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ABSTRACT

Focusing on the use of networking structures as a means of promoting and mobilizing inter-institutional support for educational development, this publication reports on topics raised at a meeting held by the Study Group on Inter-Institutional and Other Co-operative Networking Structures. Chapter 1 reports on ways in which networking is taking root and shape in the Philippines, Sri Lanka, and Thailand where it is being adopted. Information on existing networking structures for each of these countries includes: organizational structure; innovations; resources; motivations/incentives/recognition; monitoring/evaluation/feedback/renewal; present state of networking structure; proposed plan for follow-up action; and organization of orientation seminars. Other forms of inter-institutional cooperation in Bangladesh, India, Malaysia, Pakistan, and Papua New Guinea are described, along with plans for revitalizing inter-institutional cooperation. Chapter 2 provides reports on a three-day study visit to the Sisaket province of Thailand, in which the study group conducted a cooperative, in-depth study on selected networks. Chapter 3 "Networking as a Means of Educational Development," lists both intended and unintended objectives of networking. The final chapter presents suggestions to be considered by participating member countries to strengthen existing networks or create new ones within their national, cultural, social, and political context. Appendices provide an agenda, list of participants, and a list of documents published by the regional office of UNESCO. (LH)

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Asia and the Pacific Programme of Educational Innovation for Development

Mutual Co-operation for Schools Development

Some experiences from Asia and the Pacific

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Report of a Study Group
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PREFACE

The Study Group on Inter-Institutional and Other Co-operative Networking Structures was organized by the Asian Centre of Educational Innovation for Development (ACEID), in collaboration with the Office of the National Primary Education Commission (ONPEC) of the Ministry of Education, Government of Thailand, at the Unesco Regional Office for Education in Asia and the Pacific, from 6 to 17 November 1984. The Group also made a field study in Sisaket province of Thailand.

The Study Group was convened to study the networking structures to promote and mobilize inter-institutional support for educational development, including professional support services to schools.

The meeting of the Group was attended by participants from Bangladesh, India, Malaysia, Pakistan, Papua New Guinea, Philippines, Sri Lanka and Thailand, (List of Participants is given in Annex II).

The meeting of the Group was inaugurated by Dr. Saiyut Champatong, Secretary-General, Thailand National Commission for Unesco. Mr. A. Chiba, Director a.i., Unesco Regional Office for Education in Asia and the Pacific, Bangkok, welcomed the participants on behalf of Unesco.

The participants elected Dr. R.C. Sharma (India) as Chairman, Dr. Prayoon Thapnuan (Thailand) as Vice-Chairman; Mr. Dionisio V. Abitong (Philippines), Mrs. M.R. Samaranayake (Sri Lanka), and Mr. Abdul Mubin Haron (Malaysia) as Rapporteurs. Dr. H.K. Paik (ACEID) and Miss Benjalak Sookpokakit (Thailand) served as Secretaries of the Meeting.

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Chapter One

NETWORKING STRUCTURES AND OTHER FORMS OF INTER-INSITUTIONAL CO-OPERATION

A promising development in recent years in many countries in the region is the attempt to mobilize institutional capacities for mutual support in the educational development programmes. Typically this takes the form of "Networking" the co-operating institutions around specific purposes. How this innovation is taking root and shape in the Philippines, Sri Lanka and Thailand where it is being adopted, is presented below, based on the reports presented by the participants from these countries in the Meeting.

EXISTING NETWORKING STRUCTURES

Philippines

The Ministry of Education, Culture and Sports (MECS) has been concerned for the last several years with the problem of improving the standard of primary education, particularly the problem of low achievement, low survival and low participation rate. One key factor was the inadequacy of teacher training. There was a pressing need for continuous in-service training of teachers to develop devotion to teaching and improve teaching competencies.

The innovation to answer this need was the School Learning Action Cell (SLAC) which was established to enable teachers to help each other improve their professional competencies during the course of their normal day-to-day work. The SLAC is suppored by the Ministry of Education, Culture and Sports (MECS) under the Educationl Reorientation Programme to establish and institutionalize a system for staff development so that even the lowest unit is able to plan and manage its own continuing training activities.

Objectives. The SLAC has the following objectives:

a) Early application of learning acquired during all training and development sessions to the on-the-job Programme for Decentralized Educational Development (PRODED);

b) Mutual monitoring of and support for the various individual/collective action projects, and adherence to established PRODED concerns;

c) Continuing reorientation and development sessions to internalize individual and collective commitments to MECS and PRODED objectives as well as to encourage sustained development of technical skills; and

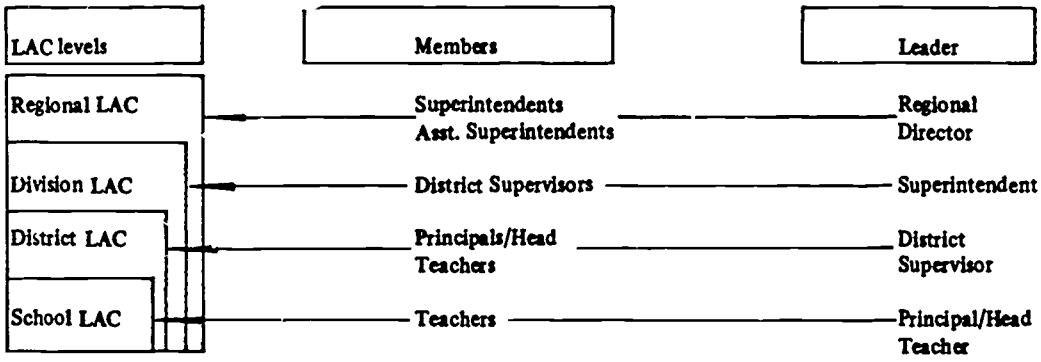
d) Strengthening of local (regional and sub-regional) capabilities for 'ground level' project identification, planning, implementation and evaluation.

The School LAC will focus specifically on the further development of teachers instruction management skills and provide for immediate on-the-job application of these skills. Its expected outcomes are (1) teacher's personal and professional growth; and (2) the instructional improvement targets for his/her pupils.

Organizational structure

Inter-institutional network. The Learning Action Cell (LAC) system involves the mobilization, monitoring and maintenance of learning teams/cells, with interlocking membership at each action level. The LAC constitutes the learning base for skill acquisition and practice. It is, at the same time, a regular forum for collaborative action planning and review of specific instructional concerns. Figure 1 is a graphic presentation of the Learning Action Cell Organization.

Figure 1. LAC organizational structure



Described below is the composition of the LAC at each level.

School-level Learning Action Cell (SLAC): The School Learning Action Cell (SLAC) is composed of the teachers of the same grade in a school/cluster of schools, of six to eight members, together with their respective principals. The principal is usually selected by the LAC members as its team leader.

District Learning Action Cell (DLAC): The District Learning Action Cell (DLAC) is composed of principals and head teachers in a given district with the schools district supervisor as the team leader.

Division Learning Action Cell (DLAC): The Division Learning Action Cell (DLAC) is composed of district supervisors, division supervisors, and the assistant schools division superintendent in a given schools division with the schools division superintendent as the team leader.

Regional Learning Action Cell (RLAC): The Regional Learning Action Cell (RLAC) is composed of division superintendents, regional supervisors and assistant director in a given region with the regional director as the team leader.

Modes of operation. Before a school LAC is set up, the principal and teachers teaching a certain grade in a certain school are trained in Phase I of the Teacher Formation Programme and principals in the Educational Planning and Management Programme.

A Trainer-in-Charge (TIC) is assigned to each School LAC. He is responsible for monitoring the growth and development of the School LAC, particularly in the inter-personal skills and value aspects. The monitoring of technical skills acquisition is done by the LAC leader with the help of supervisors from the Ministry.

The programme consists of two curricula, namely: (i) General Curriculum which covers beliefs/values and collaborative skills; and (ii) Technical Curriculum which focuses on the enhancement of teaching skills.

Membership and composition: A SLAC has a maximum of 12 and a minimum of three members. Its leader is either a principal or a head teacher.

SLAC groupings: There are three types of SLAC's that can be formed: (i) Single-school LAC which is formed by teachers coming from the same school; (ii) Cluster-school LAC which is formed by teachers coming from cluster of neighbouring schools with less than three teachers; (iii) Isolated LAC which is a single LAC with less than three teachers.

SLAC meetings: The members under the guidance of the LAC leader meet for eight hours per month. They are given the following alternatives: (i) Meeting weekly for two hours; (ii) Meet once in two weeks for four hours; and (iii) Meet once a month for eight hours. During these meetings, they take up their problems and find out their solutions with mutual consultation and discussions with the LAC leader. They end up with each member having an action plan of implementation in the actual classroom situation.

Linkages – horizontal. One form of linkage existing in the School LAC is the linkage between and among members. Aside from working as a whole group, they are further subdivided into dyads or triads for the purpose of monitoring the implementation of each other's action plan. The members of the dyad or triad monitor each other's action steps. This system is brought about taking into consideration the fact that the school principal is saddled with other responsibilities and may not have sufficient time to monitor the action steps of each LAC member. Linkage also exists among school LACs. It is a horizontal linkage which takes place during the sessions of the District LAC. During sessions of the District LAC, the school principals share experiences in terms of their areas of strengths and areas for improvement. As a result of such sharing, they also plan action steps to further strengthen or maintain their strengths.

Innovative features of the School LAC

a) It is a permanent and self-managed training delivery system. Unlike other training delivery systems, the SLAC is a system where the trainee is involved in making decisions on the training/learning targets and priorities. He is allowed to take an active role in the planning and management of the agreed training activities as well as in the evaluation and review of the decisions made. This strategy also allows the participants to monitor each other's learning progress as well as progress towards accomplishing tasks related to non-formal education. Their involvement in the entire process enhances a sense of belonging among members.

b) It is action-focused. The School LAC provides for an immediate application of learning to the actual classroom situation. The action plans prepared by the members reflect this. The progress of the action plan is monitored by the PRODED trainers through the regular submission of status reports.

c) It is a staff development activity which utilizes the Adult Learning Approach.

d) The outcome is the development of the teacher and that of the pupils under his care.

Resources

Network as a resource. The SLAC is in itself a resource in terms of its members. The varied experiences of the School LAC members, both personal and technical, are utilized by the members to help each other identify strengths and weaknesses and at the same time share experiences.

Network as a mobilizer of resources. The Philippine experience has instances when the SLAC became a mobilizer of resources. A particular instance was when the School LAC members took up Episode 1 of Module 1, Term 1, "Creating an Environment Conducive to Learning". As a result of this session, they came out with action plans on how to improve the physical structure of their respective classrooms in order to create an atmosphere conducive to learning. In order to attain this goal, they mobilized their homeroom Parent-Teacher Association and presented the problem to the association. The association mobilized financial assistance for the project.

Network as a user of resources. The SLACs are provided session guides prepared centrally and distributed by the Educational Reorientation Programme of the Ministry of Education, Culture and Sports and the Development Academy of the Philippines. They also make use of textbooks supplied by the Ministry.

Monitoring/evaluation/feedback/renewal

Each School LAC is assigned a Trainer-in-Charge (TIC) to monitor its growth and development. The TIC collates the regular LAC status reports submitted by

the LAC leaders. Each LAC submits a session report after every LAC session. From the status reports, the trainer draws out a plan of action for monitoring the LACs assigned to him. The TIC visits the LACs regularly and undertakes process observation and conducts interviews to determine their strengths and identify areas for improvement. The process observation and interview also serve as a means to validate the data contained in the status report. After the process observation and interview, a feedback session with the LAC members is conducted and from the result of such feedback session, a new LAC Plan of action is formulated for implemention.

Present status of networking

School LACs in grade I and grade II are already in operation. District, division and regional LACs are being established. In succeeding years, School LACs in grades III, IV, V and VI will be established.

Table 1. Non-formal training course

Cycle I – (Total number of Episodes: 18)

Curriculum	*Module*	*Episodes*
Technical Curriculum	Instructional Management	1. Creating an environment conducive to learning 2. Managing the learning environment 3. The teacher as a manager of learning 4. Planning: Writing behavioural objectives
	Knowing and Appreciating the Filipino Child	1. Characteristics of a grade I child 2. The child as a learner: Conditions of learning 3. The child as a learner: Motivation and principles of learning
	The New Elementary School Curriculum	1. Review of the new elementary school curriculum 2. Teaching elementary mathematics 3. Ang pagtuturo ng Pilipino 4. Teaching English in grade I 5. Teaching sibika at kultura
General Curriculum	Beliefs Values Module	Four episodes to deal with pagkatao, pagka-Pilipino, pagkaguro and "portrait".....
	Collaborative Skills Module	Two episodes on group interaction and interpersonal communication

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Cycle II – (Total number of Episodes: 20)

Curriculum	*Module*	*Episodes*
Technical Curriculum	The NESC	1. Teaching beginning reading in Pilipino 2. Teaching beginning reading in English 3. Integration of music, arts and P.E. in sibika at kultura 4. Discovery approach in mathematics
General Curriculum	Beliefs/Values	5. Pagka-tao
Technical Curriculum	Instructional Management	6. Lesson development 7. } Remediation 8. }
General Curriculum	Beliefs/Values	9. Pagka-Pilipino
Technical Curriculum	IPS	10. Interpersonal communication
	Pilipino Child	11. Developing values in the Pilipino child
General Curriculum	Beliefs/Values	12. Pilipino child
Technical Curriculum	Evaluation of Learning	13. How to test communication skills 14. How to test numerical skills
	Instructional Materials Development	15. } Preparing instructional aids 16. } and devices
General Curriculum	IPS	17. Group interaction
Technical Curriculum	Teacher-Performance Evaluation	18. Developing a mechanism for self-evaluation
	School-Community Relations	19. Strengthening parents' support for schools
General Curriculum	Beliefs/Values	20. Portrait of a Pilipino teacher

Proposed plan

Objective. By the end of 1985, training workshops on inter-institutional and co-operative networking structures at the national and regional levels shall have been conducted.

