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**Counterpart Arrangement**

**India NCPC and DTI International**

**Progress Report IV and**

**Final Report**

**December 1998**

UNIDO Contract 95/295 Project EP/GLO/95/0C2

## **0. Introduction**

This progress report and final report contains the activities carried out under the counterpart arrangement in 1998 under the activities:

1. Assessment of the Impact of the Project DESIRE
2. Evaluation of the sustainability of India NCPC
3. Specification of the support from DTI to India NCPC

### **1. Assessment of the Impact of the Project DESIRE**

During 1998, Aries Environmental Innovation and IWAM Environmental Research completed the assessment of the DESIRE project. This evaluation was a part of the overall evaluation of India NCPC activities.

The assessment followed the work proposal developed by NCPC and IVAM in July 1997. (See attachment 1 to this report)

In spring 1998, Mr Marcel Crul of Aries Environmental Innovation visited India NCPC and carried out the first surveys and interviews with NCPC staff and enterprises participating in the DESIRE project.

India NCPC collected additional information during the summer and in autumn 1998, Mr Rene Van Berkel from IVAM Environmental Research compiled all information and completed the assessment.

The DESIRE project was completed in 1995 and reported to UNIDO as a very satisfactory project. The main result of the project was reported through brochures, manuals, videos and enterprise specific demonstration projects. The assessment carried out in 1998, should evaluate the real success of these activities seen in combination with the greater effort of India NCPC in the awareness raising and capacity building on cleaner production/waste minimisation.

The assessment had four main objectives:

1. What is the long term impact of project DESIRE on SSI's in India
2. What policy changes supportive of Waste Minimisation have been implemented and what have they achieved
3. How has the capacity developed and sustained as a result of the project
4. Which lessons can be learned from project DESIRE for future Waste Minimisation/Cleaner Production demonstration projects.

The overall result of the assessment is that India NCPC has been very successful in their awareness raising activities, and their enterprise assessment and demonstration project work. India NCPC has supported the technical know-how capacity building in consultant institutions and at the enterprise level. The internal capacity of the NCPC and NPC has developed during the last five years, and is now at a high and satisfactory level.

The DESIRE project has still a great impact on the involvement of SSI's in new cleaner production activities in India. The concept and instruments developed in DESIRE are used in other demonstration projects.

India NCPC has also been successful in the follow up activities with the enterprises of the DESIRE project. By involving the enterprise managers in new activities most of the implemented changes of the DESIRE project has been sustained and in some cases improved.

The lesson learnt has been included in the newly developed business plan of the NCPC issued in March 1998.

The policy development in India could be of a more supportive character for cleaner production. The DESIRE project did have some impact on policy development, but the real benefit is very difficult to monitor. The policy development perspective is an important part of the new business plan of India NCPC.

## **2. Evaluation of the sustainability of India NCPC**

The National Cleaner Production Centre, India was established in 1995. The Centre is sponsored by United Nations Industrial Development Organisation (UNIDO) and United Nations Environment Programme (UNEP) and hosted by the National Productivity Council (NPC). The activities of the Centre are guided by an Advisory Committee composed of members drawn from Ministry of Environment and Forests, Ministry of Industry, Central Pollution Control Board and Confederation of Indian Industries. The Director General of NPC chairs the advisory board.

### *The People*

The Centre has 2 full time professional staff and 2 full time support staff. In addition, the Centre draws and depends heavily on the professional manpower available with the Environment Division of the host institution. It is also dependent on the host institution for laboratory and analytical facilities. Since the conduction of a number of Intensive Training Programmes on Cleaner Production Assessment, the Centre has also been able to develop effective CP consultants both in the Private and Public Sector. This trained manpower is also becoming a source of strength to the Centre. The recently launched Karnataka Cleaner Production Centre is also fast emerging as a strong arm of the Centre in the Southern region.

