this relation has become more organised and has grown. PEGUP has contributed to this change and has accelerated it.

In most of these initiatives, the involvement of the members of the North Forum, and even more of the South Forum of the FCPV has been quite important. At the beginning, when the PEGUP-FCPV programme was developed, there was already a fertile relationship between the municipality and the university. In this context, the PEGUP facilitated the knowledge exchange between other realities like Ilo with Arequipa and Trujillo through environment-related NGOs. This generated a contrast between realities that enriched the process between the universities and the municipalities.

The incorporation of the municipality and the UPAO into the FCPV network made it possible to exchange on methodologies, and to learn from others' successes. 'We learned a lot and increased our horizon', stated the co-ordinator of the Post-Graduate College in Trujillo.

The master's programme course, with the subjects related to urban management, allowed interesting grounds for the development of multiple processes within the municipalities related to Local Agenda 21 processes with the participation of the community. The mission noticed that the subjects of the master's programme in UPAO are quite linked to the social problematic of the region.

5.4 Infrastructure, human resources, organisation and materials

5.4.1 Computer Centre

With the financing of the PEGUP, computer service laboratories of high quality have been developed in the three universities, which have been quite useful to develop abilities in GIS.

For example, in the Faculty of Architecture of the UNSA, there was no laboratory before and now it is still the only one. It is well equipped: it has a photocopier, computers, scanner and multimedia. For the selection of the equipment, the faculty had the chance to do bidding, but it was decided in Lima to purchase them from Lima. The importance of the laboratory has decreased a bit because it is not updated anymore and is quite expensive to update it due to the incompatibility of the equipment with the ones found in the local market. It is still working and used by the master's programmes and for other purposes, but the mission found some equipment out of work. Up to now, the faculty has only contributed with one computer. For this reason, it is necessary to adapt the purchase of equipment to the reality and place where it will be operating.

Also, in the other two universities, the computers that the PEGUP bought are not updated due to the speed in which the information technology is developed. Only the UPAO was able to ensure its sustainability, since the rector's office gives a high importance to information technology of its university through a contract with Hewlett Packard. This also allowed the renewal of the computer centre of the Post-graduate College.

As the mission was informed by the executive secretariat and confirmed by the master's programme co-ordinator of the UNI "the UNI and the Forum have also updated their equipment and programmes, each one with their own resources", which we did not verify.

At least the UNSA does not show big perspectives in maintaining its equipment updated. Now, for the Post-graduate Unit of the UNSA, a possible way of maintaining their laboratory would be earnings on the development of the GIS courses. Up to the last year, they were considering continuing just with the master's programme. Now, they see more projection in these short courses, studies and research, seminars and other activities that do not generate extra costs, in order to maintain not only the computer centre but also the Post-graduate College.

Both regional universities (the UNSA and the UPAO) provided the installations for the Post-graduate units, where the PEGUP programme has been developed, that consist of three rooms: one for the secretary, one for the computers and one for the classes.

The mission is not informed about the situation of the installations, the library and the computer laboratory of the UNI.

5.4.2 Library

Part of the budget was assigned for books, for the purchase of furniture and basic material for a library and specialised advisory on library management. The libraries in each regional site have had a certain development, more in Trujillo than in the UNSA, where the mission observed only a few books compared to the library of the PEGUP in Lima. It seems that the executive secretariat of the PEGUP in Lima is the one that has improved its library the most.

According to the Director of the Post-graduate Unit: 'One of the problems was that we never knew how to get access to the budget and balances, it was not transparent. It seemed as if some books were offered due to good Florian's will (Leader of the PEGUP)'. In the cabinet there are around 50 books with their duplicates and several copies of books. The amount of books is quite insufficient to be called a library. Apparently, the internal control in the UNSA of books received has not been adequate because according to executive secretary of PEGUP, the number of books delivered is similar to the ones received by the UPAO.

In this respect the UNSA, the UPAO and the executive secretariat of the PEGUP, regret the lack of transparency in the purchase of books and in the expenses' control for this section of the budget. However, the mission also observed difference in handling between organisations: with her tenacity, the co-ordinator of the Post-graduate College of Trujillo has obtained a good quantity of books, as well as the secretariat's office of the FCPV. The executive secretary informed us that in the case of the UNI the librarian of the Post-graduate College, who previously discussed it with the post-graduate teachers of the UNI, directly requested the books acquired and the total budget for books was spent in two or three purchases.

5.5 Conclusions

The PEGUP was approved, coincidentally, at the beginning of a new municipal period of mayors committed to environmental management. This allowed joint efforts and facilitated the project's development both in Trujillo and Arequipa. Moreover, in Arequipa, the existing process was strengthened in topics such as the atmospheric pollution. The progress made is substantial because it even led to an acceleration of decision making about national regulations on air quality.

On institutionalisation contributions were:

- Strengthening of the academic quality in two of the three universities linked to the PEGUP
- Strengthening of the regional forums
- Contributions to the debate on relevance of public consultation
- Promotion of the idea that the municipalities should develop units for environmental management
- Promotion of the idea of national and local systems of environmental management
- Proposals of environmental management on waste, air quality, territorial environmental information (urban and rural).

Offering projects which could be executed in a co-ordinated way between the universities and the municipalities has been very beneficial, in order to multiply in an organised way the impact of the action and for the university to capitalise on institutional strengthening.

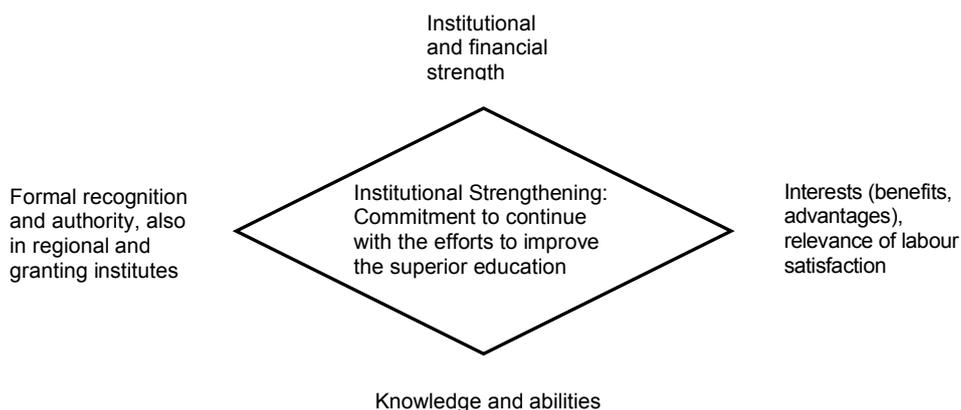
The mission stresses the need to include into a new co-operation proposal the current existent demand from the municipalities and other social actors. This allows developing an academic response to the need of executing concrete projects derived from the

actual environmental management plans. The experiences of professionals with a holistic view and specialised knowledge in some of the relevant subjects (such as air and water quality, territorial law, solid waste management and monitoring) will be required. This is important because it will allow responding to the current needs of the population.

In short, the mission considers the programme high in efficiency, effectiveness and impact, regular in sustainability and quite high in relevance. Sustainability and relevance is subject of the following chapters.

6. SUSTAINABILITY OF PROJECT ACHIEVEMENTS

This chapter evaluates the results and impacts achieved by the PEGUP during the four-year process executed in Peru. This is based on the analysis of documents and evaluations, interviews, workshops and visits to Trujillo, Arequipa and Lima. The observations were done having as reference the four pre-conditional issues related to the institutional strengthening. Only strong enough institutionalised organisations are able to adopt commitments in order to continue improving the superior education. It is about the sustainability of processes and activities as they are identified in the common sense and methodology of the assessment detailed in the following diagram.