Strategies. Orientation seminars will be conducted with Regional Directors through their regular monthly conferences. Experience gained from these seminars

will be shared. This will serve as a basis for discussing the plan/strategy for delivering the Training Workshop in each region as well as in getting commitment to support the nationwide implementation of the plan.

Organization, orientation and mobilization of senior regional Educational Reorientation Programme (ERP) staff will take place. This activity aims to prepare the senior regional ERP staff to deliver the training workshops in their respective regions. The orientation will therefore focus on the following areas:

1. Content of the training workshop;
2. Methods of delivery; and
3. System for managing the training workshop

The participants of the training workshop will be the regional trainers who are expected to celiver the content to the grass-roots educators. The Training Workshop will be managed by the senior ERP regional staff.

A system for monitoring the implementation of training workshops will be established and support will come from: (a) Ministry orders; (b) Provision of a budget for operations; and (c) Consultancy services from the Central ministry of Education, Culture and Sports and Development Academy of the Philippines. The activity plan of the Tranning Workshops is given in Table I.

Table 2. Activity plan for training workshops.

Activity	*Persons involved*	*Duration*	*Venue*	*Person/s Responsible*
1. Conference with MECS Ministry and Bureau of Elementary Education (BEE) officials	MECS Minister BEE Director and staff, participant to APEID Meeting, DAP staff	December 1984 2 days	Manila	APEID participant MECS Minister
2. Orientation Seminar with Regional Directors	13 Regional Directors BEE Director & Staff DAP Director & staff, APEID participant	January 1985 2 days	DAP Conference Centre, Tagaytay City	APEID participant, MECS Minister, DAP Director
3. National Seminar – Workshop on Strengthening LAC Management and Operations	13 Asst. Regional Directors 13 Elem. Education Chiefs 13 Regional Coordinators 13 Regional Training Officers BEE staff DAP staff	February 1985 5 days	DAP Conference Centre, Tagaytay City	ERP Director BEE Director APEID Delegate
4. Echo-Training Workshop	52 Senior Regional staff 368 Regional Trainors, MECS-DAP staff for monitoring	April, May, June 1985 5 days each on a staggered basis in the different regions	Regional Centres	MECS Senior Regional Staff

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Sri Lanka

Over emphasis on the development of individual schools in preference to development of facilities to meet total educational needs of identified geographical areas has been one of the weaknesses in the educational system in Sri Lanka. This resulted in imbalances, duplication and wastage of resources.

The Education Reforms Committee of 1979 considered these issues and gave its recommendations[1]. The recommendations were examined by the Ministry of Education which produced a White Paper on education, known as Education Proposals for Reform 1981[2]. The White Paper contains the recommendations on school clusters as an organizational and management innovation at the grass-roots level for improving the educational system.

Objectives. Based on the concept outlined in the White Paper and the experience of pilot projects, the objectives of the school cluster are to:

a) reduce the existing inequities in the provision of educational facilities so that equitable standards may be maintained in all parts of the country. The identification of needs and allocation of resources on a cluster basis would ensure a rational allocation of limited resources and optimum utilization and sharing of available resources. This applies to both physical and human resources available at the disposal of the network of schools;

b) enable schools to be managed by more competent personnel, recognizing the key role of the head of the school. Doing so, would promote improvement of school management and administration under the leadership of the cluster principal through mutual understanding and co-operation among heads of member schools;

c) facilitate the participation of even the smallest school in a group whose collective resources would permit the provision of the expensive facilities and services to all schools within the network and thereby induce all parents, both rich and poor, to look to the schools in their neighbourhood for the education of their children;

d) achieve quality development in education through systematic and intensive supervision of schools on a cluster basis; and

e) foster greater community participation for the development of the network of schools in the cluster and the development of self reliance as a solution to overcome constraints set by limitations of resources.

Organizational structure and management

According to the White Paper Proposals on Education 1981, the organizational structure and management is as follows:

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1 Report of the Education Reforms Committee 1979 – Ministry of Education, Sri Lanka 1982.

2 Education Proposals for Reform 1981, Ministry of Education, Sri Lanka.

a) Schools in a defined geographical area are grouped into a cluster.

b) A school cluster comprises a number of primary schools and a few secondary schools. In addition, there may be schools with collegiate grades. The number of schools grouped into a cluster ranges from 10-15 schools with an enrolment of about 3,000-5,000 students.

c) The large school with secondary grades which may be regarded as the natural focus of the cluster or that which has the best potential to play such a role, will be designated the core school.

d) The core school being the natural focus of the cluster and its organizational centre, its principal is the executive head of the cluster. He is designated the cluster principal and each of the other schools in the cluster has its own principal. The core school will have extra office space and staff to facilitate performance of this function. In order to permit the cluster principal to devote sufficient time for the administration of the cluster as well as for the supervision of education in the cluster schools, the core school will have an additional/deputy principal.

e) The cluster principal, as head of the cluster, is responsible to the District Director of Education for the administration and supervision of schools in the cluster. The principals of the member schools will retain as much administrative control of their schools as is permissible to allow the cluster to function as a unit.

f) The principals, headed by the cluster principal as chairman, operate as a Board, entrusted with the task of functioning as a team to: (i) assess resources that the group of schools possess and identify their specific needs with a view to determine what steps should be taken to improve quality of service; (ii) plan possible rationalization of grades and curricular streams — intra-cluster for primary and junior secondary levels and inter-cluster for senior secondary level; (iii) prepare a development plan for the cluster phased over a period of three years involving investment proposals and organization of curricular and co-curricular activities. The annual implementation plan is also the responsibility of the Board of Principals. The Board of Principals meets once a month on the basis of at least three meetings per month. The venue is not always the core school.

g) A School Cluster Board will be formed, initially with advisory functions. It will consist of the cluster principal as chairman and of principals of member schools and respresentatives of school development societies and teachers. Advisory functions will relate to planning educational activities and their implementation.

h) The core school will have a fully equipped laboratory, workshop and library; audio-visual aids and other facilities which will be shared by

other schools in the cluster. However, if others have some facilities more developed than the core school, the latter will arrange for optimum sharing of such facilities among schools in the cluster.

Linkages – horizontal. Schools within the cluster interact with one another. A specialist teacher may make his/her services available for the benefit of children in another school directly on request or under arrangement made by the cluster. This has helped to meet problems arising out of acute teacher shortages in remote areas. Demonstration classes to enhance teacher competencies using talented teachers as resource personnel at the local level in schools in the cluster are also held.

With the functioning of the Board of Principals, direct linkages between the schools in the cluster are maintained. Each member school in the cluster interacts with other members as well as the core school in organizing activities, curricular as well as co-curricular, and also in the sharing of resources. Co-ordination is maintained by the core school.

Other linkages. Inter-cluster relationships develop another horizontal linkage among school clusters, which are being developed currently by provision of science facilities for advanced level classes. The school map for advanced level science and specialized curricular streams could be drawn up only through inter-cluster linkages at the division district level.

Field studies centres located at some core schools serve schools with advanced level science streams in the entire district, thus linking the cluster with schools outside. All schools coming within two education core units have been brought under clustering to probe the possibility of inter-cluster linkages.

Innovations

Networking has emerged as an innovation that has shifted the focus from the individual school as the unit of planning and development of educational infrastructure to a group of schools in the cluster in a specific geographical area. As a part of this innovation, the following changes were made:

a) Teacher adjustments were made possible on a cluster basis on mutual understanding to meet acute shortages in remote rural schools;

b) Co-curricular activities were organized on a cluster basis cutting across the network of schools, e.g. children of all the schools in the cluster were grouped so as to belong to a common system of houses for sports. It helped in bringing the teachers, students and parents of different schools together for such events. This was the first experience of its kind for a number of small primary schools;

c) Supplementary classes were organized for schools in the cluster, making use of available teacher-resources in the cluster of schools with leadership given by the core school;

d) Common examinations were held in the schools in the cluster. Committees of teachers of the cluster prepared question papers ensuring equalization of standards in the schools;

e) Seminar and demonstration classes were organized on a cluster basis to enhance teaching competencies; and

f) The impact on school management under the leadership of the cluster principal was visible.

Resources

a) *Network as a resource:* Available resources within the cluster are made use of on the basis of mutual co-operation, e.g. physical plant facilities like playgrounds, libraries, equipment and also services of specialized personnel.

b) *Network as a mobilizer of resources:* (i) Cluster organization has helped to enlist support from member schools in improving the conditions of the deprived schools; (ii) Community support was obtained on a cluster basis to help schools in need; and (iii) Small schools were accepted as a member in the family.

c) *Network as a user of resources:* As a user of resources, the cluster serves the following purposes: (i) ensures national allocation of resources on a planned basis and according to the felt needs; (ii) promotes sharing of available resources among member schools; and (iii) reduces unhealthy competition among schools.

Motivation/incentives/recognition

a) An extra allowance is paid to the cluster principal for supervision of the school network to meet travelling expenses.

b) It is proposed to consider paying an allowance for special services rendered by teachers on a cluster basis.

Monitoring/evaluation/feedback/renewal

a) Monitoring and evaluation of pilot projects is the responsibility of the School Cluster Unit at the central level, and the Regional Director of Education and Co-ordinating Education Officer at the regional level.

b) Feedback on the operation of activities organized in the pilot clusters is obtained by the school cluster in the following manner: (i) field visits by the monitoring team of the school cluster unit and their observations; (ii) progress reports from cluster principals; and (iii) reports of the co-ordinating education officer and regional director of education at the regional level.

c) The feedback gathered provides data for remedial measures to be taken in order to improve the implementation of the programme as well as

to develop the concept of school clusters further, e.g. sharing of leadership by member schools as regards improvement of educational programmes by subject and level, so that leadership does not rest with the core-school alone.

d) Monitoring and feedback is very necessary as the operational details have to be worked out on location and the concept developed accordingly for better implementation.

e) Adaptation to local needs, depending on the physical, socio-cultural and economic environment, is based on the feedback.

Present state of networking structures

Twenty-one Pilot School Clusters are in operation in ten Educational Regions. They were set up between September 1981 and December 1983.

The operations of these structures and the organization of activities need to be strengthened in the light of experience obtained in the country and during the meeting of the APEID Study Group.

Proposed plan for follow-up action

Organization of a national workshop. A national workshop will be held to enable the exchange of experiences which is a long felt need and to enable review of the concept of school clusters in terms of networking.

The objectives of the Workshop will be to:

a) provide an opportunity for cluster principals to exchange experiences in the operation of pilot clusters;

b) identify alternative networks and their modes of operation;

c) prepare action plans for more effective implementation of selected ongoing projects;

d) review actual role performance and expected role of cluster principals, member principals and those involved at divisional/district levels, in making the operation of the networking structure a success;

e) widen participant's own understanding of school management through networking structures by reflecting on their own experiences and exchange of ideas;

f) draw attention to the importance of leadership, group dynamics and communication skills;

g) focus attention on intra-cluster and inter-cluster relationships in the light of experiences and how they could be strengthened;

h) consider structure of incentives and prepare an in-built scheme of incentives; and

i) identify the roles, tasks and competencies of personnel working in the structure at different levels.

Participants. The participants would comprise Cluster Principals of the 21 projects; District/Divisional Co-ordinators; with representatives of relevant divisions of the Ministry of Education and the Ministry of Education Services as observers.

Duration. Two weeks — residential workshop.

The organization responsibility will rest on the School Cluster Unit of the Ministry of Education, and the APEID participant.

Organization of orientation seminars. Orientation seminars in the ten educational regions where school clusters are in operation will be organized, as per details given below:

Objectives. The objectives are to:

a) create an awareness among grass-roots level personnel about the networking process in the light of experiences in the pilot projects; and

b) emphasize the need for human relations.

The participants will comprise: (a) principals of member schools; (b) teachers of the schools in the clusters; (c) regional co-ordinators for circuit education officers; and (d) one participant from each school development council and observers.

Duration — One day.

The organization responsibility rests with the Regional Director of Education, and the Cluster principal/principals of the pilot cluster/clusters

Conduct of a survey of school clusters. A survey will be conducted to analyse the process of networking operations within the 21 pilot clusters.

Objectives. To provide feedback information for review of activities and development of the concept.

Attention will be paid to the following factors:

(a) horizontal linkages; (b) linkages with other co-operative networking structures; (c) inter-network (cluster) relationships; (d) mobilization of resources; and (e) organization of activities.