### *Services Offered*

Keeping in view the above goals, the Centre has developed a wide range of services. The main activities of the Centre are:

- i) Awareness Creation: The Centre conducts a large number of Awareness Workshops both on its own as well as through other organisations. It also propagates the concept for Cleaner Production through print media and publication of booklets.
- ii) Training: The Centre has developed different training packages to suit different requirements; starting from one day Basic Appreciation Training for Managers and Entrepreneurs to one week Intensive Training for Professionals. It also provides training to the trainers who could then conduct training programmes on their own.

iii) Demonstration Projects: The Centre supports conduction of demonstration projects. Two types of demonstration projects are conducted; one, which is done by professionals from NPC and NCPC in sectors where little or no work, has been done on Cleaner Production. The selection of the Sector is done under the guidance of Advisory Committee. The second set of demonstration projects are carried out by the consultants trained by NCPC and serve the dual purpose of demonstration as well as hands on practical training of consultants.

iv) Technology Information: The NCPC proposes to build up a mechanism for sourcing cleaner technologies and providing information. This is expected to fill the long-standing gap and enable particularly Small Scale Industries to have an access to cleaner technologies of the World.

v) Policy Studies: The Centre also takes up policy level studies to recommend appropriate policy level interventions to make them Pro-CP.

The broad objective of the NCPC is to create a market-based demand and supply situation for Cleaner Production. It aims at building up the demand for Cleaner Production by educating the industries on benefits of Cleaner Production (creating awareness) and also raises awareness in the industries by demonstrating Cleaner Production. The demand could also be build up by appropriate policy level interventions. On the supply side, the Centre aims at developing Cleaner Production Assessment and training capability at different levels and in different institutions such as industries, training institutions, private consultants, financial institutions etc.

The NCPC has set for itself, for the period July 1998 - June 2000, the following specific objectives to help it move towards its mission:

1. Form Alliances/Partnerships:

NCPC believes that for a large country like India for it do a meaningful, it will have to build strategic alliances and partnerships with other advocates of Cleaner Production. It intends to build strategic alliances with State industrial development institutions for enhancing training and awareness creation capacity, Regional directorates of the National Productivity Council for augmenting CP assessment capacity, Pollution control Boards for promotion of CP in regulatory system, business associations for enhanced awareness creation, and financial institutions for promoting CP investments.

2. Initiate Policy Dialogues

Incorporation of CP in the industrial and environment policy framework is a very effective way of institutionalising the concept and ensuring its continuous adoption. Appropriate provisions need to be built in the policies to promote Cleaner Production.

3. In-plant CP assessments & demonstration

The best way to convince the industrialists of the benefits of CP is to demonstrate it through in plant assessments. The NCPC aims to conduct more In-plant CP assessments directly as well as through its allies i.e. Regional Centres.

4. Training of sub-sector experts

Expansion of CP to cover all the industries in a given sector and exploitation of maximum opportunities would require development of sub sector experts. During the project period

NCPC aims to develop sufficient number of experts in at least one sub-sector e.g. textile sector.

#### 5. Certified CP Assessors

It is expected that in due course when demand of CP Assessments picks up due greater awareness and realisation of benefits there would be a need created to have certified CP assessors. NCPC aims to develop a scheme to train professionals on CP assessment and certify them based on their performance and capability

#### 6. Development of CP Investment Project Formulation Experts

After exploiting the low hanging fruits, implementation of CP measures would require funds for investments. Obtaining these funds would usually require submission of investment proposals to financial institutions. NCPC aims to develop professionals for preparing such proposals so that their services could be made use of by the industries.

#### 7. Development of CP technology investment projects

With the help of Investment Project Formulation Experts and other concerned institutions, NCPC plans to develop a few CP technology investment projects and submit them for consideration and approval of concerned authorities. This would also lay the basis for establishment of CP technology data bases for future development of such project proposals.

#### 8. Establish Linkages with Universities

NCPC plans to establish linkages with a few Universities to introduce CP in the curriculum of these institutions to equip the students with the knowledge of CP during their study period itself.

#### 9. Organise CP Roundtable Meeting

In order to create wider awareness, multiplier effect and involve more and more people in the CP movement, NCPC plans to organise Roundtable meetings, to discuss the progress achieved, lessons learnt and set future directions of work in this field.

The client mix of the NCPC and the type of service that they are expected to demand is projected in the table below:

CLIENT	SERVICE
1. Government; Ministry of environment, Pollution Control Boards	Training, Policy formulation
2. Industry Development Institutions	Awareness packages, training Basic CP assessment
3. Consultants/ engineers	In depth training on CP assessment
4. Universities	Curriculum development, educational packages
5. Financial Institutions	CP awareness, CP technology investment project formulation
6. Industry	Generic expertise on CP assessment Sub-sector expertise, CP measure implementation expertise, investment proposal formulation

7. Industry association

CP awareness packages, basic  
CP assessment expertise

*The service mix strategy*

In order to leverage its scarce resources, the centre has developed the service mix strategy involving its allies to enable offer the best services at the right place and at right cost.

