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Workshop on Technological Services  
Delivery System (TSDS)

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TECHNOLOGICAL SERVICES DELIVERY SYSTEM (TSDS).  
THE PHILIPPINE EXPERIENCE \*.

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TECHNOLOGY SERVICES DELIVERY SYSTEM (TSDS)

THE PHILIPPINE EXPERIENCE

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I. BACKGROUND

In March 1978, the Philippine Government through the Commission on Small and Medium Industries CSMI of the Ministry of Industry started the implementation of the Technology Services Delivery System (TSDS) Project. This was implemented as a UNIDO assisted project with financial support from the Government of Japan.

The project was primarily concerned with developing a linkage mechanism between the Metro-Manila based Technology Resource Institutions (TRIs) and the Small and Medium Scale Industries (SMIs) especially those in the rural areas. With such a linkage mechanism, advisory services, technical training and technical information which were much needed by rural SMIs were envisaged to be provided.

II. Implementation of TSDS Project Phase I

The first phase of the project involved a study of the types of technical assistance needs of the rural SMIs and a study of the institutions which were in a position to provide technical assistance. Three industrial sectors, namely the Metalworking, Woodworking and Food processing sectors were selected for study since the industries are commonly found in the rural areas. Fifteen SMIs from each

sector or a total of forty five (45) enterprises were studied with the assistance of UNIDO experts and technical personnel from the technology resource institutions. All of the SMIs studied were SBAC clients.

The TRIs which were studied based on their area of expertise and their expressed willingness to cooperate in providing assistance during the needs survey and pilot program implementation are as follows:

1. The Forest Products Research and Industries Development Commission (FORPRIDECOM) in Los Baños, Laguna which is around 60 kilometers from Manila. The FORPRIDECOM was specialized in wood processing e.g. furniture making.
2. The Metals Industry Research and Development Center (MIRDC) in Bicutan, Taguig, Metro Manila.
3. Department of Food Science and Nutrition, College of Home Economics, University of the Philippines in Diliman, Metro Manila.
4. Department of Food Science and Technology, College of Agriculture, University of the Philippines at Los Baños, Laguna.
5. Food Technology Research Department, National Institute of Science and Technology, at Ermita, Metro Manila.

The Bureau of Small and Medium Industries (BSMI) and its field offices, the Small Business Advisory Centers (SBACs) were also studied with regard to the SBAC's capability to act as channels for the provision of assistance and the BSMI Head Office to act as a Coordinating Unit. At that time the SBAC was staffed by an average of ten (10) small business consultants who advised their clients on marketing, sourcing of financing assistance, accounting systems production management and general quality control producers. The SBAC staff however, possessed very limited technical expertise. The TRIs, on the other hand, possessed technical expertise but were not represented in the regions by field offices. During the needs assessment activities, TRI representatives had the opportunity of interaction with the SBAC staff and were thus in a position to determine the type of technical training needed by the SBAC. Such technical training was indispensable in enabling the SBACs to communicate well with their TRI counterparts in describing the types of technical assistance needed.

### III. TSDS Sub-systems

As a result of studies in Phase I, the BSMI and the TRIs jointly planned the development of the TSDS sub-systems for the following modes of providing technical assistance:

1. Plant Level Consultancy
2. Technical Training
3. Technical Information dissemination.

In plant level consultancy, firms which request assistance are visited by the SBAC field officers in order to discuss the nature of technical assistance needed so that may be documented by the SBAC and referred to the proper TRI. Such may lead to a mailed reply from the TRI or a visit from a national expert from the TRI. In some cases, the TRI conducts a research project should the technical assistance needed require further study.

Technical training is usually implemented in the form of seminar workshops attended by groups of entrepreneurs, supervisors or persons in a position to initiate change in the firm. Technical training programs are normally organized through industry associations on a cost sharing basis. These workshops are always accompanied by an actual demonstration of techniques to facilitate easier acceptance of the new methods on the part of the participants. These demonstrations are held in the shops of the participants.

Technical information dissemination involves the preparation of concise technical bulletins which are disseminated to SMIs through the SBACs. The information disseminated is basically of two types, namely:

1. Information on TRIs - These highlight TRI services and how such services may be instrumental in improving the operations of an SMI firm;
2. Information on opportunities for improvement - These present techniques for Quality control, quality improvement productivity improvement, cost reduction, etc.