In this chapter the mission makes reference to information received from discussions with the universities of Arequipa and Trujillo. The mission cannot give our opinion about the sustainability of the Post-graduate College of the UNI in Lima as a result of the activities with the PEGUP, since the relationship between the UNI and the PEGUP was interrupted. There was an interview in order to understand the distancing reasons, but not to evaluate its current situation.

6.1 Knowledge and capacity

PEGUP gave a lot of importance to the training of teaching staff in urban environmental management, as can be seen in chapter 4. For the future teachers of each master's degree programme in the three universities, there were several opportunities of improving their abilities: they were able to get a scholarship for short courses or master's programmes in the Netherlands (scholarship strategy), but they also had the opportunity of participating during the development of the master's programmes in their respective universities. During the project period, both the UNSA and the UPAO established a Post-graduate Unit.

In the UPAO, the ability of the teaching staff is excellent. The mission could appreciate, that the co-ordinator of the Post-graduate College of the UPAO, former dean of the faculty, really took a strategic decision at the beginning by allowing all the teaching staff to be trained: some of them followed the master's programme at their university, others took short courses, master's programmes or PhDs in the Netherlands or in Salamanca (one case). As a result, the staff has become a high-level, quite united and committed team. Their ability to dialogue, to facilitate research processes and to provide advisory services has improved by being involved in projects with the municipality.

Although somewhat less explicitly, the same happened with the Faculty of Architecture of the UNSA. Before the agreement with the PEGUP, the post-graduate level did not exist. There was only a pre-graduate level.

The agreement introduced a significant change by creating the post-graduate level and at the same time creating a bridge between the university and society. This was generated in first instance through a personal relationship that made it possible later to establish an institutional link, formalised by an agreement. For the first time, architects of the UNSA acknowledged the need to study environmental and urban problems in a holistic way. Before, this was considered as something of marginal importance. Now, this has been incorporated as integral part of the academic tasks of the Faculty of Architecture.

Of course, the development of the master's programme was important. In the beginning, there was not enough teaching staff with a master's degree. The presence of PEGUP has enabled the establishment of a master's programme and a post-graduate unit, with actually enough teachers holding a master's degree. The result is a certain institutional strengthening of the Faculty of Architecture. However, the mission does not see that the UNSA took advantage of the PEGUP programme to the same level as can be seen in the UPAO of Trujillo.

The situation in the *UNI* was different: there was not so much interest in the 'soft' knowledge of urban management promoted by the PEGUP. This is how the UNI perceived the profile of the IHS teachers. They incorporated only the practical knowledge on GIS from the ITC, leaving the rest of the programme exactly as it was before. They even said that, although the Dutch teachers brought innovative instruments such as the GIS, their contribution for the master's programme and the teachers' training did not have the academic merits it should have.

The decision to work with the UPAO in Trujillo, even after intense negotiations with the IHS, was somehow pragmatic and casual, but it has been quite fruitful and has generated very positive results. It was like "a seed that grew in a fertile land".

6.2 Recognition and authority

In *Trujillo*, the teachers of the Post-graduate Unit of the UPAO feel appreciated. The Faculty and the Post-graduate Unit, with its PEGUP programme, are considered an important influence for the education/training of the professionals in urban management in the Northern region. They are also important for the reinforcement of the municipal management through studies and support in the development of advisory services programmes, studies, maps and Municipal Cadastre. The mayor told the mission: 'The PEGUP opened doors and new horizons. We took advantage of this, for example by using GIS and obtaining institutional support. There was political will, a clear and concrete objective and a technical instrument that helped us'.

The municipality of Trujillo has a high appreciation for the academic education provided by the PEGUP, due to its orientation towards Agenda 21 and its emphasis on activities (case studies) that have allowed the municipality to solve urban problems and project environmental management at new levels. Instruments such as the Municipal Cadastre and the Environmental Atlas of Trujillo (indirect product of the PEGUP), have allowed optimising the decision making, for example in reallocating people from the overpopulated risk prone areas.

In *Arequipa* the PEGUP started just at the beginning of the period of the new elected mayor, former rector of UNSA, up to January 2002. For this reason, the PEGUP Programme has been of great importance for the management of the mayor and its team. Right in that period, new views on Environmental Urban Management, on Strategic Approaches and Sustainable Development were introduced. Through the new master's programme, these views were even multiplied in other faculties of the same university. As a result of this, the university created the Institute of the Environment.

The impact was quite strong, especially regarding new knowledge development. The teachers managed to do research on subjects of local relevance. Their improved qualification for research has become a motor that uplifted the pre-graduate level programme. As a result the mere existence of the post-graduate programme enhanced improvements in the pre-graduate programme and vice versa. Having a post-graduate unit became an institutional strength indicator for other entities in the region.

Regarding its social role and function, the faculty has changed considerably. The mission could appreciate a more committed role. Before, only individual people stood out. Now, little by little, the institution itself (the Faculty of Architecture) is standing out, as a source of professionals capable of making proposals for their cities, from which the municipalities can request services and expert technical advice. The best indicator of this change is seen in the commitment that the faculty has undertaken for urban environmental problems and in the support the mayor received when asking the faculty to help in urban management tasks. The support has stopped being individualised.

Now the requests are linked to urban subjects such as ecology, water, solid waste and basic sanitary processes. Before the only contribution of the faculty was in the sphere of popular housing, which never worked out because it was not focused on the needs of the end-users. The mission saw a spectacular progress in this respect. The former rector said: 'Now there is at least one faculty in the university that is socially beneficial'.

The teachers of the Faculty of Architecture are currently publishing for the municipality and they share their knowledge widely through the master's programme both within and outside the university. The development of the Strategic Plan of the city reinforced them. Even another university, namely the Catholic University, has developed a master's programme with support of teachers of the UNSA and are also reproducing the knowledge gained. The UNSA now has the image of an academic centre for the whole region, thanks to the presence of the Dutch experts and the influence of PEGUP.

In Arequipa, professionals greatly value the use of electronic tools and they are currently asking the Post-graduate Unit of the UNSA for courses on GIS. The Unit is considering developing short courses on GIS, about risks (after the earthquake, risks has become a very popular subject), about sustainable development and about strategic planning.

In the *UNI in Lima*, the mission was told that they already had a broad social recognition, due to their relation with high governmental spheres, with embassies and political entities. As the former rector told us: 'We do not work from the bottom, we operate from the top'. PEGUP has not changed this.

In conclusion, the PEGUP programme has provided an opportunity for the generation of new knowledge. It created a mutual learning process between the teachers of the IE institutions and the teachers of the two regional universities. It allowed them to have access to new information sources in their academic activities. For example, the case studies were good as an exchange process and for systematising knowledge. This systematised experience has materialised in new methodological proposals.

6.3 Staff commitment

The *UPAO* has an excellent group of trained teachers committed to their academic work, with research linked to the community and with renewal of the knowledge base ensured. However, the number of trained staff on short-term contracts constitutes a weakness. These staff members could resign in the medium-term if they do not get

sufficient incentives. During the PEGUP, there were benefits such as status and the possibility of contacts with high level professionals from abroad or through participation in short courses in The Netherlands, in the master's programmes and/or in the thesis programmes.