Methodology. There will be a questionnaire administered to principals and teachers, and informal interviews on a structured format.

Responsibility for the survey rests with the School Cluster Unit, and the APEID participant.

Thailand

The Office of the National Primary Education Commission (ONPEC) concluded about four years ago that pursuing a centralized policy of management would be extremely costly and would also not lead to any significant improvement in the quality of primary education. The ONPEC, therefore, recommended the decentralization of primary education. As a sequel, the National Primary Education Act was passed in 1980. This Act provides for the scheme of decentralizing the management of primary schools by following the scheme of school clusters. The school clusters taken together constitute a network of schools.

Objectives. The objectives of the school clusters laid down in Article V of the Act are to bring about improvement in the following areas by co-operation and mutual support: (a) academic affairs (i.e. academic improvement); (b) school buildings; (c) personnel (i.e. staff development); (d) pupils' activities; (e) secretarial and financial matters; and (f) relationship between school and community.

Organizational structure and management

Article IV of the Act contains the following directive for developing the organizational structure of school clusters:

> The District or Branch District Primary Education Committee shall group together all schools under the Office of the National Primary Education Commission (ONPEC) located in the district or branch district into school clusters in conformity with the following:
>
> 1) A school cluster shall consist of not less than seven schools but not exceeding ten schools.
>
> 2) If it is necessary to group together a number of schools which is higher or lower than the figures stipulated in (1), justification to obtain permission must be submitted to the Provincial Primary Education Committee.
>
> 3) The grouping of school clusters can be based either on geographical conditions, administrative structure, or conditions of communication in the area. The school clusters may be named after the localities or be given other names as appropriate.
>
> 4) The School Cluster Committee shall designate an appropriate school to serve as secretariat of the school cluster.
>
> 5) When a school is founded, it shall be included in the school cluster in accordance with the above-mentioned regulations.

Based on the aforesaid directive, school clusters have been formed throughout Thailand, one for each group of seven to ten primary schools. The total number of school clusters is at present 4,079. The number of schools included in the

clusters is 30,693 which is the total number of primary schools run by the ONPEC. A common feature of the organizational structure of each school cluster is that it has a core school. An attempt is being made now to develop this core school into a resource centre. The first network of 162 resource centres was created in 1983. These are located in the two pilot provinces. Each resource centre at the cluster level aims to:

a) produce instructional media;

b) advise on and enhance the use of instructional media;

c) keep a record of instructional media;

d) provide services on instructional media;

e) repair and maintain instructional media;

f) follow up the result of instructional media use; and

g) help carry out the six tasks of school clusters, viz, improvement in academic affairs, school buildings, staff personnel, pupils' activities, secretarial and financial matters, and relationships between school and community.

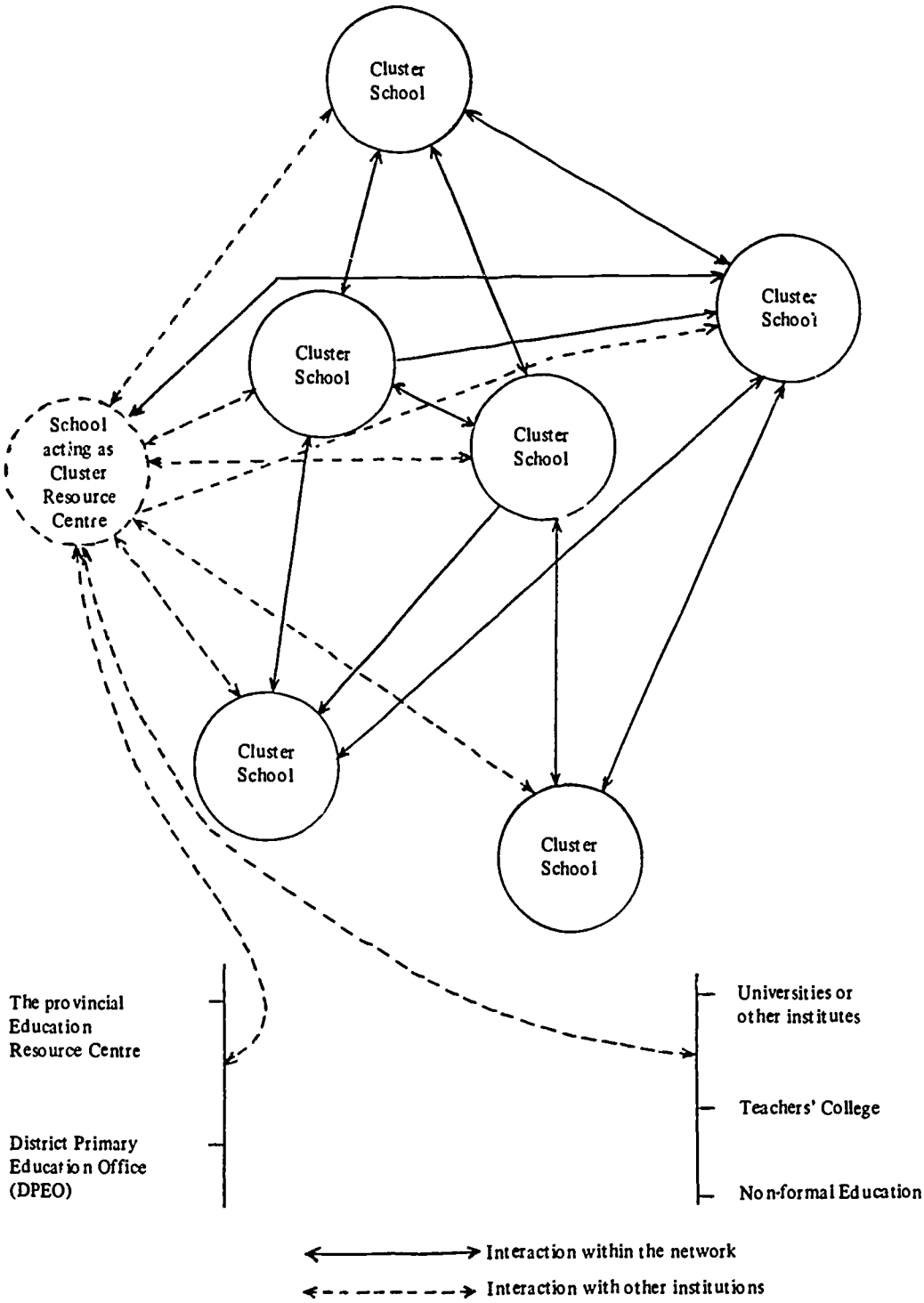
For achieving these objectives, each resource centre lays a great deal of emphasis on the in-service and cluster training of their teachers in the member schools which means that the teachers of the member schools come regularly to attend workshops, seminars and other programmes organized by the resource centre.

Linkages – horizontal. It is obvious from Figure 2 that schools within the cluster interact with one another; that is, they exchange instructional materials and audiovisual aids. An expert teacher from one may also go to another school to give demonstration lessons, etc. It will thus be seen that the linkage that exists between all the schools within the cluster is horizontal. Horizontal linkage also exists between the resource centre, which too is a part of a primary school, and the member schools of the cluster. This is explained by the fact that the resource centre, being the base for material production and teacher development, can achieve these objectives if it gets feedback from schools and modifies its programmes accordingly.

Other linkages. The other linkages of school clusters are with the Leader Schools which form another network. Leader Schools fall under the jurisdiction of the Department of Curriculum and Instructional Development and are model schools in all the four experience groups – basic skills, life experience, character education and work experience. If a school is selected to be a Leader School, it receives some support from the Department. Teachers from resource centres and other schools nearby use these leader schools as a place to visit and learn from examples. It is expected that by setting up these schools, the question about what a good school should be like, is answered clearly. Thus, the network of leader schools is linked with the network of cluster schools.

Another networking structure which could be used by leader schools and resource centres is that of teachers' colleges. Thirty-six such colleges form a

Figure 2. Organizational structure of a cluster having a resource centre



consortium. The resource centres can have linkages with this consortium to improve their teacher education programmes. The resource centres can also fall back upon the academic resources of universities and can develop a linkage with them.

Innovations

School clusters aim at adopting and generating innovations in all curricular and co-curricular areas. Moreover, school clusters' resource centres and their networking structure is an innovation that has immense potential for mobilizing the existing physical and human resources of schools to further their programmes of school improvement and to give a fillip to the development of the idea of co-operation and interdependence among schools. As soon as this innovation catches up, schools will adopt and generate new ideas and innovations pertaining to all teaching-learning aspects and co-curricular activities for achieving an all-round development of students.

Resources

Viewed in this context, a networking structure is a great existing resource and has immense potentialities for its further development and utilization. The structure is building up its resources of skilled, competent and committed personnel who bear promise for tremendously improving the standards of education and for promoting the use of educational technology and materials.

Motivation/incentives/recognition

The cluster system within the network uses many built-in devices for motivating teachers. For example, schools within each cluster are ranked in the order of their academic performance which is judged on the basis of students' achievement tested through an examination held at cluster level at the end of the academic year. The teachers working in schools, ranked first, second or third, get appreciation and recognition. They may also be considered for accelerated promotion.

Monitoring/evaluation/feedback/renewal

This is done in each cluster by the Cluster Management Committee which consists of all the principals of the member schools and some teachers who are professionally very competent. These teachers are drawn from different schools and keep on changing every two years.

The Management Committee visits every school in the concerned cluster at least once in each term and evaluates the functioning of the school and the follow-up made by it of earlier recommendations and suggestions. The Management Committee also checks up whether or not the school is working according to its plan and calendar of activities. It is noted that there exists a tremendous potential in the innovation.

Salient features of the networking structures

An analysis of the foregoing networking structures reveals that they have certain characteristics which are common to all and that there are some others which are unique to each structure.

The common characteristics are:

Clustering of schools. In every network, schools have been grouped into clusters. Each cluster acts as an entity.

Collaborative strategy. An annual plan for the improvement of the cluster is prepared jointly in every structure. This plan covers all the schools in the cluster. Its implementation is monitored by the cluster management committee. In fact, the entire cluster acts as a corporate body.

Shared communication. There is shared communication in each networking structure. Messages go freely in all directions, upward, downward and laterally, which means status differences do not block communication. This happens both within and among schools in the cluster.

Sharing of resources. In each networking structure human and physical resources are shared. Schools within a cluster borrow teaching aids, including overhead projectors and hardware, from one another wherever they are available. They also arrange demonstration lessons and discussions for improving the teaching of academic subjects.

Trust. In all the networking structures, there exists an atmosphere of mutual trust, which means that staff members and teachers go to their colleagues for support and help without any fear of being exposed or lowering their status in the estimation of others.

Self-esteem and esteem for others. Another common characteristic is the development of the feelings of worth and self-esteem in all the members. They feel that they are capable of doing something useful and worthwhile in their school by using their talents and skills and that they are heard and consulted by their colleagues. Their opinions are valued and taken seriously. This leads to the improvement of the self-concept and morale of teachers.

Networking structure as an innovation. Teachers and other personnel working in a networking structure view it as an innovation which has great potential for improving the educational system.

Staff development. In every networking structure, there exists an arrangement for the in-service education of teachers.

Shared responsibility. There exists a cluster management committee in every structure. This committee is charged with the responsibility of running all the schools in the cluster efficiently and effectively.

Horizontal linkages. In every networking structure, there exists a horizontal linkage among schools as well as among teachers.

Pupil evaluation. Pupil evaluation is carried out in every structure at cluster level through a common examination.

Community participation. Community participation in schools is also a common feature of the networking structures. A cluster mobilizes the community's human and other resources for its support, which in turn promotes community welfare by arranging non-formal education programme.

Improving the Structure

There is a felt need for strengthening the present networking structure. In order to strengthen it, the following programmes should be carried out:

1. Academic improvement;
2. Community participation (relations); and
3. Staff development.

Academic improvement. To ensure that high standards of education are maintained, students' progress must be assessed regularly. Information on this aspect will allow the planner to pinpoint the weaknesses of the educational programme so that appropriate corrective measures can be planned. National goals will be analysed and the standards will be set and used as a criterion for the assessment.

The following programmes will be conducted annually: (a) providing teaching-learning materials for schools; (b) production of teachers' manuals in the use of teaching-learning materials; (c) introduction of mobile-media library project; and (d) development of the quality of primary education by improving teacher competencies through in-service education.

Community participation. In the school year 1981, there were 30,548 schools under the jurisdiction of ONPEC, of which 11,195 schools or 36.65 per cent were community schools.

In the report of the field study visit to Sisaket province it was found that there were many problems with these schools. For instance, (a) the community around the schools did not have an adequate number of professionals available to them; (b) teachers and school administrators were not clear with their roles and tasks and did not wholly co-operate; (c) equipment and materials were inadequate; (d) facilities were not suitable for community service; and (e) inadequate co-operation from other local agencies compelled administrators to make special efforts and sacrifices. There is also the problem of school-community relations which makes it difficult for the school to provide community services.

In this respect, the ONPEC will set a plan to serve all schools that conduct community development activities without being officially designated as community schools. They include: the National Literacy Campaign; Work-oriented Teaching Project and In-service training for character education of teachers.