The basic training, awareness and In plant CP Assessment for demonstration would be provided through the regional centres. CP awareness and basic training should be created within industry associations and industry development institutions. In due course vocational training institutions would also be developed to provide CP training.

The academic institutions and Universities should provide the CP education.

The preparation of CP investment proposals, financing of CP projects would be done through financial institutions and finance professionals.

The Pollution Control Boards and Ministry of Environment would be approached for promoting CP at the policy level.

India NCPC do have an important role in the further establishment and development of the industrial cleaner production activities in India. The establishment of regional centres will enlarge the capacity of the national CP centre network and thereby enlarge the impact of the effort of the NCPC. India NCPC should be positioned as an overall co-ordinator of the centre activities and ensure the quality of the work through training and experience exchange. The proposed national round table on cleaner production can be an important foundation for the future development of cleaner production in India.

If India NCPC should continue to provide the above services and supportive activities there is still a need for financial support from international and/or bilateral institutions. This support shall be provided as a direct support in a fixed period of at least 3 years. The development of the funding structure should gradually be changed to project and activity based funding, as well as client and national based funding should be increased.

*Future needs for international expert support*

India NCPC do not have emerging needs for general CP support. Industry specific technical support can be necessary depending on the choice of sectors for the future assessment work.

The development of local expertise in new areas where specific needs for international expertise support could be necessary is in the areas of:

- Life cycle analysis LCA/LCD,
- Industrial Ecology,
- Investment - Promotion of Eco-investments etc.

The future support to India NCPC should be provided as specific training programme activities including the involvement of local staff and experts in practical application work with Indian enterprises.

### 3. Specification of the support from DTI to India NCPC

The counterpart arrangement between DTI and India NCPC was expected to be completed by January 1997. Two amendments to the contract extended the arrangement until the end of 1998.

A consultative meeting on the NCPC programme took place in Vienna on 25 and 26 April 1995 and discussed possible arrangements for counterpart institutions to the NCPCs. The idea is to match each NCPC with an established institution with expertise in cleaner production. This scheme is established to enable the NCPCs to draw from experiences and expertise of the counterpart institutions while maintaining the independence for local programme implementation.

DTI was selected as the institution to provide counterpart services to the India National Cleaner Production Centre. In 1996 the India Cleaner Production Centre will enter its second year of operation and will request from specific support from DTI in the field of Cleaner Production and in the field of the sub-sectors serviced during the year. DTI should support and strengthen the India NCPC in its activities laid out in the work plan for 1996 stressing the following areas:

1. Development of a strategic plan for the activities of the India NCPC covering all areas, which are in-plant demonstrations, training, information dissemination and policy. The strategic plan will cover the period till the end of funding which is mid 1998. Special attention should be given to the position of the centre at the end of the project and its sustainability afterwards.
2. Development and start of the implementation of a strategy for training services and policy advice.
3. Planning and organising of a national workshop on CP in India.
4. Planning and implementation of an in-plant demonstration project in the hosiery sector.
5. Planning and start of the implementation of an in-plant demonstration project in the textile dye sector.

Under the above mentioned activities DTI and India NCPC should ensure the following outputs:

- a) Strategic plan for the NCPC covering the period 1996-1998
- b) Detailed work plan for the DTI-NCPC co-operation in 1996 (including activities for the hosiery and textile dye sector)
- c) Training services and policy advice strategy
- d) Detailed work plan for the DTI-NCPC co-operation in 1997 (including activities for the textile dye sector)
- e) Three company specific reports from the hosiery sector, following the methodology for CP audit used in the project documents
- f) Review the in-plant demonstration in the hosiery sector with recommendations for the textile dyeing sector
- g) Mission report after each mission.
- h) Annual summary report

The results of India NCPC work and DTI support is the following:



Ad. 1. Development of a strategic plan for the activities of the India NCPC covering all areas, which are in-plant demonstrations, training, information dissemination and policy. The strategic plan will cover the period till the end of funding which is mid 1998. Special attention should be given to the position of the centre at the end of the project and its sustainability afterwards.