Obviously, this constant contact with foreign experiences will decrease if the faculty is not able to maintain the link or to find other financial sources. According to the mission the search for new funding is crucial to keep the enthusiasm going, especially now with the idea of developing a research programme to maintain the established relation with municipalities and NGOs.

The Faculty of Architecture of the UPAO and the project itself counted on a continuation of PEGUP in a next phase (PEGUP II). The realisation that SAIL-funding would be discontinued came just a few months before the end of PEGUP. This did not give time to design an alternative strategy.

In *UNSA Arequipa*, the teaching staff has been strengthened. Twelve teachers followed a master's degree, but not all of them work for the programme and the same strength, as the team of Trujillo, is not felt.

According to the mission, also in the UNSA the remuneration of the teachers is an element of concern, since some of the teachers who have taken the master's programme in the Netherlands do not have a stable contract with the university. They have short-term annual contracts with a low remuneration. Given the abilities that these teachers have developed, they could easily accept better remunerated positions elsewhere. Like in UPAO, there seem to be no strong personal links with the UNSA. Although so far a commitment to the working team keeps them together, the mission recommends providing these staff with better labour security in order to strengthen the institutionalisation process. After all, the university already has invested a lot through the PEGUP, in the academic training and development of the staff. One graduate from the Netherlands already decided to accept a job elsewhere. As such the master's programme has been useful to increase the ability in the country, but not necessarily to strengthen the university as an institution.

On the other hand, master's programme alumni from the UNSA regretted they were not invited to give courses in the new cycles of the master's programme. They felt their new knowledge and abilities were not well appreciated.

As we have seen, the situation in the *UNI of Lima* is quite different from the regional universities, due to its character of an already established university.

Conclusion: According to the mission the secret of success of PEGUP has been to generate practical stimulus in people, coupling the academic work with concrete solutions to real environmental problems. This made people 'feel socially useful'. These people have become convinced of their capability of co-operating in teams, of being actors, creators of processes in which they benefit personally and at the same provide for social benefit. The academic work has become linked to social benefits. Without any doubt, this was only possible due to the close link with the FCPV. As such, the partners of the FCPV in each city and the FCPV as a national network have played a key role, more so than PEGUP. Moreover, for the universities, being part of the FCPV has allowed them to establish relationships, to become involved in concerted decisions within the Agenda 21 processes and to be in touch with the key actors in charge of dealing with cities' problems. The universities greatly benefited from these links, which improved their contributions, and this has defined the success of the PEGUP.

The mission understands that continuation of a PEGUP II does not seem feasible. Currently, the master's programmes are totally handled by the universities: the UPAO continues without the support for the third programme and the UNSA is starting with the next group in the second semester.

The FCPV has also had the capability of continuing working without PEGUP funding. However, it is important for the Graduate School of the UPAO and the UNSA to keep the relationship with the FCPV, to eventually be part of other experiences and other funding options.

6.4 Financial perspectives

The master's programme in *Trujillo* and its administrative management are an example to follow. Also an example is the bidding process they followed to select computers. Besides, the Master's programme in Environmental Urban Management of the UPAO has a self-financing capability, since the registration fees (USD 6,000) paid by the students are enough to cover the main activities and ensure the self-sustainability of the master's programme. The main difficulties are found in the high competition in the educational market and the economic recession, along with the cancellation of the PEGUP without preparing for its closure.

At a financial level, there is not a similar effect in the *UNSA*. The unexpected termination of the PEGUP has a strong impact on financial conditions, since the local teachers of the *UNSA* were paid with the income of the master's programme itself. Now it has to finance itself completely. Also, as of the beginning of the master's programme, the students always showed much interest in the foreign teachers ('the Dutch experts with their blond hair and blue eyes'), so after the sudden termination it was feared they might lose interest. Twenty-five students had registered for the period 2001-2002 (which is the economic break-even amount). Nevertheless, thirty participants have signed up for the cycle 2003-2004. This demonstrates a sustained interest in the topic. This in spite of the economical situation, which strongly affects other courses in the university, where few students (some 12 people, and others with 4 or 5) are signing up.

The economic recession has a negative impact on all the post-graduate programmes that are self-financed. This generates cash flow problems both for payment of salaries and for the execution of the projects. In order to avoid this imbalance, the Post-graduate Unit of the *UNSA* has used its own resources. The *UNSA* itself does not financially support the Post-graduate Unit; on the contrary, it receives a percentage of the incomes.

The mission noted that in marketing the Master's Programme, the Post-graduate Unit of the *UNSA* is no longer using the image of the international relationship and the PEGUP that were used in the previous brochures and posters. Before, they mentioned names of teachers of the IHS and the ITC. However, now in the third cycle brochure, there is no mentioning of names of teachers.

Maybe, according to the director of the Post-graduate Unit, it would be good to again obtain help from foreign teachers through a support agreement with the universities to continue with the contact and co-operation of the FCPV. In this context, the *UNSA* has addressed a letter to the embassy stating the interest of continuing with this kind of agreements with the Netherlands.

Regarding the institutional strengthening, PEGUP's example has not been the most flexible one. According to the co-ordinator of the Post-graduate College of the UPAO: 'The leader of the PEGUP already planned the missions and the schedules of the teachers from the IHS and the ITC. There was no flexibility whatsoever during the implementation of the programme. Only during their stay of the Dutch teachers in the country, time for other things could be settled'. This depended a lot on the creativity of the co-ordinator and the Secretariat of the PEGUP.

Nor was the budget, after it was agreed upon, under the 'control' of the universities. According to the mission, the fact that the universities did not participate in the decisions regarding the budget was a sign of distancing that could have been a cause of rupture. Definitely, the leader of the PEGUP could have used the development of the budget in a more positive way oriented towards 'institutional strengthening', even more in a situation in which the practical classes with the municipality were oriented to the need of participative municipal budgets. As the mission already mentioned, this contradiction between what was promised and was actually done, was an element of strong distancing and indisposition from the UPAO and the UNSA.

As the mission already confirmed, contradictorily, there were no similar mechanisms in the programme as those that were taught on participative municipal budget. This caused multiple problems in different fields: with resources, liquidity, items that were not planned (such as for example publications and South-South relations).

When the Master's programme was launched it was introduced as an international programme, with foreign staff. At the end of the project, the master's programme of the UPAO promotes itself as part of the agreement with ITC and IHS. This shows us the ability of using the platform generated in this agreement. In the UPAO, the master's programme is projected as a continuity, which guarantees its sustainability. The mission considers this as a better marketing strategy.

As such, the impact of PEGUP's sudden termination has been very strong. There was no post-project policy. Even some teachers thought that there was no continuation of the master's programme.

6.5 Organisational/institutional strengthening

UNSA: In the first part of the PEGUP, there were not enough teachers with a master's degree. The Dean of the Faculty of Architecture then managed the project. Later, in 2000, the Post-graduate Unit was established, when there were more teachers with a master's degree. It has its own space in the Faculty of Architecture, although small, with a director, a co-ordinator and a secretary. The mission sees this as a great achievement for the PEGUP.

Now, it is common within the university to talk about environmental management, Agenda 21. Before, all these subjects appeared to be esoteric for the University authorities. The actual Dean is very supportive because he finds the subjects important and even the students are better educated because the teachers have incorporated these subjects into their undergraduate classes. In spite of these advances, the mission sees the need for better co-ordination between the master's and undergraduate programmes in order to increase the dissemination of such knowledge. This can also be stimulated through short courses, the use of computer equipment and library, and by creating a critical group among the first-graduate students who want to continue in the master's programme.