Staff development. To meet the new and emerging challenges of networking structures in primary education, personnel with varying competencies are required.

Mutual co-operation for school development

Adequate training of personnel is a major concern of the entire country. Many innovations have been tried and the exchange of experiences is found to be very helpful. The following major areas for collaborative effort are important in respect to teacher preparation: (a) relationship between teacher competencies and effective education; (b) new models for pre- and in-service education; (c) adaptation of training materials; (d) distance learning techniques; and (e) undertaking a research and development programme.

Follow-up activities. Follow-up activity plans include; (a) constant supervision; (b) organization of workshops and seminars; and (c) development of inservice training programmes.

Follow-up supervisory activities on evaluation of networking structures;

i) An officer who is in charge of each project will go round the schools once a term;

ii) At a provincial level, provincial supervisors will do the follow-up once a month.

iii) At district level, the district supervisors will do the follow-up once a month.

iv) The best academic teacher will supervise at the school cluster level.

Organization of workshop/seminar. A workshop/seminar on the collection of data and the ways to improve the school cluster management will be organized at provincial level and attended by the chairmen and secretary of the school cluster.

Another workshop/seminar on the collection of data for the improvement of the plan will be organized at national level for the directors of the Provincial Primary Education Offices, the chief of the district primary education offices, and the chairmen of each school cluster.

In-service training. During the year 1985, two in-service training programmes are scheduled to be conducted for: (1) school administrators; and (2) primary school teachers.

The first programme will train the country's 30,693 principals. It will take place from 1 June to 31 July 1985 at 500 district offices which will be used as the centres of in-service training. The objectives of this in-service training will be to improve the principals' management competencies at the school and cluster level. All the trainees will receive a self-learning package which has about 40 lessons separately in a box or kit. They will work on these kits during five days of training.

The second programme will be to train the country's 329,374 primary school teachers. The focus of the training will be on teaching-learning activities and the use of instructional materials. The core school in each cluster will be the place for the in-service training which will take place from 1 August to 30 September 1985. The materials to be used in this training will also be self-learning packages. To make the training more efficient, radio programmes will be conducted during the training period which will run for several days.

Follow-up and evaluation of these two programmes will be done by the supervisors of four levels – national, provincial, district, and school cluster committee.

Summary

It will be obvious from the analysis that networking structures have a number of common characteristics which throw light on the significance of this innovation for promoting educational development. This aspect will be discussed further in Chapter Three. The unique characteristics given in Table 3 reveal that the innovation is not being adopted in a stereotyped or tailor-made manner. It has been adapted by the countries, keeping their urgent needs and priorities in view.

Table 3. Unique features of networking structures in selected countries

Sl.No.	*Country*	*Scope of the Project*	*Grades/levels covered*	*Size of the cluster*	*Growth Points*
1.	Philippines	National Project covering all schools	Grades I and II – These are intra – school teachers' clusters by grades	(i) Each school normally has one Learning Action Cell (LAC) comprised by 3 to 12 teachers teaching Grades I and II. Schools having more than 12 teachers teaching these classes have 2 LACs. Grade I teachers within each LAC operate as one group and grade II teachers as a second group. (ii) 15 to 30 schools represented by the precipals. This cluster covers all primary grades.	1. Professional development of teachers at school level. 2. Development of values 3. Continuous non-formal training with a specific time frame of two years.
2.	Sri Lanka	Pilot project covers about 3 per cent of schools	Primary and Secondary Levels	10-15 schools	1. Rational allocation of resources and deployment of teachers on a cluster basis. 2. Enhancing teacher competencies using resources at cluster level. 3. Curricular and co-curricular activities at the cluster level.
3.	Thailand	National Project covering all schools	Primary level	7-10 schools	1. Production of instructional materials and teaching aids. 2. School – community relations. 3. Resource centres

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OTHER FORMS OF INTER-INSTITUTIONAL CO-OPERATION

The following is a compilation of diverse forms of existing inter-institutional structures in Bangladesh, India, Malaysia, Pakistan, Papua New Guinea and their plans for revitalizing inter-institutional co-operation.

Bangladesh

Many primary school teachers are untrained, unqualified and work under difficult dircumstances. As a result, some teachers suffer from poor morale and lack the respect of the community. To improve their morale and professional competence, some concrete steps must be taken. A networking structure of school clusters may be one method.

The procedure followed at present for the in-service education of primary teachers is that the Assistant Upazila Education Officers (AUEOs) visit schools and organize small group training for the teachers on a specific subject using low-cost training material called the Teachers Leaflets. Leaflets exist on different subjects and are semi-self-instructional tools for teachers.

Present status of networking. Before undertaking the aforesaid teacher training programme in different school clusters, the following steps were taken:

1. a) A National Level Training Committee (NTC) was formed. The NTC selected 30 core resource persons from the various institutions connected with teacher training, namely: National Academy for Primary Education (NAPE), National Institute for Educational Administration, Extension, and Research, National Curriculum and Textbook Board, and the Institute of Education and Research;

   b) The members of the National Training Group (NTG) were selected from the Primary Training Institutes and field level supervisors; and

   c) Training content, materials and the methodology for the training of the NTG were designed and developed.

2. a) Members of the NTG were selected and trained at NAPE by the core resource persons;

   b) Training materials were produced by NTG as the AUEOs manual/ module for organizing cluster training courses; and

   c) Printing of prototype teachers' leaflets designed and developed by CPR and NTG was completed.

3. Orientation on the cluster training framework of the field supervisors was completed.

4. Training of all AUEOs was completed.

5. A foundation course for primary school head teachers on a rotation basis at upazila level has been started.

6. Cluster training for primary schools, to teachers at school level through AUEOs regular school visits. In support of the cluster training, teachers leaflets will be utilized through the AUEOs as training materials.

Proposed plan. Cluster training is an innovative programme in the Bangladesh context. As such, careful preparation and planning has been necessary in order to ensure successful implementation. All the key personnel and the field level supervisors have received their necessary training. Recruitment of teachers, their promotion, training and transfer are placed at the disposal of the "Upazila Parishad". The Upazila Parishad will now look after the education system including development of the schools.

The present structure needs some of the following changes at the grass-roots level:

a) The number of schools under the supervision of each AUEO will be divided into two groups. In each group one school will be a resource school in the school cluster. The resource school will be equipped with audio-visual equipment and teaching aids.

b) A committee is to be formed in the cluster schools. The head teacher of the resource school will act as a chairman of the committee and one teacher from each cluster school will be a member.

c) The committee will meet once a month to discuss problems and to exchange views.

A National workshop will be organized to develop alternative forms of networking structures and develop further cluster teacher training at upazila level in 1985.

Other cluster training plans are as follows:

Table 4. Cluster training plan (Bangladesh)

No.	*Activities*	*Action (person (s) involved)*	*Duration/time*	*Venue*
1.	National workshop – to develop alternate form of networking structure and develop further cluster teachers training.	National Level Training Committee and National Training Group	Dec. 1984	Dhaka
2.	Training/workshop of Assistant Upazila Education Officer (AUEO) on alternate form of networking structure.	1834 AUEOs	Jan.-Feb. 1985	47 PTIs
3.	Foundation course on cluster networking structure.	37,000 primary head teachers	Feb.-Apr. 1985	Upazila level
4.	Cluster teachers training	160,000 primary school teachers	July 1985 onwards	School level

India

The Education Commission (1964-1966) referred to a great many maladies in the educational system of the country. To remedy some of them, the Commission recommended that inter-institutional co-operation may be developed among schools by setting up school complexes. This recommendation of the Commission is very significant, for an inter-institutional network can improve the quality of primary education substantially by fostering self-help and co-operation among primary teachers and schools.

Review of experiences. Each school complex was supposed to be a cluster of about 28 lower primary and five primary schools and one secondary school. The linkages in these schools were, by and large, vertical and not horizontal. Since horizontal linkages are the basis of networking structures , school complexes are not strictly speaking networking structures. They have also not succeeded, except in Maharashtra where they have been tried out in a modified form. However, they can be considered as a precursor, for they have been created on the concept that inter-institutional co-operation is basic to improving the quality of primary education.

In Maharashtra State, there are 1,122 school complexes of which 746 secondary schools and 376 full primary schools are working as Central schools. At the primary 1,198,338 students and at the secondary 337,876 students have benefited by the scheme. Among these school complexes, the first was launched at Charoli. It is located at a distance of 2 kilometres from Alandi on the Alandi-Pune Road. It was started in 1977 from the determination of the State to do away with the inadequacies of the schools and bring in overall qualitative improvements. Its major thrust was on reducing the wastage and stagnation and rate of drop-out, thereby facilitating the problem of universalization of elementary education.

The Charoli Complex has a total of nine constituent schools. Of these, one school is a high school with standards 5 to 10, two are elementary schools with grades I to VII and the rest of the six schools are primary schools with grades I to IV. Out of the primary schools, one is a single teacher school, three are two-teacher primary schools and the other four are schools with more than three teachers. The high school serves as the central co-ordinating school and the rest of the eight schools work as feeder schools. The nine schools work as integral constituent units of the central school and together form one school complex. There is a continuous flow of exchange of resources between the constituent parts of the complex. The schools within the complex grow from within through each other's support and help.

Objectives of the complex. The main objectives of the Charoli complex are to:

a) break the isolation of weak schools and help them to function as co-operative groups;

b) create a healthy climate of mutual co-operation and involvement of all the schools and community for qualitative improvement of the schools;

c) motivate teachers and students to strive to improve the standard of the schools; and

d) evolve better teaching/learning activity, increasing pupil attendance and enrolment.

Modes of operation of the centre. The central school acts as a co-ordinating agency extending help to the feeder schools by way of keeping its science laboratory, equipment, school building and school field open for use by the feeder schools.

It lends its teachers to other schools at specified times to help the teachers of these schools.

It takes up the responsibility of monitoring and evaluating the progress of the schools within it through mutual interaction. In case of any problem, meetings of headmasters/teachers are called, causes analysed and solutions found by joint planning.

While the broad principles of development are decided in a series of meetings, individual schools prepare their own action plan.

The activities of Charoli complex are characterized by a number of innovative features:

a) The activities of the complex promote healthy rapport at all levels – teachers, students, headmasters and the community. Shared learning and growth through mutual help are the keynote of all the activities.

b) Institutional and phased planning are basic features of the complex.

c) It encourages continuous evaluation by the schools through self-evaluation and creates an urge to strive for a better goal.

d) The complex works as an experimental centre for trying out new methods, strategies, materials and dissemination of information.

The proposed plan of networking. The proposed plan of other co-operative networking structures will be introduced as a pilot project, to begin with, in the primary sections of central schools situated in Delhi, Meerut and Dehradun. Before presenting the plan, it is necessary to ponder over the logistics that would go into making the plan. In this context, the first thing is that central schools are integrated institutions running both primary and secondary classes. The primary classes begin from grade I and go up to grade V. The pupil enrolment in these grades, taken as a whole, is more or less even and is on an average 600 per school. A second aspect that may be referred to, as the plan will also be based on it, is that there exists a class-teacher and not a subject-teacher system at the primary level in all the central schools. The number of teachers teaching primary classes in a central school is on an average 20. Thus in three central schools there will be about 60 teachers.

School clusters. These 60 teachers and three central schools would form one cluster. All the 21 central schools in Delhi included in the project will be divided

into seven clusters. Each cluster will have a cluster management committee which will function like a family or fraternity that will jointly plan the objectives, strategies, programmes and innovation, for the cluster as a whole. The membership of the cluster committee will be as follows:

1.	Headmaster/headmistresses of primary sections (one from each school)	3
2.	Teachers (four from each school – one each strong in language skills, mathematics, life experiences in social and science environment, work experience, and teaching of moral values)	12
3.	Parents (2 from each school)	6
	Total	21

The three clusters in West Delhi will be linked with one another and form one network and the four in the rest of Delhi would form another network.

There would be arranged competitions in all the spheres of the functioning of the schools among clusters. These competitions would be arranged by the inter-cluster committee. They will help the committee in ranking schools in an order of their merit.

Similar action would be taken in Dehradun and Meerut.

The stages involved in the project will be:

Stage 1. *Planning stage.* A series of workshops will be held in which all the headmasters/headmistress and the primary teachers of the central schools of Delhi, Dehradun and Meerut will be oriented towards the innovation of networking structures. In these workshops, teachers will go through the relevant literature, Unesco's experiences and experiences of other countries in which networking structures have been tried out.

Stage 2. *Preparing scheme of networking structures.* One teacher whose participation is judged as outstanding will be chosen from each school to participate in a workshop which will be held in Delhi. In this workshop schools will be divided into clusters and a plan containing objectives, organization structure and activities will be prepared for each school cluster. During this workshop, school cluster management committees will also be appointed for each cluster. The functions of these committees will also be laid down.

Stage 3. *Inter-cluster committees.* About on month after the clusters have been created, inter-cluster committees would be formed and their functions laid down in a workshop.

Stage 4. *Evaluation and feedback.* About a month after Stage 3 has been in operation, teachers from all clusters will be invited to evolve evaluation procedures for getting feedback.