#### IV. Technical Training for the SBACs

The successful implementation of the TSDS depended much on the capability of the SBACs to act as the channels for the delivery of technical assistance. During the initial stages of Phase I, it was already felt that the technical training of the SBAC staff members would be crucial to the success of the TSLS Project.

The planning of the SBAC technical training programs became the primary responsibility of the TRI representatives; such planning activities were implemented under the guidance of UNIDO experts assigned to the Project. In planning the training programs, the following were taken into full consideration.

1. The SBAC "generalists" are not expected to become experts or specialists in their fields of study. The training programs should transform the SBAC staff into "better generalists" with a technical background sufficient to meet the requirements of the system.
2. The training programs should be a combination of a short term formal training program in Metro Manila and an extended informal on-the-job training in the field. This was due to cost considerations and the necessity of implementing pilot programs in Phase II in accordance with the Project timetable.



V. Factors Contributing to Program Effectiveness

The effectiveness of the program was considered to be a result of the strategies adopted in implementation. One major strategy used was the utilization of technical training as an entry point. Instead of promoting extensively plant level consultancy right at the very start, the project Management Team opted to organize extensively technical training programs. It was believed that SMI entrepreneur must first have an idea of how his operations compare with better ones before he can request for specific technical assistance services. The technical seminar workshops opened the minds of the entrepreneur participants into the possibility of using better methods enabling him to take a second look at his operations.

The technical seminar workshops were also carefully planned in the sense that technology, better techniques and new methods were translated into profitability or cost reduction. It was not sufficient to introduce technology alone. Many SMI entrepreneurs do not have a college degree; in fact many have not finished high school. The utilization of "big words" like technology productivity and efficiency have been avoided in the implementation of the seminar workshops. It was more important to prove by demonstration how the methods being introduced could mean more money for the SMI entrepreneurs. As a result of simplifying the presentation in the seminars and relating the methods being introduced to profitability, the

seminar workshops were well received by the participants. Each workshop ended with the identification of topics for follow-up seminar workshops.

In the implementation of technical seminars the local SBACs worked closely with industry associations. In areas where industry associations did not exist, the SBACs sponsored conferences to initiate the formation of associations using subsidized training programs as a means to encourage entrepreneurs to form groups. In these conferences, the SBACs discussed with the core group the following:

- a) Cost sharing scheme for the implementation of seminar workshops.
- b) The minimum number of participating firms.
- c) The responsibility of the core group in recruiting the participants.
- d) Seminar details.

The strategy of working through industry associations worked well for the TSDS. The responsibility of recruiting participants to the seminar workshops was transferred from the SBACs to the association; this eased the workload of the SBACs which had a limited number of staff and a large geographical area to cover. The encouragement and support given to industry groupings contributed to the emergence of functional industry associations. One very positive result

was that the associations eventually started thinking in terms of common service facilities.

In plant consultancies were also provided to SMIs after the implementation of the seminar workshop. Priority was given to the firms who have expressed their intention of receiving technical advisory services prior to the seminar. Background information on these firms and their requirements were sent to the TRIs by the SBACs before the seminar. Some participants who have not expressed their intention earlier to avail of technical advisory services but expressed their intention after the seminar workshop were also accommodated as time permitted.

In the implementation of seminar workshops, the SBACs did not collect fees from the participants. Instead, the SBACs entered into an informal cost sharing agreement with the industry associations. It became the responsibility of the association to collect the fees from its members participating in the workshops and to finance the items it was responsible for in the cost sharing arrangement. After the first seminar with an association, the cost shared by the association in terms of percentage followed an increasing pattern.

#### VI. Costs of Project Implementation

Under the YSDS scheme, technical information bulletins and mailed replies to specific requests for technical information were provided free of charge to the SMI entrepreneur since variable costs were minimal.

In the case of technical seminar workshops, the SBAC field offices entered into informal agreements with the industry associations. Usually, for the first project with an industry association, the association was required to shoulder the food, material and venue expenses while the BSMI shoulders the transportation and board and lodging expenses for the personnel coming from Metro Manila. The TRIs provide personnel man hours without additional cost to the BSMI or the industry association. For succeeding seminar workshops, the cost sharing percentage on the part of the association is increased.