Nevertheless, the University has not consolidated its institutional strength so as to capitalise on these achievements. Bureaucratic procedures in the public universities still do not allow a fast internal development and a good functioning. Another thing that weakens the Post-graduate Unit in Arequipa is the 'cold war' among the different post-graduates of the university ('professional jealousy'): there is no clarity about which teachers belong to the faculty and who are part of the Post-graduate Unit. During its development, there was always tension between the former Dean of the faculty and the Unit regarding the budget administration and the information flow with PEGUP.

In the SWOT analysis students point at the weaknesses they still can observe in the Unit (see appendix 5).

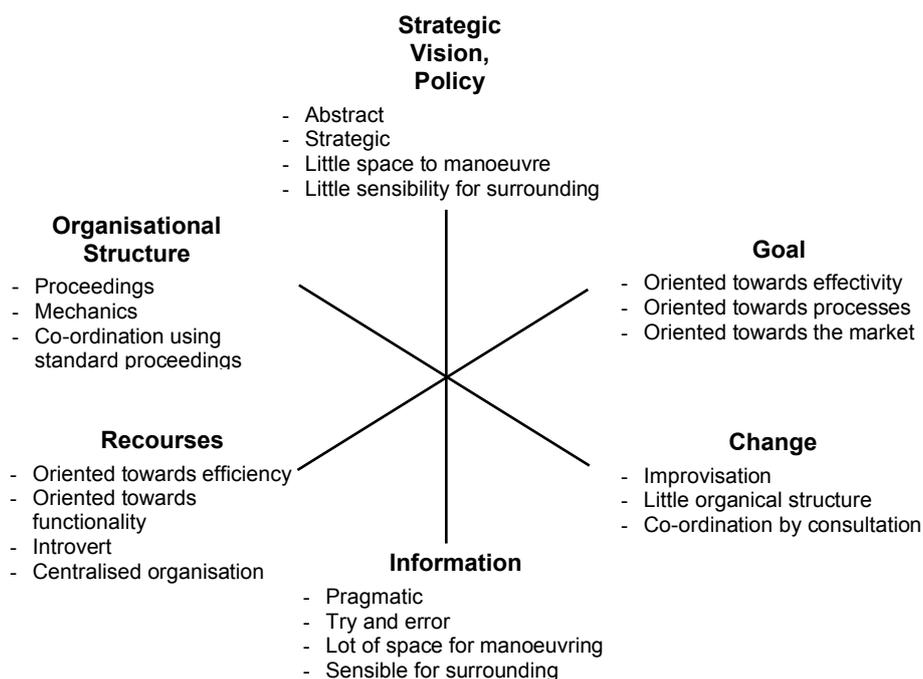
Unable to capitalise on the appreciation by the municipality for the scientific-technical support provided, the Post-graduate Unit was not strengthened as an institution. In publications, the UNSA logo is not even shown as a participating entity, although those of the NGO, the FCPV, the PEGUP and the municipality are there. The mission noted with regret that even the Environmental Atlas for Arequipa, which was elaborated as a case study by the university and which is highly appreciated by the municipality, was not seized upon by the Unit for institutional strengthening and PR.

Still pending is the incorporation of a bigger number of teachers in training. There is a huge social need with many problems that continue to require research. The advances achieved within the university could become seriously weakened due to the termination of the PEGUP agreement. Moreover, if the support does not continue, it would probably be wasted.

In this sense, the mission acknowledges a more solid development in the *UPAO of Trujillo* where important advances in the establishment of the administrative management can be seen. This seems strong enough to be able to continue the programme, even without the institutional co-operation from PEGUP. There is sufficient logistic capacity for the proper selection of staff, the management of the master's programme and the evaluation of teachers, the selection of didactic material and the selection process of future students. The Faculty of Architecture of the UPAO has also developed a negotiation capacity towards the university authorities, which shows their accumulated prestige and the ability of being leaders in the implementation of an international master's programme. This makes the planning of their future development possible. Nevertheless, the mission feels that the local team has not yet sufficiently internalised the new post-PEGUP situation.

6.5.1 Analysis of the organisational processes

We present the analysis of the organisational processes based on the following diagram. This allowed us to see how the organisational development of the FCPV with PEGUP has evolved in each one of the counterpart universities of the project.

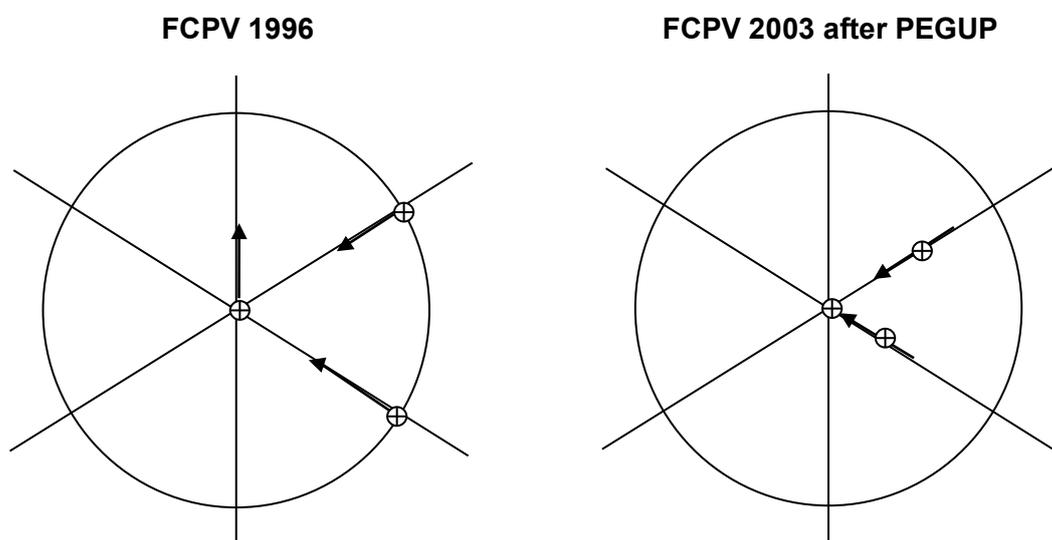


6.5.2 Evolution of the FCPV with the presence of the PEGUP

Before the presence of PEGUP, the FCPV was more a movement than an organisation. Its organisational structure has evolved and strengthened step by step. This was required because of the complexity of the inter-institutional relations, since formally associating in a new legal association a total of 38 institutions (municipalities, universities, NGOs and business associations) has not been an easy task. The PEGUP's project has influenced the internal organisation of the FCPV. The relations with the Dutch institutions in some moments strengthened the duty of the FCPV and in other moments confronted and weakened it, but finally the balance of this relation was extremely positive.

The co-ordination of the FCPV was based on consultations with their associates in horizontal practical workshops and concerted decisions, taking into account the needs presented by the associates. One FCPV activist tells us: 'it was a time where everything was discussed and the decisions were taken in the workshops. When we proposed to develop the master's programmes in the regions, we did so.'

The FCPV had a strong mission to turn the cities into promoters and negotiators of Agendas 21, gathering the successful practices in order to replicate them in other places. In that sense, its organisation was not centralised enough.