The report of the pilot project will be prepared after the project has been in operation for one year. The report will then be submitted to the Board of Governors of the central schools organization to advise on the extension of the innovation to cover all the 501 central schools in the country.

Malaysia

Networking structures at grass-roots level evolve from an awareness of the existence of an imbalance in educational facilities and educational environment among most primary schools especially between the small and the large schools leading to a disparate level of achievements in the country's present school system. It is to combat this problem that the innovative programme of the networking structure should be introduced, the main purpose of which is to assist teachers, especially in rural areas, to solve some of the different problems and difficulties that they are facing. The solution involves the teachers directly.

Present status of network. Neither of the two high level committees in operation in the Ministry of Education; the Education Planning Committee and the Central Curriculum Committee, have given any priority to networking structures at grass-roots level.

Proposed plan

The Perlis State Education Department feels that by introducing the networking structure, i.e. Area School System the following objectives will be achieved:

i) an 'area' will have a resource centre at the core school;

ii) headmasters will be able to play important roles in promoting the use of teaching aids among teachers;

iii) small schools in an 'area' will have the opportunity to use modern teaching instruments and materials which would be borrowed from the core school;

iv) teachers within the 'area' would be motivated to be more innovative by having in-service training;

v) teachers will be provided with an environment where they can work on materials or projects for their pupils, receive instruction individually or in groups and to teach and learn from one another;

vi) teachers will be advised and assisted in their schoolwork and at the same time be able to determine their starting points for further improvement; and

vii) classroom research studies and other similar activities will be conducted to assess and identify teachers' needs and improve the classroom teaching-learning processes.

The Education Department will introduce the concept of the Area School System as an organizational and management innovation to overcome the shortage of teaching materials in small primary schools. There will be 6-8 schools in each area.

With the formation of the Area School System, a main committee and an audio-visual aids committee will be formed in each 'area' to service the administrative mechanism.

The Main Committee will consist of all the headmasters in an 'area'. The Chairman will be appointed by the State Director of Education. He will be the most senior beadmaster in the 'area' in charge of the core school. The vice-chairman, the secretary and the treasurer will be elected by the headmasters. The functions of this committee will be to:

i) set up 'area school' policy;

ii) estimate the annual budget;

iii) plan and co-ordinate area activities;

iv) monitor the implementation of the activities; and

v) set evaluating instruments.

Representatives from the State Education Department and the Federal Inspectorate will act as advisors to the Main Committee which will meet once a month.

The Audio-Visual Aids Committee will comprise a headmaster nominated by the Main Committee, who will be the Chairman, and representatives from each school, preferably the audio-visual aids teachers. These representatives will elect the Vice-Chairman and Secretary of the Committee. Representatives of the State Education Department and Federal Inspectorate will act as advisors. The main functions of this committee will be to set a resource centre at the core school; to plan and organize in-service training for teachers in the 'area'; and to construct and produce teaching materials. This committee will meet once a month after the Main Committee meets.

Plan of activities. Early December 1984: Briefing the Director of Education on the meeting of the APEID Study Group in Bangkok and informing him on the networking structures and their importance and seeking his approval for setting up networking structures at grass-roots level in the state.

January 1985: Conducting a meeting of the headmasters regarding the setting up of networking structures. In this meeting the following points will be discussed and decisions taken:

i) Planning and organization of networking structure policies; back-up support, finance; staffing; and participation of the officers of the State Education Department and the school inspectorate.

ii) Execution of programme through which realistic objectives including the formation of a committee to do the feasibility studies of establishing a school resource centre will be laid down and materials and methods enlisted.

iii) Follow-up procedures will be delineated.

February 1985: Implementation stage.

Pakistan

Today, nearly half of the nation's children do not go to primary schools. Low enrolment is further aggravated by high drop-out. Low enrolment and high drop-out have been attributed to a number of out-of-school and in-school factors. Of the out-of-school factors, general poverty, low motivation of rural people to send their children to schools, un-inviting rural conditions, socio-cultural inhibitions towards the education of females, and malnutrition of children are said to be responsible for this situation. Among the in-school factors, extremely poor condition of school buildings, lack of equipment and teaching aids, shortage and absenteeism among teachers, inadequate supervision, poor communication facilities, and low morale of primary school teachers and their harsh treatment of pupils, unattractive school curriculum and environment significantly contribute to the present state of primary education.

In order to improve the present status of primary education there is need to make changes in the school environment. It should be so attractive that children feel like going to school and enjoy being there. This may be possible by developing networking structures at the primary level of education.

Nature of proposed networking activities. By networking structure is meant self-management, self-diagnosis and self-improvement at the local level. A set of people of the same rank, or a set of institutions of the same level are able to interact with each other on a continuing basis for organizing activities jointly, keeping the curriculum in view. In other words, a networking structure means equal and reciprocal relationship. The structure builds a bridge of understanding rather than walls of misunderstanding. It gives a peer-relation feeling. It gives a sense of belonging. It helps in the development of self-respect and development of personal and group identity. It also gives the idea of shared responsibilities, and improves the quality of education.

At local level a number of different primary schools identify their problems and try to solve them. Thus they form a group or a cluster. The schools in each cluster of the proposed networking structure will be more than five, but less then ten. These schools will share with each other their resources in terms of information, experiences, ideas and responsibilities. Thus, an inter-cluster relationship will be established.

Mutual co-operation for school development

There will be a resource centre. This resource centre will be the common property of the cluster. This resource centre may be located in a member school or in any other location. The cluster committee meet in the resource centre once a month and share their experiences. Through this sharing, they co-operatively solve their problems. If they need the guidance of experts, they invite resource persons either from training college, university or the education office to help them solve their problems.

Similarly they may get help from the community, village, or mosque to solve the school problems, A skilled man from the village may be asked to help the children in certain skills. A learned man from the mosque may be asked to talk on moral education.

Review of experiences. The concept of networking structure has been specifically worked out to suit the objectives of the Primary Education Project and is, currently under implementation only within the province of Punjab.

Within each cluster of six schools, there is one school known as the central school. The central school is usually the best school of the cluster. The centre school acts, additionally, as the headquarters of the Learning Co-ordinator. The centre school is a part of the National System and is under a District/Tehsil Education Officer.

Proposed plan for network. The existing networking programme of Punjab Province will be further encouraged, enriched and improved. The Department of Education N.W.F.P. will organize an in-service programme for a week or two in order to emphasize the importance of the networking programme. It will be organized at provincial level.

The objectives of networking are to:

i) improve the quality of education;

ii) inculcate a sense of belonging, promote mutual co-operation and develop a sense of self-reliance among the schools and teachers in the cluster;

iii) encourage the production of instructional materials at the school level in order to economize on school expenditure; and

iv) encourage active community participation.

Strategies. A meeting will be convened with the Minister of Education, Secretary of Education, Director of Education, Additional Director of Education, Director of Education Extension Centre, Divisional Director male/female, and the Director of Finance of the Province. This one-day meeting will be held at the office of the Secretary of Education N.W.F.P. on 26 December 1984. In this meeting, the experience gained at the Study Group meeting under APEID (Asia and the Pacific Programme of Educational Innovation for Development), will be used to draw attention to the fect that networking will lead to economy because by sharing materials, the amount of money needed to support each school will be reduced.

Table 5. Plan for organization of the Workshop

Activity	*Persons involved*	*Duration*	*Place*	*Person(s) responsible*	*Incentive*
1. Meeting with Minister of Education, Director of Education, Director of Education Extension Centre, Director of Finance	Minister of Education, Director of Education, Director of Education Extension Centre, Director of Finance	1 day	Peshawar	Minister of Education, APEID delegate	Promotion perspective identified for headmaster/headmistress and teachers
2. Organization of seminar with district education officers and principals of teacher's training colleges	13 district education officers. 9 principals of teacher's training college	2/3 days	Peshawar	APEID delegate, Director of Education Extension Centre, Divisional Directors	Best school cluster will be identified as a leader school cluster
3. Follow-up training workshop	Headmasters, Headmistresses	2-8 June 1985	District Education Office	District education officer, Director of Education Extension Centre, APEID delegate	– do –

Mutual co-operation for school development

Organization of workshop/seminar. A workshop/seminar will be organized during the spring holidays, ie. in April for two or three days. In this seminar all district education officers and principals of teachers' training colleges will participate. The seminar will focus on the nature of the networking structure, its objectives and strategies. This seminar will be organized by the participant to APEID Study Group Meeting, Deputy Secretary of Education and Director of Education Extension Centre.

The best cluster will be identified as a leader school cluster.

Follow-up training workshop. A workshop for a week will be organized in summer holidays, that is from 2-8 June 1985, in a Teachers' Training College, or in any school of the district. In this seminar, all the headmasters and headmistresses will participate at Tehsil level. These participants are expected to deliver the contents of the workshop at the grass-roots level.

Establishment of a system for monitoring implementation of follow-up training workshop. The District Education Officer will do the supervision.

Support mechanisms. District of Education Extension Centre, and the principals of teachers training colleges will support the programme.

Papua New Guinea

The deteriorating standards of education in Papua New Guinea's educational system is a major concern. One of the dynamic approaches that immediately needs to be adapted for the improvement of standards is the co-operative networking structure which has been proved to be very successful in several Southeast Asian countries like the Philippines, Sri Lanka and Thailand.

Review of experiences. The Education Department in Papua New Guinea is currently trying to enrich and expand its educational system in quality and quantity centred around its Provincial Education Resource and In-service Centres. There is a need to further decentralize the system to the grass-roots level in order to strengthen the already existing co-operative working relationship amongst teachers, communities and educational institutions. Few networking structures exist at present.

Proposed plan for network. With the creation of the National In-service Co-ordinators Unit, it is hoped that the existing provincial networking structures will be further developed, enriched and improved. The Unit will co-ordinate and organize courses for provincial and cluster resource officers who will then man the different institutions involved in the network.

The networking structure will:

a) stimulate the idea of self-reliance in all the institutions;

b) decentralize the production of educational resources and allow teachers at grass-roots level to initiate their own projects;

c) promote the creation of resource centres in leader schools of clusters while at the same time enable the school managers to share some of the responsibilities amongst themselves; and

d) improve the quality of education.

Draft plan for a follow-up training workshop. A two-week workshop will be organized in 1985 for 30 provincial resource centre officers. The idea of networking as a solution to solving many educational problems will be emphasized.

Incentives to further strengthen the networking structures. It is hoped that the already established rewards and motivation amongst personnel involved in the networking structures will be maintained with the implementation of the following incentives:

Exchange of fellowship scheme. This scheme will enable current and potential leaders to go to other already established centres for one or two weeks to learn something about the types of activities, courses and managerial skills organized and conducted there. It will also allow them to see, meet and discuss matters relating to the resource centres, cluster schools and leader schools. The experience will then be taken back and used to improve or establish better networking structures.

Yearly meeting. This will help the personnel involved in networking activities to get together once a year and share their yearly achievements, failures and problems relating to their operations within the year. It will also help establish understanding and co-operation amongst the different leaders to work harmoniously as a team.

Newsletter. A monthly or perhaps quarterly newsletter on networking operations and activities conducted in different institutions within the networking structures in the country will help the leaders to share ideas and learn from each other about the resource centre, cluster school and leader schools operations, problems associated with daily routine and achievements. It will also help establish understanding amongst the various leaders which will enable them to co-operate more in their work.

Evaluation. There is already an existing evaluation mechanism in the educational system of Papua New Guinea to evaluate the performance of the networking structures. The same will the followed.

Chapter Two

CO-OPERATIVE IN-DEPTH STUDY ON SELECTED NETWORKS

Institutions/centres visited

The three-day study visit in the Sisaket province of Thailand provided a splendid opportunity for the Study Group to gather first-hand information on networking structures and connected institutions that play some role or the other in connection with such structures.

The types of instituions visited were as follows:

Core schools of school clusters. Four such schools were visited: (i) Sieo School Cluster of the Kantaralak district; (ii) North Prueyainuer School Cluster in the Khukhon district; (iii) Nong Crock School Cluster in the Muang district; and (iv) Paw-Bung Boon School Cluster in the Bung Boon branch district.

The School Cluster Committee selects an appropriate school, depending on available facilities, location and the size of the school to house its secretariat. This school is known as a core school.

Resource centres from another network. Resource centres were established in 1983. The ones visited by the Study Group were located in core schools of the Clusters. A resource centre serves as an instrument for carrying out the six tasks of school clusters. Production of relevant instructional media and enhancing teacher competence in the use of such media forms the main area of concern of the resource centres.

Member school (small school). Banko Primary School in the Rasisalai district is a member school of a school cluster.

Leader school – Sriprachanukol Primary School in the Khukan district. A leader school is a model school intended to set pace of educational development in the district.

Provincial resource centre – Sisaket province. It is a centre for producing and administering instructional media at the provincial level. It gives supplementary support to the cluster resource centre.