In plant consultancies which are implemented right after a seminar workshop is provided free of charge to the entrepreneur. In the case of in plant consultancies which are considered separate projects by themselves, no fixed formula for technical assistance fees or cost sharing has been laid out and negotiations with entrepreneur clients are made on a case to case basis. Variables which had to be taken into consideration include the following:

1. the location of the project;
2. man hour requirements for consultancy and specialized research;
3. the size of the firm and its capability to pay for services;
4. in the case of projects requiring research, the possible benefits which may accrue to the industry as a whole.

**VII. Continuation of the TSDS under the QCPI Project**

The experience gained from the implementation of the TSDS project was taken into full consideration in the implementation of another CSMI-UNIDO Project which was entitled the Quality Control and Productivity Improvement Systems project or the QCPI Project. The objectives of the QCPI Project were as follows:

1. To study the needs of selected SMI sectors with regard to quality and productivity improvement;
2. To pilot implement new approaches to quality and productivity improvement needs identified;
3. To develop CSMI based programs based on needs identified and on the result of pilot project implementation.

The target industry sectors of the QCPI Project were the food processing, metalworking, furniture, garments, plastics and leather tanning sectors.

Since one of the essential components of a quality and productivity improvement program was technological assistance for rural small and medium scale industries, the QCPI Project adopted the TSDS concept considering the successful implementation of the TSDS. Needs identification studies for the food processing, metalworking and furniture industries were completed earlier than expected due to the results of TSDS

Phase I activities and further experiences gained in the implementation of TSDS Phase I. QCPI Phase II activities for the food processing, metalworking and furniture sectors were implemented earlier than expected. Such Phase II activities also took the form of in-plant consultancy, technical training and technical information dissemination using the same BSMI-SBAC-TRI set-up.

Even before the conclusion of QCPI Phase II activities for the three industrial sectors, the CSMI found it necessary to allocate further special project funds to finance the expansion of TSDS activities. This was done in recognition of the apparent usefulness of the TSDS and in view of the limited flexibility in budget programming of the individual TRIs.

#### VIII. Adoption of TSDS Concept by NACIDA

In the last quarter of 1981, the TSDS concept was adopted for implementation by the National Cottage Industries Development Authority which is better known as the NACIDA. Like the BSMI, NACIDA is represented in each region of the Philippines by its field offices each of which are staffed by around 50 personnel.

Aside from client registration, NACIDA's field offices perform the following functions:

1. Assistance to clients in securing financing assistance;

2. Raw materials procurement and equipment importation assistance;
3. Market development and assistance;
4. Organizational development and institution building;
5. Technology development and delivery.

NACIDA also acts as the lead implementing agency for the National Livelihood Program's Cottage and Light Industries Component.

NACIDA's Technology Development and Delivery Program is being spearheaded by the Cottage Industries Technology Center (CITC) which is in itself one of NACIDA's Departments. The CITC is situated in a 4.6 hectare lot in SSS Village, Marikina, Metro Manila and has woodworking, metalworking, bamboocraft, rattancraft, fibercraft and ceramics facilities.

The CITC's main functions are as follows:

- a) to support the NACIDA field offices in servicing the technical assistance needs of NACIDA registered clients;
- b) to implement skills training programs at CITC and in areas near Metro Manila;
- c) to implement process research projects and equipment development projects;
- d) to package and disseminate technical information;
- e) to plan and assist in the establishment of regional cottage industry training centers.

The CITC was in itself a technology resource institution. CITC personnel were sent to the field to conduct seminar workshops, short term skills training programs and to provide technical advisory services based on requests from NACIDA's regional offices and at times from the SBACs. CITC's research program is based on needs identified during visits to the regions and or requests from regional offices.

NACIDA also established linkages with other technology resource institutions following the example set by the BSMI earlier. Aside from the five (5) RIs mentioned earlier in this paper, the NACIDA also established linkages with the following institutions:

- 1) The Ceramics Research and Development Center (CRDC)  
at Bicutan, Taguig, Metro Manila;
- 2) The Philippine Textile Research Institute (TRI)  
also at Bicutan;
- 3) The Design Center Philippines at Ermita, Metro Manila.