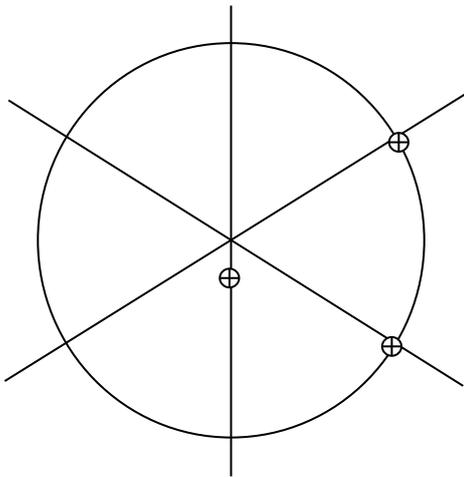


However, with the presence of the PEGUP and thanks to a favourable political context and other relations developed by the FCPV (with institutions such as: REDAL 21, ICLEI, GTZ, US AID, United Nations, Habitat, DED and In went with the project Coastman), by the year 2002, important changes have occurred. It has become a more structured organisation. Its operating centre is in Lima, it has become formalised as an institution and developed its structure of regional and thematic Forums with the National Board as decision-making entity. It has had the capability of advancing in its vision using the resources of the PEGUP in a creative way. The tension between Vision and Information is still present. The interesting thing is that at the same time, even with the formalisation of its organic structure and legal formalisation, it still bases its decisions on the consultations held with its associates in a decentralised structure. It has further developed its long-term vision, reducing its pragmatism. Also its associates have evolved. The NGO Natura, for example, that was the co-ordinator in the FCPV-North also took advantage of the benefits from the PEGUP, by developing the abilities of two of its graduated professionals of the UPAO. This allowed prestige and new funding.

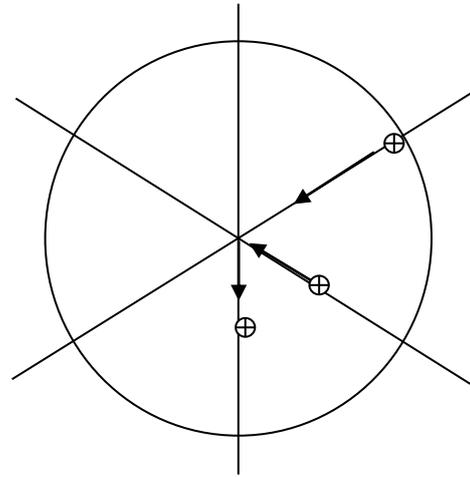
6.5.3 Organisational evolution in the UPAO

Before the implementation of the PEGUP there was no Post-graduate Unit. There was quite a developed idea about the importance of this kind of programme. This explains why the project was easily installed. The authorities accepted the initiative and implemented it. There was no supportive organisational structure. However, this was developed during the development of the project. By the year 2003, it can be observed that this structure has been established. The polarity is moving forward towards a greater structuring of the master's programme. On the other hand, the initial vision has become more pragmatically and more sensible to the needs of the market. The initiatives towards more creative offers of modular courses integrated into a future master's programme, and the incorporation of the thesis within the third module of the master's programme, are good examples.

UPAO 1997 with out Post Grade Programme



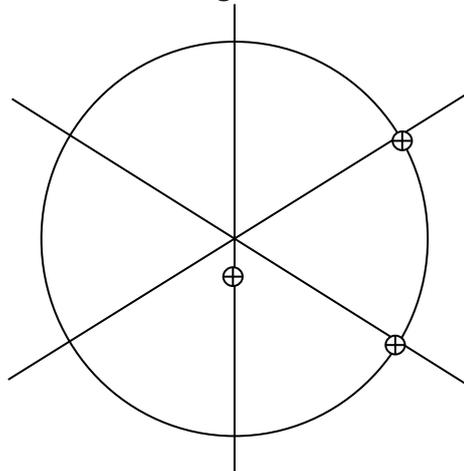
UPAO 2003



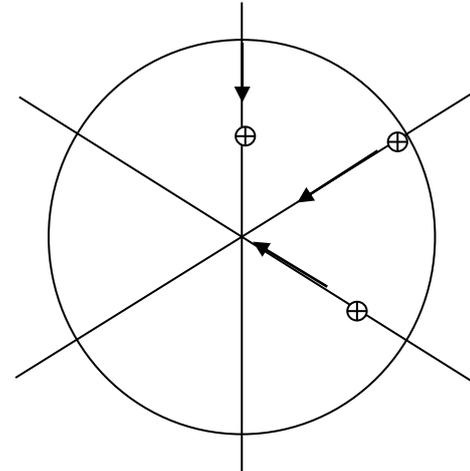
6.5.4 Organisational evolution of the UNSA

By 1997 the UNSA did not have a Post-graduate Unit in the Faculty of Architecture, either. The participation of the PEGUP speeded up this process, since there were several non-structured initiatives to develop a master's programme in Environmental Urban Management.

UNSA 1997 with out Post grade Programme



UNSA 2003

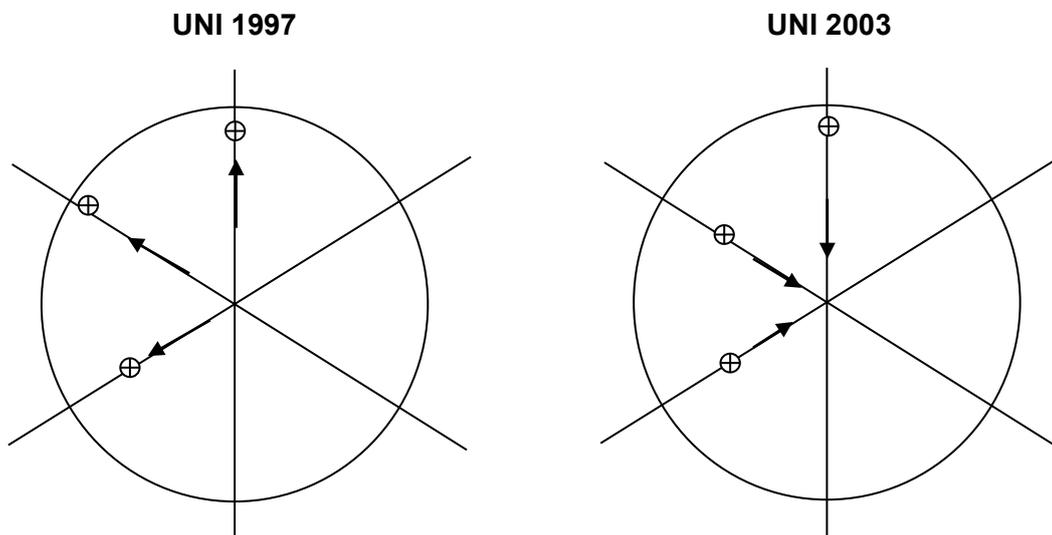


One of the polarities in which the PEGUP has influenced the least is in resources versus goals. The same problems of a centralised organisation, which focussed just on the compliance of its role, arose in the master's programme, even though the Post-graduate Unit was established. The university did not take the necessary advantage of the dynamism that was generated with the PEGUP. Other institutions, like NGO Labor, did so, and they were able to obtain new funding.

6.5.5 Organisational evolution of the UNI

There is no noticeable influence of the PEGUP in the UNI regarding its institutional development. In 1997, the project found a university very oriented towards the resources, with a solid tradition and role vision, and quite resistant to the changes.

In 2003 the mission found still a similar situation, but with some changes that are worth to be highlighted. The Post-Graduate College is oriented towards the goal and its main purpose is to offer products that satisfy the needs of the market. As of the master's programme, they have developed second specialisation courses. Likewise, the PEGUP has influenced a little in the change of the curricular structure of the master's programme.