Purpose of the study visit

Attention was focused on the following factors connected with networking during the field visits:

a) the purpose for which such centres were established;

b) historical evolution of the establishment of such centres and the problems encountered;

c) organizational structure and management of such centres;

d) activities organized by such structures on networking basis and their links with former and future activities;

e) planning and management approach used by such centres;

f) expected outcomes in organizing activities on networking basis;

g) evaluation procedures adopted and plans for evaluating impact;

h) resources available at such centres for implementing programmes;

i) linkages established for the successful working of such a structure; and

j) innovations introduced.

Methods of in-depth study

The methodology adopted in achieving the above-mentioned objectives of the field visit was mainly based on: (a) presentations by the organizers/implementors at the local level; (b) discussions following such presentations; (c) informal discussions/interviews with those concerned; and (d) personal observations of participants which were assembled together by the respective groups in their analysis subsequently. The Study Group made an in-depth study of the: (a) core school clusters resource centres; (b) small school; (c) leader school; and (d) provincial resource centre. The observations made are described below:

Core school/resource centre. Success of the innovation on networking structures depends to a very great extent on co-operative efforts, mutual understanding and interaction. For those interested in studying this innovation as a means of educational development, an opportunity to observe activities and interactions at the operational level is of paramount importance. It is with such an end in view that the study group's visits to the following core schools/resource centres were undertaken:

i) Sieo School Cluster in the Kantaralak district.

ii) North Prueyainuer School Cluster in Khukhan district.

iii) Nong Crock School Cluster in the Muang district.

iv) Pau-Bung Boon School Cluster in Bung Boon branch District.

Factors common to all clusters/centres visited. The purpose for which such structures have been established is common to all structures as they came to be initiated as a result of Government Policy in regard to introducing networking structures at grass-roots levels as a possible solution to overcome problems of management and of improvement of the quality of education in primary schools. Such structures operate on the basis of guidelines indicated in the National Primary Education Commission Regulation – Act No. B.E. 2523. (1980)

School clusters are considered a cost-effective measure at the grass-roots level aimed at improving standards and introducing decentralized administrative procedures.

Mutual co-operation for school development

Resource centres were established for the specific purpose of improving the teaching/learning situation – providing a centre for academic activity; mainly production of teaching material and training of teachers.

Historical evolution of all clusters/centres visited. In the 1960s, the Department of General Education encouraged all primary schools in the country to set up school clusters. In 1978, the Department of Curriculum and Instruction Development informally grouped schools to help facilitate implementation of the new curriculum. Schools with qualified teachers and good facilities were selected as leader schools to provide academic and supervisory support to schools in the cluster. Sriprachanukool Primary School visited was one such school initiated in 1978.

Since 1980, school clusters have become basic units at the local level. They form an integral part of the decentralized administrative structure of a Primary Education District. The provincial primary education officers play a supportive role in these structures.

The resource centres located in the four core schools of clusters visited were initiated in 1983.

Problems encountered in establishing such centres. Initiation being the result of Government policy, no problem was encountered. However, lack of adequate facilities and personnel were cited as problems faced in carrying out the desired programmes. The persons in charge of resource centres were not in a position to give their best to the cluster as they needed staff to support them. Moreover, the teachers who came to the centres from the cluster schools did their work in the centre in addition to their duties in their respective schools. Despite this limitation, the teachers came willingly to work for the resource centre. They shared the resources available at the centre and generated new resources.

Need for community awareness of the importance of education was felt by all the centres visited in general. Financial constraints were also cited as an obstacle to successful implementation of projects.

Organizational structure and management of school clusters/resource centres. Details of organizational structures, functions and modes of operation common to all clusters/resource centres visited by the Study Group are given below:

i) Each cluster consists of not less than seven schools but not more than ten schools.

ii) Cluster committees are formed consisting of principals and elected teacher representatives.

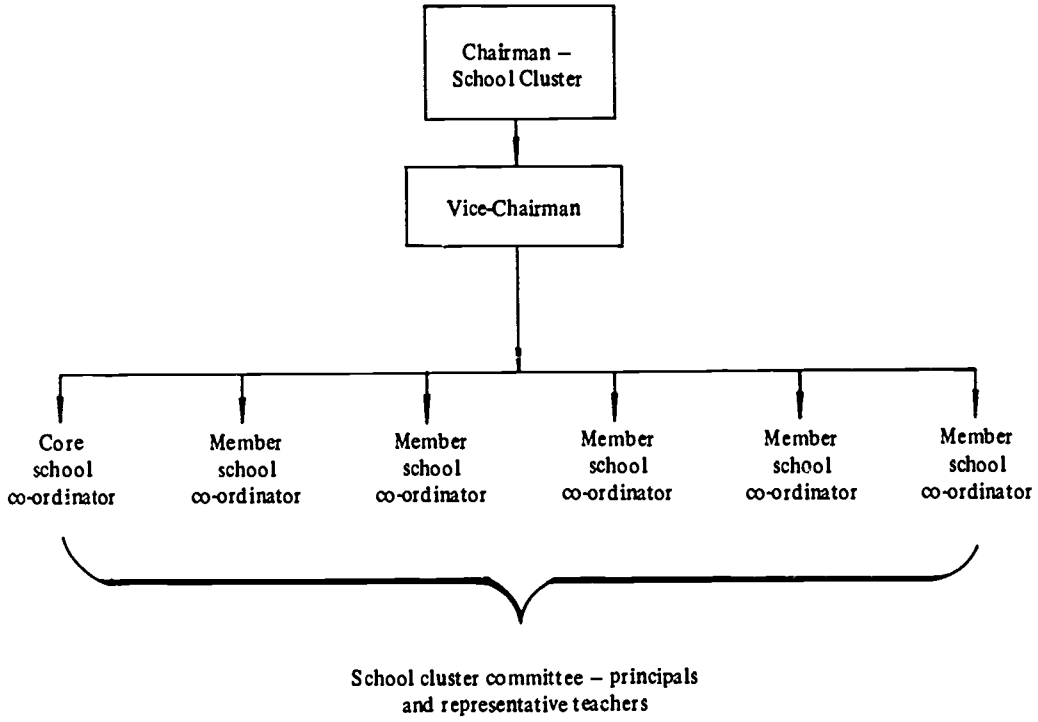
iii) All members share responsibility. Duties and responsibilities are assigned in each school according to the six functional areas stipulated for operation of the network.

iv) Sub-groups in each cluster are in charge of audio-visual aids, repairs and maintenance, and library services.

v) The chairman of the School Cluster Committee is elected from among the principals for a period of two years. All the teachers in member schools participate in electing the chairman. Thus the chairman is not always the principal of the core school. The cluster committee elects the vice-chairman.

Organizational structure of these clusters is given in Figure 3.

Figure 3. Organizational structure of school cluster



The resource centre was administered by an Executive Committee drawn from the school cluster committee.

Activities organized by centres visited. Activities organized by the centres were based on the following functional areas: (i) academic affairs; (ii) school buildings; (iii) personnel; (iv) pupils' activities; (v) secretarial and financial matters; and (vi) relationships between schools and communities.

The specific projects undertaken by the centres are shown in Table 6.

Planning and management approach used. Planning and management approaches used seem to be common to all clusters visited. A general consensus has been developed among the schools in the cluster that such an approach helps in achieving the expected outcomes of the projects embarked upon.

Programmes are planned at the cluster level by the committee, based on needs identified by the schools in the cluster, and then forwarded through the district

Table 6. Projects organized by school clusters visited

Functional area	*Sieo School Clusters*	*North Prueyainuer School Clusters*	*Nong-Crock*	*Paw-Bung Boon*	*Sripracharnukol Leader School*
1. Academic affairs	Resource centre: a) Production of instructional materials b) Teacher training c) Supervision	Resource centre: a) Production of instructional material b) Teacher training c) Library service d) Sharing of audio-visual aids	Resource centre: a) Production of instructional materials b) Teacher training	Resource centre: a) Production of instructional materials b) Teacher training	1. School resource base 2. Production of instructional materials 3. Teacher training 4. Library improvement project
2. School buildings	Planned by committee	Planned by committee	Planned by committee	Planned by committee	Planned by committee cluster to which it belongs
3. Personnel	1. Ethnic and moral development of teachers 2. Contest for instructional material production		Teacher preparation encouraged by principal		
4. Pupils' activities	Student discipline promotion	Exhibitions held along with member schools	1. Aesthetic activities organized on a network basis 2. School gardens project and poultry farming	School co-operative	1. Pupil welfare school lunch programme 2. School co-operative society 3. Agriculture project – profits for school levels
5. Secretarial and financial matters	In-service training for teachers	In-service training for teachers	In-service training for teachers	In-service training for teachers	Participation in cluster in-service training activities
6. School/community relationship	1. Orientation of parents 2. Participation in community activities	Community school cluster held once a term. Literacy classes		Community participation Participation encouraged by involving parents	

administration to the provincial administration for approval and necessary funds. Such an arrangement makes planning at grass-roots level possible. Management of resources such as equipment, instructional materials, and mobilization of community resources is also done by the cluster committee. So are human resources mobilized and developed at cluster level. This approach to tackling problems and management is favoured by all the teachers whose opinions were sought.

The programmes and projects undertaken by the centres visited were well depicted by charts showing the phased programme and the breakdown of activities. Organization charts and assignment of duties as discerned from the respective charts also deserve mention as efforts towards better management.

These observations point to the fact that a positive step has been taken towards adopting planning and management procedures at the grass-roots level networking structures bringing about decentralization of administration.

Expected outcomes. Expected outcomes of the successful implementation of all the programmes, projects and activities organized on the cluster basis at the centres visited reveal the following common features:

a) availability of adequate instructional materials within each school cluster for use by the member schools such as audio-visual aids, equipment, materials;

b) enhanced teacher competencies;

c) improvement in student performance;

d) staff development and positive attitudes among teachers in the cluster to serve the interests of the children;

e) service to the community provided by school;

f) community support and participation for development of education in the school clusters;

g) mobilization of community resources for school development, both material and personnel; and

h) readiness in the schools to implement the new primary school curriculum.

Evaluation. A conscious effort has been made to evaluate the programmes organized by the clusters under different functional areas. The school cluster committee is responsible for the evaluation function of the member schools in the cluster. The committee also uses a monthly calendar of activities to monitor and evaluate the functioning of the cluster schools. The committee conducts a pre-test and a post-test to judge the impact of teacher training. The other method of evaluation followed is that the performance of students in the cluster is compared with their past performance. Observations are made on teachers' attitudes as revealed by their participation in school activities.

Mutual co-operation for school development

A system of recognition of work of teams by assessing the performance of students and rewarding the teachers is being implemented at present. It is to be conducted in a well-organized manner in the future by the district and the provincial administration.

Linkages

a) In the organization of the cluster activities and the resource centre activities, a horizontal linkage between schools as well as with the central/core school is maintained.

b) With regard to dissemination of instructional materials, different models of operation have been evolved depending on the availability of materials between: (i) centre/core school and member schools; (ii) resource centre/core school and two or more member schools; (iii) member school and member school; and (iv) groups of schools in the cluster connected with the core school. The above arrangement was evident in both Sieo and Prueyainuer clusters.

c) There are linkages with the community when efforts are made to mobilize community support. This was seen in the case of Preuyainner cluster and Sriprachanukol leader school where skilled craftsmen help in preparing aids.

d) Subject-wise teacher to teacher linkage appears to exist when they get together for the preparation of instructional materials at the resource centres.

e) Linkages between teacher training colleges and universities in training of teachers at cluster level in response to request were also revealed.

Resource base

a) Financial resources: (i) funds are provided to the cluster on per pupil basis for activities; (ii) provincial funds are made available based on the size of the school; and (iii) community support is often secured in cash.

b) Material resources: (i) equipment is obtained under the pilot scheme; (ii) software instructional materials are produced at the resource centre; (iii) library service exists; and (ii) community support sometimes becomes available in kind e.g. the tables, etc. given to Preuyainuer cluster.

c) Personnel resource base: (i) cluster principals and their dynamic relationship with member principals and teachers form a human resource base; and (ii) talents and skills of individual teachers are utilized for the benefit of all schools in the cluster for the preparation of instructional materials, organization of co-curricular activities, etc. on a cluster basis.

d) Support is given by dedicated officers at the district, provincial and ONPEC, in implementing this innovative networking project. The encouragement and support given by them has gone a long way in inspiring the teachers and principals.

e) Support is given by the community in the form of services.

f) Support service is rendered by the provincial and district offices.

g) The non-formal education section supports production of teaching materials — one or two teachers from each cluster are trained for the purpose.

The above observations were derived from the discussions and facts revealed in visiting the clusters/resource centres.

Innovations. As a result of the in-depth study, it was found that the following are the innovative features of the networks:

The Networking Structures are in themselves an innovation. The five different networking structures have provided an avenue for an integrated and co-ordinated mobilization of existing physical and human resources at all levels. They are geared towards the improvement of instruction and the establishment of an atmosphere of co-operation and interdependence among schools. Because of the establishment of these networking structures, creativeness and innovativeness are shown by teachers.

The schools generate and produce hardware and software. It was very evident during the in-depth study, that the networks had stimulated the innovativeness and creativeness of the teachers, as they were able to make hardware out of local and low-cost materials like the mini-slide projector. The teachers themselves are equipped with skills to produce software like slides and transparencies which will go a long way towards effecting savings.