During the first mission in 1996 a plan for the activities was developed and initiated. This plan was the beginning of the business planning activities which in 1998 resulted in the first business plan for India NCPC. (output a, b and c)

Ad. 2. Development and start of the implementation of a strategy for training services and policy advice.

During the missions to India in 1996 the development of specific training services performed by NCPC staff was developed and initiated. Specific training of NCPC staff in technical and conceptual issues was provided. Again this strategy development matured in the business plan of 1998. (output c)

Ad. 3. Planning and organising of a national workshop on CP in India.

In a very early stage it was decided to conduct regional workshops on CP in India, instead of a national workshop. During the first mission a training of the trainer workshop was organised for the future trainers at the regional level. During the years several workshops has been held in various regions. DTI participated in two of these workshops. (output c)

Ad. 4. Planning and implementation of an in-plant demonstration project in the hosiery sector.

Five in-plant demonstration projects in the hosiery sector were initiated in 1996 and completed in 1997. Technical reports from each enterprise and a manual for the sector was produced. The activities was evaluated in India in late 1996 and in Denmark in 1997(output e and f)

Ad. 5. Planning and start of the implementation of an in-plant demonstration project in the textile dye sector.

This activity was initiated in 1997. India NCPC prepared a sector survey and identified a number of enterprises interested in participating in demonstration projects. A pre-assessment report of these enterprises was developed. The difficulties in mobilising the experts from UK through DTI initiated the steps to mobilise an experts from the retired engineers organisation of the Netherlands. (output g)

In addition to the above activities it was decided to perform an evaluation of the previous DESIRE project. The aim of the evaluation was to track the sustainability of the changes implemented at the enterprise level, and to learn from this experience. A contract between ARIES/IVAM and DTI was signed as a sub-consultancy contract. The results of the survey was used in the development of the business plan for India NCPC.

*Effect and results of the support provided*

In general it has been difficult to work as a counterpart institution to India NCPC under the conditions provided under the present and changing contract. India NCPC was very advanced in their understanding of the CP concept and had a long experience record before the counterpart arrangement was initiated. The needs of India NCPC was therefor different from other centres and more specific in their nature. The design of the counterpart contract was too general to become successful.

DTI and India NCPC could have had a mutual benefit of the co-operation if the content of the contract was specified according the needs of India NCPC, and appropriate in the allocation of resources to both India and DTI.

The counterpart arrangement did not allocate specific resources to India NCPC to initiate actions as identified under the counterpart arrangement. India NCPC was tied to ongoing activities and did not have the necessary resources to initiate new activities. New activities needed new funding, or had to be postponed. The resources allocated to DTI were not at a level where it was possible to provide the necessary support to change this bottle neck situation.

At the most critical time in the counterpart arrangement between DTI and India NCPC (in 1997) there was a need for a longer and continued support to India NCPC which DTI could not provide under the present contract. To enable more support India NCPC contacted the Royal Danish Embassy and the retired engineers organisation of the Netherlands.

#### *Recommendations for the future*

India NCPC do still need funding from international and/or bilateral institutions to be able to keep its present position as the main provider of CP assistance to the industry in India – mainly the SME's. It is recommended that the support is provided as general support during a bridging period of e.g. two years, and combined with specific contracts and participation in other project activities supported by UNIDO in India and/or other countries in the region.

During the two year period, India NCPC should develop their business strategy to be self-sustaining and able to continue their business through the participation in project based activities and specific services provided to the local market.

UNIDO, other international and bilateral organisations should support this change gradually by involving India NCPC in the industry related activities initiated in India as appropriate.

To be able to meet the requirements India NCPC should have allocated more human resources to be able to provide the services of more and different activities. The list of activities in the NCPC business strategy seems to be broad enough to enable India NCPC to become a very important player in the future development of CP in India. The establishment of regional centres is also seen as a necessary and natural step for the development of CP in India.

The future support to India NCPC should be provided directly to the centre and administrated by the centre according to the terms of references of the contract. There is no need to have the contract administrated through a counterpart institution.

The counterpart institution support should in future be provided through the active CP network already established – and not through specific arrangements. Through the list serve system and the Asian CP network the CP centres of the region are able to exchange experiences, communicate and request information and services. DTI will continue to be an active partner in this network, and will be able to provide services to the network accordingly.