6.6 Conclusion

For this kind of programmes not only a financial counterpart support should be considered but also an academic one. Some minimal requirements should be required of the academic qualifications of the counterpart institution. Based on this, the goals to be achieved with the implementation of the programme could be developed. It should become an incentive to send the best teachers abroad to be trained. In Arequipa, in the absence of such a requirement, some training scholarships have been wasted.

In general, the sustainability of this kind of programmes is quite difficult to predict because the public universities undergo several unexpected situations, which are difficult to administer. These can cause serious problems for the management of master's programmes. This was one of the difficulties that the PEGUP had to deal with. However, even in this difficult context, some important results have been achieved. The continuity of the Post-graduate Unit requires a flexible programming that is adapted to the context.

Consolidating the advances in institutional strengthening of the university will depend on the relationships between the elected authorities and the teaching staff and students. This may allow going from personal accumulation to strengthening the institution. Imposition does not work.

The PEGUP projected its sustainability on the basis of:

- Qualified human resources (through both teachers' training and practices, jointly with a Dutch counterpart teacher).
- Insertion of the programme into the local dynamics. Links were achieved thanks to the local partner: FCPV and other international institutions, which were part of the FCPV network.

In the Post-graduate College of the *UPAO*, the institutional part has evolved in a progressive way during the last years and leaves the mission with a positive impression for the near future. There are important advances in administrative management. The College has the capability of self-financing, has developed negotiation ability with the university authorities and includes a group of motivated and committed teachers. There is a weakness in the trained staff on a contract base, which is not part of the permanent teaching staff yet, due to the labour instability. Furthermore, the master's programme of the *UPAO*, due to the case studies and the training received, has created interest in research among the teaching staff. Its development will depend on the future decisions of the faculty and the university. For a future research programme to be successful, the mission stresses attention for the following points:

- Changes in the academic load currently handled by the teachers, freeing some time for research;
- Funding for research programmes;
- Continuation of the links with the community in order to guarantee the relevance of the products, and;
- A university policy promoting advisory services by the faculty.

According to the mission, the *UNSA* still requires a more solid structure and institutionalisation. Although there is a Post-graduate Unit, its institutional strength is not felt and its teaching staff is not consolidated.

The *UNI* has its own direction, which is unknown to the mission.

In the PEGUP, there was a lack of additional mechanisms for:

- Renewal of knowledge;
- Renewal of equipment, guaranteeing the continuity of the computer centre, turning this into a necessity for the university;
- Financial sustainability of PEGUP's Secretariat, which is currently in the office of the FCPV. It is an illusion to think that the involved universities will pay for its maintenance. Without renewed funding from another donor, this will become quite difficult.

7. THE OBJECTIVE HIERARCHY FURTHER REVIEWED

7.1 Relevance of programme in relation to national development objectives

- Management towards the market -

Between 1997 and 1999, the market for this kind of master's programme showed an important growth. Currently it is quite down, due to the economical recession. However, the programme has potentiality also in future due to the new legal framework: the regionalisation and the revaluation of planning, as a tool, will open the market for specialists in environmental management and planning.

The master's programmes have developed initiatives for the captivation of students. The UNI has an agreement with the Peruvian Institute of Urbanism. The UNI gives courses but does not have big demand yet. The UPAO used the space of conferences, which are open to the public, for advertising the master's programme. There they also disseminate interesting subjects and promote community awareness. They also use mechanisms such as the continued studies system, where the students can take some courses and then revalidate them within the master's degree programme. For this, the students are in need of a bachelor's degree. They also facilitated the access to the library with a symbolic registration fee for other students.

For the subject of Environmental Management is a potential market. However, the social recognition is still weak. This problem is felt most in Lima. The UNI informed us that during the year 2003 there were only 9 registered students for the new master's programme, which does not cover their costs. People from Trujillo and Arequipa consider that there is a regional market to cover, because professionals of Lima are currently covering this demand.

The market of professionals with specialisation in environmental management will increase, probably in three or four years. The new programmes require specialists in specific aspects of the environmental management: environmental quality (air, water, earth); sustainable development of biodiversity; handling of environmental management instruments; abilities to apply and comply with environmental regulations; analysis of causes of management and negotiation problems.

There is a time lack between the political will translated in laws and regulations and the current reality of the labour market. Still many jobs are in the hands of people without the proper profession to implement these laws and regulations. There is no adequate entry point and remuneration for trained people yet. This is the reason for insufficient demand for local or foreign training. In spite of this situation, the people interviewed agreed on the statement: There is enough space for two master's programmes on Urban Environmental Management in the northern and southern part of the country. The Executive Secretariat informed us that UPAO and UNSA just closed their registrations for the fourth and third master's programme, respectively, with more than 30 students each.

The market is just one of looking at relevance for national development objectives. Probably a more important indicator is the relevance the programme has born for urban development objectives in the country. This is further highlighted in the next subchapter.

7.2 Relevance in relation to Netherlands development policy objectives

In this section, an overall analysis of the PEGUP as a whole is presented, regarding the core objective of Dutch development co-operation: sustainable poverty reduction. The mission wants to highlight that the foundation for the valuation of the programme against the Dutch development policies can be found in the analysis made in previous chapters. The contributions of the PEGUP should be understood in relative terms and not in exclusive ones, because they were jointly developed with the FCPV, which, based on its triangular organisation, has strongly influenced the aspect of relevance.

7.2.1 Relevance for poverty reduction

The contributions to poverty reduction are not immediate, but more in the medium or long term. By promoting a development culture, revaluing planning and a more efficient and effective public and private management, the FCPV was trying to create better conditions for development in order to generate lasting economical growth. At the same time it tried to harmonise growth with a fair social development and care of the environment.

The promotion of environmental urban management and the elaboration of instruments, such as the environmental agendas, the environmental atlas and Municipal Cadastre, aim to develop cities with higher levels of habitability and competitiveness. These factors are a foundation for poverty reduction by means of fairly distributed economic development. This is different from relief programmes, which are currently failing systematically.

The training of specialists in environmental urban management is another contribution to poverty reduction, since qualified human resources or human capital is a determining factor for development. An increase in abilities of professionals determines more efficient public management, better participation and consultation of the population, better design of policies and regulations, more efficient surveillance methods, follow-up and monitoring, evaluation and feedback of the processes. Moreover, without the involvement and empowerment of the beneficiaries efforts to reduce poverty have shown to have little effect.

7.2.2 Relevance for environmental protection

The main contribution relates to the nature of PEGUP: a focus on capacity building for improved environmental management from the perspective of sustainability.

More specifically in *Trujillo*, the support in the development of the case study on Municipal Cadastre generated an important multiplying effect. Through this study the municipality became modernised. According to the mayor: 'It was a wish from the municipality that we were trying to make real since 1980. Thanks to the PEGUP and political will of the municipality it became possible. This brought us new ideas and technology. Now we have around 70% of our territory registered and in December we will get to 100%. The Municipal Cadastre is an instrument that allows the municipality to become economically more sustainable. The tax income has improved because the system allows selective inspection and legal security'.

The municipality took advantage of the moment and then established bilateral relations with the ITC in order to develop the Environmental Atlas. 'This has become a substantial tool of environmental information for the city. It allows us to generate reliable data before making decisions. For example, the findings stated in the Atlas have allowed us to take concrete action on planning and land occupancy, and to make an agenda based on local needs. Being able to use these tools has increased the leadership of the municipality and its ability for co-ordinating joint action', according to

the current mayor of Trujillo. The Atlas of Trujillo is also useful as an information system of the city. The municipality is interested in disseminating it in schools and has established an agreement with the Ministry of Education named: 'Learning to know the environment where I live'.