The schools in the cluster are ranked according to the academic performance of the students. The teachers in the schools who perform well are given awards and recognition. Some are also given accelerated promotion.

Reflective observations/insights. The in-depth study came out with the following reflective observations and insights:

a) teachers become increasingly innovative when they work as members of a network;

b) networking structures develop inter-dependence, create an atmosphere of mutual respect and trust and foster commitment to change;

c) networking structures provide for role-clarification and delineation at all levels. As a result of this, the members develop a sense of shared responsibility and shared ownership;

d) networking structures become increasingly successful because the members themselves plan and manage their own activities;

e) the development of identity and discipline is greatly enhanced by the operationalization of networking structures;

f) sharing of resources and experiences for the benefit of a larger number can best be achieved through networking structures; and

g) staff development takes place through interaction among those sharing common interests.

Suggestion. After a careful analysis of the results of the in-depth study, the following suggestions were made for consideration:

a) Seeing the impact of the networking structure in Sisaket, it was recommended that this innovation be implemented on a national scale.

b) It was also recommended that more leader schools in a district be identified in order that such schools could specialize in certain experience areas, and their networking structure may impinge upon the school cluster networking structure.

c) A bulletin might be issued by the cluster periodically to highlight specific success experiences. Doing this would provide a forum for exchange of experiences between and among clusters in the province.

Banko small school. Banko school is a small rural school located in the district of Rasisalai district. It belongs to a school cluster but it specializes in the implementation of the fourth area of the Thai curriculum, particularly the work experience area which has home economics, agriculture and local industries as its foci.

The school has the following projects: (a) chicken raising; (b) fish culture; and (c) vegetable gardening.

Poultry raising has 60 pupils engaged with 1,800 hens. The average gain is 9,000 Baht per season.

The school also has a fish pond which is approximately 2,000 square metres. It raises various kinds of fish species. There were about 3,000 fish ready for harvest during the visit.

Besides these pursuits, the school has a vegetable garden which is about 3,000 square metres in area. Here, the pupils grow vegetables like onion, lettuce, chillies, cow-pea and others.

One unique feature of Banko satellite school is that it distributes whatever gains it makes in its productive endeavours with the pupils. This way, the pupils earn their way to school. This is a great help to their parents who are poor. This also somehow keeps them from dropping out, as is evidenced in the 98 per cent attendance in the school.

This small school benefits by being in the cluster. This was revealed by the fact that this remote school had access to audio-visual aids from the cluster. On its part, it helps the rest of the schools in the cluster by providing resource persons from among the staff for teacher training on work-oriented learning.

Leader school – Sriprachanukol School. Sriprachanukol primary school is a leader school selected to serve the schools in the Khukhan district. With the revision of the curriculum in 1978, it was found necessary to select a school with readiness to act as a model school. One such school was developed in each district to be a pioneer for implementing the new curriculum. It serves the schools in the cluster to which it belongs as well as the schools outside. Sriprachanukol is one such school in the Khukhan district. It has 636 pupils and 30 teachers.

The school has a lunch arrangement for children. It also has a school co-operative activity, library improvement project, pupil welfare project and production of teaching-learning material project.

The Provincial Primary Education Resource Centre (PPERC). The PPERC of Sisaket province is located at Amphur Muang, the seat of the Provincial Primary Education Office. It is headed by the Director of Primary Education in Sisaket. The functions of the PPERC are given below:

1. Promotion and development of teaching-learning materials and equipment for use in school clusters. They have plaster casts of different kinds of animals which they use to make ceramic models. In the printing unit, they have an offset printing press. They also undertake silkscreen printing.

2. Demonstration of the use of teaching-learning materials and equipment. The audio-visual workshop takes care of this function. They make software like slides, transparencies, and master cassette tapes. These, in turn, are copied by the different resource centres for use of the teachers.

3. Preparation of inventory of teaching-learning materials and equipment and their repair and maintenance both at provincial and cluster level.

4. Supply of the teaching-learning materials and equipment to school clusters.

The significant feature about the Provincial Resource Centre is the supplementary role played by it in helping the School Cluster Level Resource Centre.

Chapter Three

NETWORKING AS A MEANS OF EDUCATIONAL DEVELOPMENT

A number of articles in which grave public concern has been expressed for improving the quality of education have appeared in newspapers in various Unesco member countries during the last few years. It has been said that the revamping of the supervisory or inspectorial machinery, the increasing of the pay scales of teachers and the furnishing of schools with more equipment and facilities, though all very desirable steps in their own right, have not made much dent on the problem and the standards of education still continue to be poor. In addition to the above, other steps must be taken to energise the entire educational system, and create that will power, dedication and commitment in the teachers and other staff personnel to enable them to contribute their co-operative effort and concerted action. In this way the educational system may start moving and gain enough momentum to achieve and improve educational goals beyond the limits now reached by manipulating the physical environment and pay scales.

One step which seems to have a great potential towards energising people is the adoption of the innovative inter-institutional co-operative networking structure. The thrust in this innovation is, as is evident in the salient features of the networking structures of selected countries given in Chapter One of this report; the inter-dependence of schools for solving their problems; the mobilization of the existing human resources within schools for staff development; the in-service education obtained by teachers from one another by sharing available skills and resources within the school cluster system; and the co-operation with the community around the school for generating new resources. This innovation obviously does not entail any heavy financial burden upon the public exchequer, for it is aimed at utilizing the existing resources more efficiently and effectively. Nor does it require highly trained manpower, specialists and experts to put it into action. It can be introduced with the help of existing teachers who by rubbing shoulders with one another and by exchanging their own experiences will help each other grow professionally.

Thus networking structures use motivational paradigms for securing educational development. They are not aimed at promoting educational activity by strengthening the monocratic bureaucratic structure or by following the 'X' theory of management; for these models have failed to work, more so in education which is essentially a human enterprise, manned by a huge human force and which works for the all round development of a still greater number of young humans.

It is because of the aforesaid motivational factors inherent in the networking structures that they are effectively achieving the intended objectives such as improvement in the quality of primary education by vitalizing the teaching learning of the basic skills in numeracy, literacy and communication; by development of life

skills among pupils for meaningful interaction with their social and physical environment; by production and utilization of instructional materials; and by promoting the professional development of teachers. Besides these intended objectives, the networking structures are achieving some unintended objectives, such as:

1. *Improving the appeal and holding power of schools.* The networking structures have made schools more attractive for children by ensuring proper use of educational technology and tested and tried out methods handling children. As a sequel, the drop-out rate is reduced and more and more children are joining schools.

2. *Curriculum development.* In many clusters of the networking structures, teachers have worked together to develop curricula by making better use of their immediate physical and social resources and by incorporating in the curricula significant elements of the local flora, fauna and environment.

3. *Minimizing the ill-effects of adverse home environment upon pupils.* Pupils belonging to disadvantaged homes were provided with books and lunches out of the resources generated by the network. In some cases pupils received the sort of advantage of a foster home.

4. *Action research.* Teachers within the network felt motivated to take up classroom experimentation and action research for the improvement of their own practices.

5. *Multiple class teaching.* Organization of teaching-learning improved in small schools having one or two teachers for teaching all the primary grades, because these schools had the support of the network which made the services of other teachers available when required for teaching topics which small schools were finding difficult to handle.

6. *Work experience.* The networking structure made community resources available to schools such as skilled artisans and technicians, and also the raw material available locally. This improved the quality of the work experience programme in the schools.

7. *Creativity among teachers.* Since commands were not given from top to bottom in a networking structure, teachers felt free to act on their own towards solving their problems. Peer relationships enabled them to apply their minds and to use their creativity which in turn made them more creative.

The foregoing unintended outcomes are merely illustrative. They are not exhaustive. Moreover, it is likely that as more and more networking structures are developed, more and more unintended outcomes may result alongside the intended outcomes.

It is hoped that the innovation of networking structures will have far-reaching consequences for improving the educational system.

Chapter Four

SUGGESTIONS AND RECOMMENDATIONS

If the networking structure is to be used as a means of educational development, the following suggestions may be considered by participating member countries to strengthen existing networks or create new ones within their national, cultural, social and political context. They are not exhaustive, as deletions from, or additions to them could be made, depending upon the organizational structure and administrative set-up of the concerned educational establishment and the educational policy it follows:

The guidelines are based on the following premises to:

a) provide a knowledge base to understand the functioning of the networking structures;

b) make suggestions for creating or for strengthening networking structures;

c) provide information on the roles, tasks to be performed and competencies to be possessed by the personnel involved in the networking structure such as teachers, principals, chairmen of school clusters, or those others involved in carrying out the innovation;

d) indicate the type of behaviour expected of these personnel so that they may be able to function effectively;

e) make flexible rather than rigid suggestions;

f) write in a language that makes communication simple and precise;

g) indicate the linkages that the networking structure might possibly have;

h) indicate ways of monitoring the networking structure;

i) focus attention on growth points; and

j) indicate the method of evaluation and follow-up.

Strengthening the existing structures.

Keeping the foregoing premises in view, the following suggestions are made for strengthening the existing structures:

a) The objectives of the networking structure may be reviewed/modified in the light of feedback received from the member units from time to time.

b) Inter-unit and intra-unit linkages may be continuously reinforced to promote co-operation and mutual sharing of experiences, ideas and skills.

c) Linkages may be, as far as possible, at horizontal level, that is, among peers.

d) The linking points may be developed by the cluster for units within the cluster and by the group of clusters for the inter-cluster contacts.

e) Linkages of units with the cluster resource centres may be constantly reviewed and strengthened.

f) Linkages among cluster resource centres may be further developed and reinforced.

g) Linkages may be established between cluster resource centres and the leader school, so that the leader school emerges as a district resource centre for cluster resource centres.

h) Cluster resource centres as well as district resource centres may develop more frequent contact with the provincial resource centre and Provincial Education office.

i) Linkages may be strengthened at the cluster level with parents, community and non-formal education centre.

j) Linkages may be developed between cluster resource centres and teachers' college, so that the college is able to provide in-service education in recent technology of education to some selected teachers from each cluster who may act as resource persons in their area of training and specialization during the in-service education programmes at the cluster level.

k) Linkages may also be established between the provincial and district resource centres and the teachers' colleges and the nearby university so that the school system remains aware of the changes made in the structure of school subjects and also is aware of recent trends in subject content areas.

l) Management committees at cluster and district level may ensure from time to time that reinforced linkages result in improving the quality of in-service training and professional growth of teachers and other staff personnel.

m) Reinforced linkages may be used to proliferate the production and distribution of instructional materials, software and teaching aids.

n) Reinforced linkages may be used to monitor more effectively and to enrich further the on-going and growing programmes at the school, resource centre and cluster level.

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o) Reinforced linkages may be used to broaden the pupil evaluation to cover all four experience areas, for at present the evaluation is limited to only the academic domain.

p) Role, tasks and competencies of various personnel working in the network may be spelled out as illustrated in the following table.

Table 7. Roles and tasks and competencies of educational personnel

Designation	*Role*	*Tasks*	*Competencies*
Teacher	Change agent	1. To improve quality of primary education by improving teaching-learning of basic skills in numeracy, literacy and communication.	Communication skills, proper speech habits, and number skills.
		2. To enhance access to first level of education by making schools more attractive to children.	Knowledge of child psychology and processing of positive attitudes towards children.
		3. To relate education to work.	Knowledge of the raw materials available in and around the community and also of the finished products required.
		4. To link education with development programmes.	Knowledge of the development programmes.
		5. To provide life experiences to pupils in social and scientific environment around them and to relate education to environment.	Knowledge of the flora, fauna, customs, social and religious institutions and practices found in the community.
		6. To devise and use innovative methods for teaching of moral values.	Knowledge of methods of teaching values and possessing of these values.
		7. To establish relations with the community so that the community's support is available for school and the school too is able to promote community welfare.	Human relations skills.
Principal	Catalytic agent for educational change/promoter of educational change	1. To motivate teachers to undertake the task mentioned above by recognizing their worth and work and by helping them develop their self-concept.	Knowledge of hierarchy of human needs, beginning from physiological needs to the need for self-actualization.
		2. To generate and secure resources required for undertaking and carrying out of the aforesaid tasks at a very low cost with the help of the community and the department.	Human relations skills.

Table 7. *(continued)*

Designation	*Role*	*Tasks*	*Competencies*
		3. To create an organizational climate in the school which is germane to trying out new ideas and carrying out innovations.	Communication skills.
		4. To promote the undertaking of co-operative projects and team work.	Team spirit.
		5. To participate in school evaluation programme.	To know and apply methods of self-evaluation by schools and also by observers.
		6. To help build up school-community relationship.	
School cluster committee	Planner, executor, consultant, co-ordinator and evaluator	1. To develop and lay down policies for the cluster.	Knowledge of all the available inputs, understanding of problems.
		2. To help prepare a plan of educational development for the school cluster as a whole and for each member school.	Communication skills.
		3. To help execute the plans.	Decision-making skills.
		4. To provide consultation in professional matters and for solving problems.	Human relations skills.
		5. To mobilize community support and resources for the cluster.	
		6. To co-ordinate the activities at the cluster level	Ability to co-ordinate and monitor.
		7. To monitor the programmes at the cluster level.	
		8. To devise tools for self-evaluation at the cluster level and for the evaluation of schools.	Knowledge and understanding of evaluation methods and tools. Skills for devising evaluation tools.
		9. To liaise with other clusters, teachers' colleges, and department of education, and other agencies.	Objectivity in assessment.
District supervisor	Guide and counsellor	1. To provide academic guidance to schools and school clusters within his jurisdiction.	Knowledge and understanding of the subject.

