

**EDUCATIONAL PLANNING AND
MANAGEMENT
&
MANAGEMENT INFORMATION SYSTEM**

TERMS, CONCEPTS AND DEFINITIONS

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FOREWORD

Academy of Educational Planning and Management (AEPAM), since 1982 has been actively engaged in professional growth of educational planners and managers. It has been entrusted the task of consolidation of education statistic since 1993. It is thereby responsible for producing education statistics reports at national level along with capacity building of provincial and regional education management information systems (EMISs) for capturing data. The reliable data is a prerequisite to educational planning and management, which caters the needs of decision makers at Federal, Provincial and district levels along with other national and international agencies. AEPAM also generates local information through research studies and produces reports on local information to broaden the horizons of stakeholders in the field of educational planning and management. Due to the implementation of Devolution Plan in the country the AEPAM has been the focal point to fulfill the needs of educational planners and managers of the district governments.

The idea for preparing a handbook on 'Educational Planning and Management and Education Management Information System: Terms, Concepts and Definitions' emerged as a result of interaction with the national and provincial level educational planners, managers and administrators involved in the educational planning and management and management information system. Studies have revealed that the educational planners and managers particularly at district level have little knowledge of basic terms and concepts. The education management information system (EMIS) personnel have very narrow vision and lack proper understanding of statistical terms for completing educational survey questionnaires/forms. The present publication entitled 'Educational Planning and Management and Education Management Information System: Terms, Concepts and Definitions' is an attempt in compiling the definitions of often used in educational planning and management and education management information system. Effort has been made to include terms and concepts relevant to Pakistan education system. This may not be considered as an exhaustive list but many more may be needed for further addition.

Being the first effort of its kind feedback is requested from educational planners, researchers, administrators and field functionaries on

the relevance and appropriateness of the publication. Further suggestions to improve the publication would be highly appreciated.

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INTRODUCTION

The role of research and documentation is to fill the vacuum in the current understanding terms, concepts and definitions and provide the basis for further development. This is particularly relevant to educational planning and management and education management information system, which uses terms, concepts, and definitions that are not only contextual but also liable to involve different types of meanings and interpretations.

The education planning is a continuous and systematic process of decision-making. It involves the awareness application of terms, concepts, principles and planning management. the system is more effective and efficient when there is a consensus of term's concepts and their meanings. The goals can be achieved only when the technical jargons are conceptually clear and accepted by all the concerned. In this endeavour an attempt has been made to compile a glossary of terms, concepts and defined items related to educational planning and management and EMIS, which is imperative for planners, managers and decision makers.

The educational planners, statisticians, planning officers, educational researchers, are using different terms and concepts in different ways and lack of standardization is causing a considerable confusion among them. The same type of feedback was obtained at Academy of Educational Planning and Management (AEPAM) during various capacity building programs for Executive District Officers (EDOs) and other district education officers including head-teachers. While everyone realizes that sound educational information system based on the standardized terms, concepts and definitions is essential for effective planning, management, resource allocation, monitoring and evaluation of education development programs, not much has been done to streamline the process in this context. AEPAM undertook many initiatives to reform the educational planning and management practices and standardization of educational database for decentralized planning, especially after the devolution plan. In Pakistan, more than 125 districts have now been covered under Good Governance and NEMIS programs of AEPAM. The need for a publication dealing with basic terms, concepts and definitions has emerged to fill in the vacuum.

The present effort is an attempt in this direction. While fully realizing the wide differences in terms, concepts and definitions used by educational planners and management information system in different contexts, it was decided to document some important terms, concepts and definitions which are relevant in the our context. It is expected that such a move would result

in standardization of definitions and concepts as used in the Pakistani educational system at various levels and also among the researchers.

TERMS, CONCEPTS AND DEFINITIONS

1. GENERAL

1.1. Education

Education is a process as well as product. Different philosophers, psychologists and educationists have defined education differently. Commonly accepted definition of Education is that it is a process of continuous reshaping and reconstruction of experience along with unfolding the potentials of individual. Education brings change in behavior which involves not only intellectual aspect but also physical, mental, social, religious and moral aspects.

Education as a product is the most important single factor in achieving rapid economic and technological progress and in creating a social order founded on the values of freedom, social justice and equal opportunity. Programs of education lie at the base of the effort to forge the bonds of the common citizenship, to harness the energies and potentials of the people and to develop the natural and human resources for every field of the country. Education as a process can be regarded as a production system in which under the set educational objectives, inputs (e.g. students, teachers and facilities) are provided that are processed to yield desirable educational outputs such as knowledge, skills and behavior.