In *Arequipa*, the multiplying process was even more outstanding after the development of the Environmental Management Plan, which resulted on practical action on a number of environmental problems.

The financial support of PEGUP allowed them to obtain adequate advisory services that filled the existent gap in the training of officers in facilitation of processes, as well as in the organisation of workshops from NGOs. The technical equipment of the laboratories allowed the development of the 'Plan Director' in Arequipa. At the beginning, there were not even statistics in Arequipa and the teachers had to help with classified information.

The PEGUP facilitated the exchange with international successful experiences. It is worth to highlight the visit of Rualdo Menegat, Brazilian from Porto Alegre, who shared information about the participative budget and the environmental Atlas. The presence of the PEGUP also allowed the rediscovery of planning as an instrument, the one that had been depreciated as a consequence of the deactivation of the National Institute of Planning. According to the executive secretary 'the lack of resources in Arequipa is more evident than in Trujillo, and this has clearly differentiated both universities'. A result of all this has been that in 1999 the Agenda 21 of the City of Arequipa received an award at national level as the best experience of environmental management. The mission wants to emphasise that, without any doubt, the triangulation of the FCPV made all this possible.

7.2.3 Relevance for other priorities of Dutch co-operation

- Governmental Capacity -

In the view of the mission, PEGUP has contributed considerably to create conditions for improvement of the governmental capacity '(...) incorporating, in the academic and extra-academic activities, basic principles of a democratic culture. That made it possible for public entities (Government) and social organisations (Civil Society) to accept each other as necessary actors with shared responsibilities in the development process', according to a board member of the FCPV.

In this way, not only the principles and values are reinforced, but also it motivates the attitude change of people and institutions in a perspective in which the development is seen as a collective right for everybody, but at the same time, as a duty. This is a public-private co-responsibility, making the relationships between the government and the civil society more stable and governable, but also more effective in the pro-development participation. PEGUP (and of course FCPV) made an important contribution to the development of several Agenda's 21 processes that among many other things look for an increase of the capacity of local government in cities.

The Agenda 21 in Trujillo

In July 1998, the execution of the Municipal Cadastre of Trujillo was approved by the PEGUP-UPAO as one of the 3 case studies to be developed in the northern part of the country. This meant as institutional strengthening of the provincial municipality of Trujillo. The PEGUP-UPAO gave great importance to the Municipal Cadastre of the city of Trujillo and facilitated its implementation helping in the development of a working methodology, providing permanent specialised consultancies through the ITC, promoting new agreements, disseminating experience and sponsoring of the project's elaboration. The case study recounts the achievements by the municipality both in the use of the GIS and the coding system, as well as its applications for financial and urban planning purposes.

Since 1998, the Provincial Municipality of Trujillo and the group of Public and Private Institutions of the locality have been promoting a continuous and participative process of planning and management. Through the creation of alliances between the local authorities and the organised civil society planning is focussing on elaborating policies and promoting actions towards the Sustainable and Integrated Development of Trujillo and its area of influence, under a process called Agenda 21 of Trujillo.

There is a referential guide 'Vision on Strategic Development of Trujillo by the year 2015' and the Strategic Goals are formulated. These goals are: improvement of the Local and Regional Governmental Capacity, Fair Social Development, Environmentally Sustainable City, Sustainable Economical Development and Growth, and Sustainable Territorial Development. Based on this material duly identified projects and programmes are being promoted.

Up to date, different topics have been developed, such as: Management and Development Plan of the Historic Centre, Action Plan of the Children of Trujillo, Networks of Neighbour Boards, School Municipalities and Mothers' Associations, Local District and Urban Regulation Development Plans, Provincial Territorial Preparation Plan, Action Plan for the Protection and Preservation of the Moche Valley and the Plan for the Prevention and Mitigation of Disasters, Metropolitan Information System of Trujillo, and the Urban Land Registry Information System.

The data of the Metropolitan Information System of Trujillo (SIMTRU) with GIS technology has been identified as one of the priority actions of the Strategic Plan of Trujillo, within its strategical goal of 'Regional and Local Governmental Capacity Improvement'. The Pilot Project of Municipal Cadastre Information System of Trujillo is part of it, which has as main purpose to create an important tool for the Public and Private Institutions interested in the territorial, environmental and business planning and management of the city.

See: 'Sistema de información Catastral Urbana Trujillo', 2001

The FCPV has accompanied this process very closely and has fed it. The PEGUP provided the space to systematise these experiences and turn them into regulatory proposals for decentralisation.

Among the instruments that have been developed and that have been included in the national legislation and regulations are: concerted development plans, participative budgets, spaces for consultation, rendering of accounts, community surveillance in the Law of Decentralisation Rules (Law No 27680), the Organic Law of the Regional Governments (Law 27867) and the recently promulgated Organic Law of Municipalities. 'The laws have been fed with concrete practices and experiences, and are therefore more effective', according to a congressman, former mayor of Ilo.

- Women and development -

Another element of environmental urban management is the problematic of the shantytowns, spontaneous housing constructions against urban development in an organised way. This also looks at access to potable water and roads, avoiding invasions, conversion of productive lands and residential use of risk prone areas. It is worth to mention the role that women fulfil in the local development, trying to look for development strategies in order to improve quality of life of its community. Especially in this aspect environmental urban management has been very successful.

7.2.4 Conclusions on relevance

As the mission could clearly see the PEGUP has developed in a favourable context both in Trujillo and Arequipa, which made it possible to achieve considerable progress on local environmental management, on strengthening the existing relationships and multiplying them (in the case of Trujillo) or making them more dynamic for local environmental management (in the case of Arequipa). In Arequipa, the rector who signed the agreement was just afterwards elected as mayor of the city with a 70% of the votes. One of the initiators of the master's programme was elected environmental councilwoman of the Municipality. The opening of the master's programme coincided

with the presence of the new municipal government. In this context, the encounter between new knowledge and technological resources provided by the PEGUP and the needs of the municipality was produced. The environmental problems were attended to with support of the master's programme students who participated in studies that were required by the local management. Thus, the project 'sowed a seed in a fertile land'. Without the PEGUP, it would not have been possible to expand on this favourable context.

The master's programme with subjects related to environmental urban management allowed an interesting development of a multitude of activities in the municipalities. It also supported the implementation of Agenda 21 processes with the participation of the community and especially of women. The subjects of the master's programme thesis are linked to the social problems of the region. This allowed feedback on processes and social problems towards the university and attempting to solve real environmental problems.

This was not the case in Lima, with a very different context and needs. The contribution here was much more reduced. The mission has learned from this experience the importance of developing such kind of programmes in contexts, where there are favourable conditions, which help to consolidate and multiply processes. Locating the university face to face to reality is a long-term process.

Therefore, according to the mission, the first phase of the PEGUP shows quite a high level of relevance. This relevance has been maintained throughout the course of the programme. However, in a future second phase, it should have to adapt to the new demands of territorial environmental management, both rural and urban.