Table 7. *(continued)*

Designation	*Role*	*Tasks*	*Competencies*
		2. To promote interaction among school clusters.	Knowledge and understanding of educational technology and of its applications. Ability to co-ordinate monitor and evaluate.
		3. To monitor the progress of the school clusters and the networking structure under him.	Ability to collect, analyse and interpret data.
		4. To collect, analyse and interpret data about various activities in the school clusters under his charge.	
District officer	Manager	1. To co-ordinate all the work involved in the administration of the school clusters in the district.	Ability to co-ordinate.
		2. To propose the appointment of principals of primary schools, keeping the needs of clusters in view.	Ability to assess personnel performance.
		3. To propose the scale of annual promotion of teachers looking into the contribution made by them for their cluster.	
		4. To evaluate the performance of different clusters within the district.	Knowledge of content and methods of institutional evaluation.
Supervisor provincial Resource Centre		1. To study, develop and produce instructional materials for the use of cluster resource centres.	Knowledge and understanding of curriculum.
		2. To conduct in-service education courses for principals of cluster schools.	Knowledge, understanding and application of methods of conducting in-service education.
		3. To follow up the use of instructional materials and training programmes.	Group discussion skills.
		4. To conduct studies on problems referred to by school clusters and districts.	Writing skills.

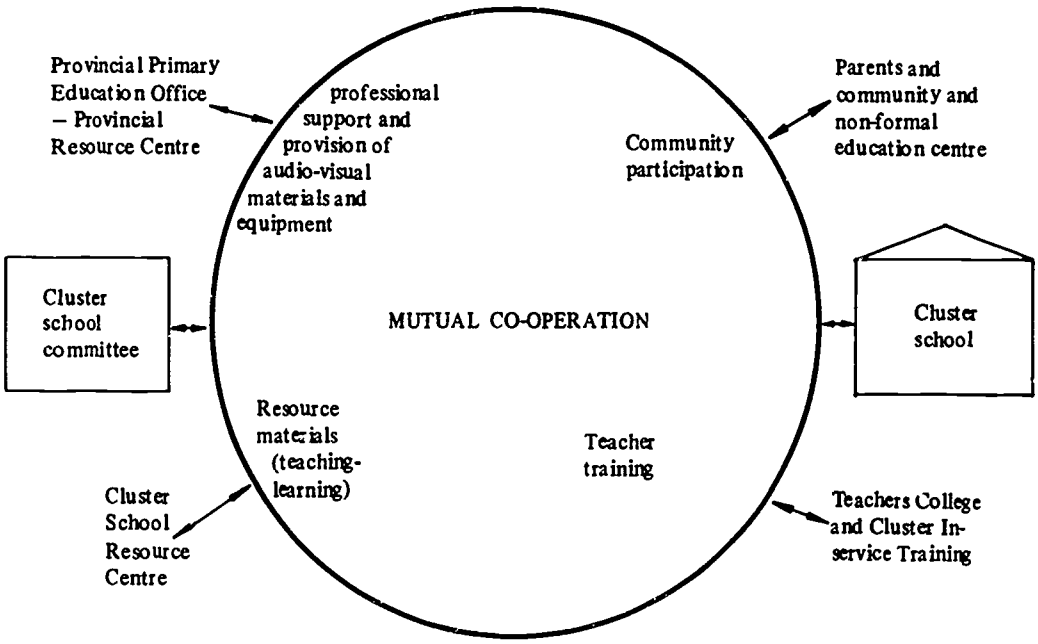
q) Roles, tasks and competencies may be listed in respect of staff personnel.

r) Programmes may be developed, executed and evaluated on a participatory basis as far as possible.

s) Emphasis may be laid on feedback and programmes and processes modified on its basis.

Some of these suggestions have been schematically presented in the following diagram which is self-explanatory.

Figure 4. Mutual co-operation



Creating new networking structures

a) Study groups for analysis of the current situations may be set up.

b) Based on the reports of the study groups, the need and objectives of the new networking structure may be stated precisely. Some of the objectives of networking structures in APEID countries where this innovation has been introduced are to:

   i) formulate school improvement plans within the scope of work of the school-cluster and conduct school activities in line with educational management at the district and provincial levels as well as the policies of the National Primary Education Commission;

   ii) consider and approve plans or projects to improve every school in the school-cluster;

   iii) consider and approve plans for staff development in the school-cluster;

iv) act as the co-ordination point for co-operation among schools in the cluster and between schools and communities for conducting various activities;

v) make recommendations concerning annual budget proposals of schools in the cluster;

vi) follow-up the performance and conduct of teachers in the cluster;

vii) make recommendations on the annual promotion of teachers in the cluster;

viii) set work plans, conduct surveys and carry out activities in accordance with the Primary Education Act to bring about universalization of primary education; and

ix) carry out other activities as required from time to time for the strengthening of the networking structure.

c) The organizational structure beginning from school clusters, clusters of resource centres and other clusters to provincial level may be laid down.

d) The span of control and supervision may be clearly defined.

e) Channels of communication may be formulated.

f) Horizontal linkages may be established and preferred to vertical ones.

g) Horizontal linkages may be developed and reinforced by institutionalizing inter-cluster and inter-network contacts which may be used for:

i) study of innovations in curriculum development, examination reforms, methods and models of teaching, production and distribution of materials;

ii) discussion on common problems and issues and development of a co-operative action programme;

iii) identification of resource persons in each cluster who may be invited during the in-service education programmes to be held at the cluster level; and

iv) development of a sense of belonging among the clusters for the network.

h) Programmes and activities of the network and of each cluster may be listed.

i) Innovations to be introduced in the network may be delineated.

j) Evaluation methods and procedures in respect of pupils' programmes, institutions and clusters may be laid down broadly so that they may be adopted or adapted by teachers and staff personnel.

k) Training courses, seminars and workshops for development of specific skills for creating the network may be held. Assistance of teachers training colleges under the overall guidance of the national experts may be obtained for this.

l) Exchange of information and dissemination of materials may be a common feature of the network.

m) Participatory methods of management such as shared decision-making, participatory evaluation and circular communication, may be followed.

n) Attempts may be made at all levels in the network to develop mutual trust, inter-dependence, a sense of belonging and a feeling of optimism.

o) The plan of networking structures may be divided into stages which may be clearly laid down.

p) There must be an in-built system of competition among the clusters.

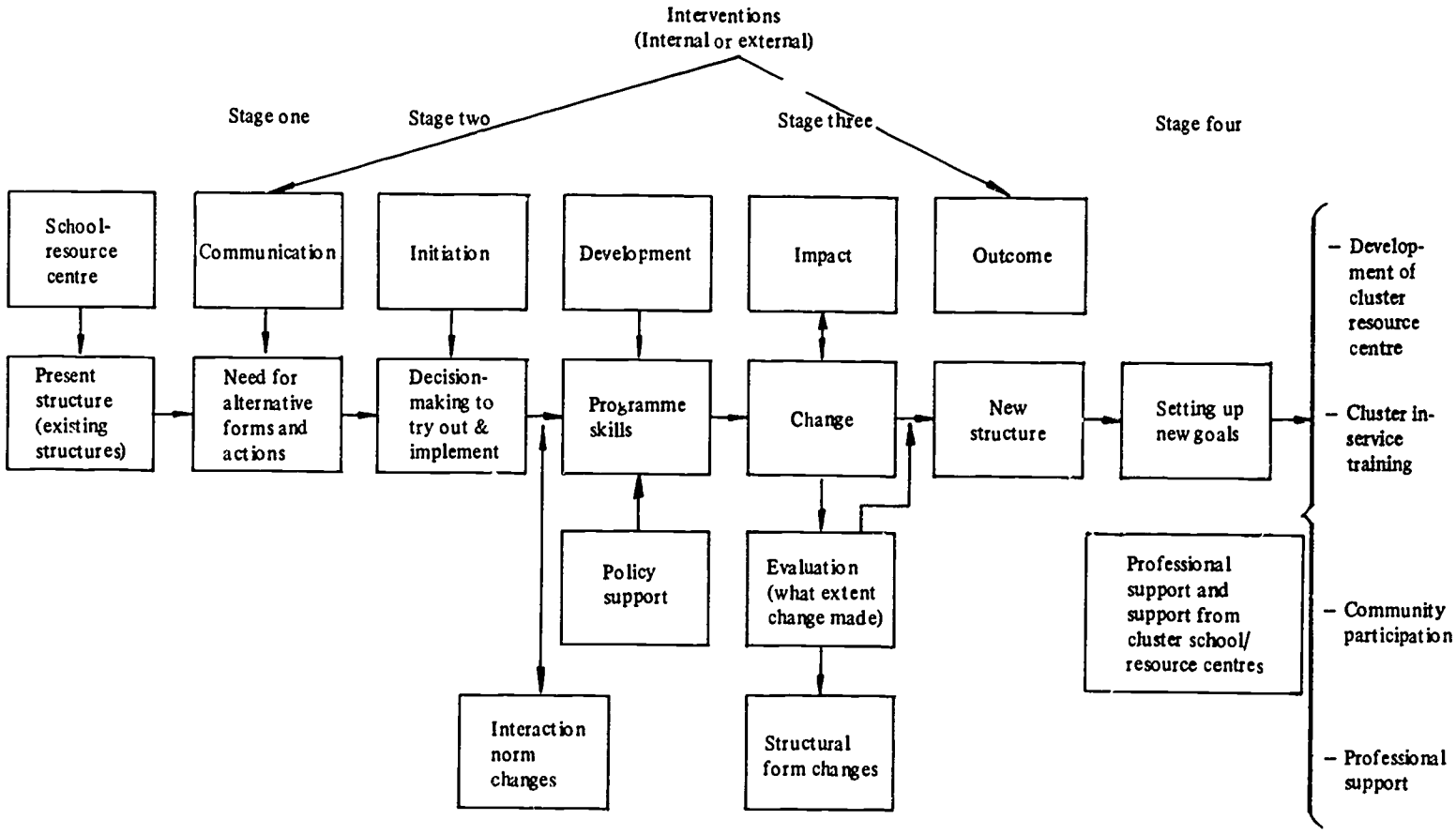
q) It may be noted while creating a new networking structure that each individual is at its centre.

r) In a network environment rewards may come by empowering others, not by climbing over others.

s) Networks may foster self-help.

Some of these guidelines can be appreciated on an overview of the schematic presentation given in Figure 3.

Figure 3. Developing new structures



Annex I

AGENDA

1. Opening of the Meeting.

2. Election of Officers of the Meeting and consideration of Agenda and the Provisional Schedule of Work.

3. Presentation and discussions on the technical papers and preparation of draft outlines for:

   (a) in-depth analysis of country experiences and preparation of regional synthesis; and

   (b) critical appraisal of the institutions to be visited.

4. Synthesis of experiences, identification of growth points and lines of future development of networking structures.

5. Field studies and observation and co-operative in-depth study of selected networks.

6. Development of guidelines for networking structues.

7. Preparation of country plans and future follow-up plans in the countries.

8. Closing of the Meeting.

Annex II

LIST OF PARTICIPANTS

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Annex III

LIST OF DOCUMENTS

General Information

ROEAP-84/APEID.SG/INF.1	General Information Paper
ROEAP-84/APEID.SG/INF.2	List of Participants

Working Documents

ROEAP-84/APEID.SG/WD.1	Agenda
ROEAP-84/APEID.SG/WD.2	Provisional Schedule of Work
ROEAP-84/APEID.SG/WD.3	Community Learning Centre, Bangladesh by Mr. Md. Reasat Ullah
ROEAP-84/APEID.SG/WD.4	Report on Inter-Institutional and Co-operative Networking Structures, India, by Dr. R.C. Sharma
ROEAP-84/APEID.SG/WD.5	The Establishment and Development of the State Education Resource Centre and its Alternative, Malaysia, by Mr. Abdul Mubin Haron
ROEAP-84/APEID.SG/WD 6	The School Learning Action Cell as a Grass-roots Level Network for Staff Development, Philippines, by Mr. Dionisio V. Abitong
ROEAP-84/APEID.SG/WD.7	Study Paper on Inter-Institutional and Co-operative Networking Structures, Papua New Guinea, by Joe Lera
ROEAP-84/APEID.SG/WD.8	Inter-Institutional and Co-operative Networking Structures, Sri Lanka, by Mrs. M.R. Samaranayake
ROEAP-84/APEID.SG/WD.9	Administrative Structure of Primary Education and some Information on Primary Education in Thailand by the Office of the National Primary Education Commission, Ministry of Education.
ROEAP-84/APEID.SG/WD.10	Study Group Meeting on Inter-Institutional and other Co-operative Networking Structures – Resource Centre by Office of the National Primary Education Commission, Thailand