7.3 Final conclusions

1. The PEGUP was an extremely innovative programme due to its clear social relevance and the "triangulation" of the academic actors, local authorities and civil society. It is an important contribution to the university-society liaison.
2. The methodology of "triangulation" rehearsed in the FCPV and validated in this project allowed for a substantially dynamic offer of services. This was due to the combination of academic and extra-curricular activities, which made it possible to create multiple links. In this process, there was a mutual learning between the IE's and the local partners. It is clear that the participation of the Forum Cities for Life (FCPV) provided a positive and substantial contribution to those achievements.
3. There were special and highly motivating conditions both in Arequipa and Trujillo. In both cities, local actors supported a fast implementation and continuity of the process.
4. The case studies played an important role to engage the university with the community. This allowed the university institutes to gain some prestige. However, the case studies were not sufficiently used to strengthen the universities institutionally.
5. The degree of development of the post-graduate programmes and the organisational culture of the three universities were quite different. However, the intervention strategy, as well as the products offered, was the same. Maybe, the UNI needed only part of the programme.
6. The PEGUP programme, designed for 8 years, was only financed during its first 4-year phase, creating false expectations and frustrations.

7. A weakness of the project was the lack of transparency of its management. The local counterparts had very little possibilities to influence any changes. This situation got worse after the termination of the project and the re-assignment of budgets without the knowledge of the local counterparts.
8. The design of the PEGUP should have considered a wider range for adapting the services offered during its execution (diversified strategy). Due to the size of the project, it was not appropriate to define all budget allocations at the design stage. The allocations should have depended on the relation with each university and the requirements needed.
9. The local partners did not have enough room for negotiation during the implementation of the PEGUP. Only in the case of the UNI were some changes to the offered services made, but this was not enough to maintain the relationship.
10. According to the project design, the universities should have financed the executive secretariat of the PEGUP in order to make this function economically sustainable. This never materialised. However, in a certain way a "decentralised secretariat" has worked in practice, where each university put their goods and services within the realm of the programme. This allowed for more horizontal dialogue and sharing of some decisions. This was not appreciated and adopted by the PEGUP. A sustainable strategy for the executive secretariat was not developed, because the master's programmes did not generate resources.

8. PERSPECTIVES FOR THE FUTURE

8.1 Recommendations

1. It is absolutely necessary to consolidate this institutional strengthening process through a new agreement, promoting a programme that addresses the diversity of problems and abilities that have been discovered. This programme should be flexible enough to allow: 1) the co-operation and the inter-disciplinary handling of the problems. This means that the participation of specialists of different academic areas should be guaranteed; giving priority to the concrete environmental problems encountered, in order to satisfy the academic objectives as well as the society development ones. A common concern is the management to recover the environment and strengthen the emissions' control programmes.
2. It is important to finance follow-up activities to consolidate the first phase process of the PEGUP. There is a great number of manuals and other papers of the PEGUP that are awaiting publication and wider distribution in Peru and abroad. The FCPV should make use of the remaining funds of the PEGUP to launch these publications as the last activity of the PEGUP. The remaining funds are administered by the IHS (Department of Environmental Urban Management) and are being assigned by the IHS to finish the PhDs, for new scholarships and/or 'refresher' courses, for which there is not enough demand, according to the former leader of the PEGUP. SAIL should authorise the FCPV to use these funds for publications and dissemination.
3. In the selection process of partner institutions and universities, an analysis of the specific context of each one of them should be considered, in order to develop the intervention strategy as well as the offer of services based on the needs of each institution. One of the key criteria for the assessment should be the firm belief that the counterpart will comply with their commitments.
4. A flexible offer of services from the IE's in accordance with the needs of the universities and the participating institutions can be much more useful and beneficial for the local counterpart.
5. The management of this type of projects should consider management structures among colleagues between the IE's and the local partners. This should preferably not require the repatriation of foreign staff. A jointly implemented co-operation programme may strengthen other dynamics.
6. A programme with the dimension of the PEGUP should include a budget to evaluate its progress at a medium-term period and to audit its financial administration each year. This is important to allow for the necessary adjustments and to adequately inform each and every one involved in the programme about changes.
7. A future programme should take into account a budget for publications, South-South exchanges, scholarships for master's degree theses. The budget changes should be duly verified with the local partners in an open dialogue, avoiding situations such as the unilateral termination of PhD scholarships and other contributions.

8. For a future project, a real decentralised executive secretariat's office should be established, in which the decisions are the outcome of horizontal dialogue. This may enhance sustainability at a medium-term period.

8.2 Perspectives for the future

The PEGUP programme, set up for two phases in 8 years, was discontinued after finishing the first phase due to the cancellation of the SAIL (political changes). The Netherlands embassy feels no responsibility for the continuity of this programme since it was never of their competence.

The programme has launched a concerted process that has had the active participation of the community. A lot of trust and expectations have been raised. The experience has progressed significantly. Therefore, it is necessary to recreate it and specially to continue it, because its termination would generate very serious consequences.

The NUFFIC (Dutch organisation that co-ordinates the new programme on higher education) is carrying out a diagnostic process in Peru with the help of the embassy. The purpose is to define profiles and priorities for its new post-secondary environmental training-education programme in Peru. This should result in the strengthening of Peruvian institutions. This new NUFFIC programme should complement the thematic-bilateral programme based on the sub-sectors: Climatic Change, Forests and Biodiversity, and Management of Water in Valleys. These issues were prioritised late 2000/early 2001, leaving aside the urban issue. As of NUFFIC's diagnostic, the country has to define its specific demands. Based on this proposal, the Netherlands will invite bids in which not only universities will be able to participate but also other training and/or consultancy centres.

This new process is not supposed to finance a PEGUP II, according to the officer in charge of Peru at NUFFIC. The efforts invested in a programme such as the PEGUP will stop half way due to political changes. Unfortunately this will discontinue a very interesting programme.

8.3 Search for new funds

Within the Dutch development co-operation there appear to be no perspectives for the future funding of a second phase of the PEGUP. The only option available is a change of direction. This consists of presenting an environmental management programme for funding, based on the experience of the PEGUP, but widening its scope so as to integrate the urban question in a broader proposal. This programme should be developed within the priorities of the bilateral programme. In this context, there are also possibilities for tailor-made courses, and update courses ('refresher courses'). The bidding process means that in the Netherlands all participating institutions have the same possibilities of winning. So not necessarily will the IHS or the ITC win this bid.

According to the Netherlands Embassy in Lima, the projects considered in other countries are quite diverse and have allowed the presentation of proposals not only from universities and higher education institutes, but also from NGOs. So, a new higher education programme could be developed in partnership between the FCPV and other existing initiatives in environmental management. This programme should include the rural and the urban, with specialisations or mentions in priority areas of the Dutch development co-operation: water management, energetic efficiency, climatic change, biodiversity and territorial settlement (urban-rural).

The consortium partnership could be established between universities that are part of the FCPV, or between the FCPV and other NGOs. In the later stage universities can be integrated that are part of the FCPV. This programme can combine a very flexible offer on education: tailor-made courses, modules integrated into a main specialisation programme, like a master's programme or academic degree. It could include activities in Peru and the Netherlands. In order to guarantee the quality of the academic offer, specific agreements with the IE's regarding quality control can be established.

The future demand of the labour market for environmental management graduates will require the combination of general education with an additional relevant specialisation. Subjects could be: Environmental Quality (water, air, land), Territorial Environmental Ordering, Integrated Administration of Coastal Areas, Risks' Management, Sustainable Development of Biodiversity, Administration and Implementation of environmental management instruments applicable to the private and public management, and Management of Environmental Conflicts.

A new programme like the PEGUP should take into account, as of its formulation, mechanisms to integrate specific plans to promote the research role that the university is supposed to develop.



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