For the purpose of educational statistics, education, according to UNESCO, "is understood to involve, organized and sustained communication designed to bring about learning". The terms organized, sustained, communication and learning refers to:

1.1.1 Organized: means planned in a pattern or sequence with explicit or implicit aims. It involves agency or institution, which sets up the learning environment and a method of teaching through which the communication is organized. The method is typically the one that is engaged in communicating knowledge and skills with a view to bring about learning.

1.1.2 Sustained: means that the learning experience has the elements of duration and continuity. No minimum duration has been stipulated. The appropriate minima differ from course to course and program to program.

1.1.3 Communication: Communication is a relationship between two or more persons involving the transfer of information in the form of messages, ideas, knowledge, strategies, skills etc. Communication may be verbal or

non-verbal, direct/face to face, or indirect, and may involve a wide variety of channels and media.

1.1.4 Learning: Learning is any change/improvement in behavior, information, knowledge, understanding, attitude, values, skills etc.

1.2 Education System

Education System is the overall network of institutions, organizations and programs through which education of all types and all levels is provided to the population.

1.3 Educational Program

Educational Program is a set of organized and purposeful learning experiences with a minimum duration of one school or academic year, usually offered in an educational institution.

1.4 Training

Training is a learning experience that leads to the acquisition of knowledge and skills. It is usually considered as a process for preparing people for different jobs enabling them to develop/improve their job-capacities and potentials.

1.5 School

School is an institution and seat of learning to maximize the capacity of each student. Schools are mirror reflection of the country.

1.6 Teacher

Teacher is a person who teaches in an educational institution. The quality of education depends on the quality of teacher.

1.7 Pupil/Student/Learner

A pupil is a child who is enrolled or registered in an educational institution. A student is a center of interest in education. Keeping in view the status of student the education adapts itself to the learner.

1.8 Content

The content specifies teaching learning component of curriculum that constitutes a body of knowledge, skills and behaviors (values, attitudes, etc.)

1.9 Milieu

Milieu is physical factors in which education operates and refers to textbooks and the school system. It is mainly the hardware.

1.10 Culture

Culture is described as ways and features of living, acquired knowledge and thoughts, values, beliefs, customs, behaviors, institutions and artifacts of a group of people or of a nation. Culture is defined as cultivation, training, development and refinement of mind, tastes and manners through education and training. It is the intellectual side of civilization.

1.11 Environment

Environment is physical and social setting of the institution.

1.12 Concept

Concept is a meaningful sequence of two or more facts. It is an idea or representation of the common elements or attributes by which groups or classes may be distinguished. It is any general or abstract intellectual representation of a situation, state of affairs or objects; a thought, an opinion, an idea or a mental image. It can be an idea or aggregation of facts that has been acquired as a symbol or generalization for an intangible, i.e. square, circle, soft, ten, fast, long, living thing, matter etc.

1.13 Education Cycle

The education cycle consists of a number of years divided into annual calendar. The students are evaluated at the end of each year and are either promoted to the next grade or detained in the same grade.

1.14 Academic Year

Normally academic year begins in the month of April and ends in the month of March of the following year in Pakistan. In most of the provinces

long-term vacations are in summer season but some hilly regions have winter vacations in schools. In the case of many higher education institutions, the academic year is divided into terms semesters.

1.15 Curriculum

Curriculum is a planned set of learning experiences and activities to be undertaken in and out side the institution. Curriculum is usually misunderstood as the course of study duly prescribed by a Board or University for completing a particular level of education. Educationists' definitions of curriculum have tended to shift from the content of discrete discipline of study to the much wider notion of all the learning experiences offered to pupils under the aegis of school or university. Curriculum has, therefore, to be seen in terms of four facets, namely: purpose, content, method and evaluation. Curriculum is a group of courses and planned experiences which a student has under the guidance of school or college; it may refer to what is intended as planned courses and other activities or experiences or all experiences of the learner under the direction of the school. UNESCO has defined curriculum as the subjects that are studied or prescribed for study in an educational program.

1.16 Core-Curriculum:

In core-curriculum, the intention is to shift attention from essential knowledge to fundamental social values or essential broad base. Core-curriculum is built around the needs or problems common to every one's cultural experiences, like the effect of technology on life styles.

1.17 Extra Curricular Activities:

Activities that are associated with schools but take place in and outside of the usual schedule of classes and which are optional for learners.

1.18 Common Curriculum:

Common curriculum usually implies a compulsory pattern of learning for all pupils. It tends to emphasize syllabuses and time allocations.

1.19 Syllabus

Syllabus is an outline of content and refers to main topics to be covered by a course of study or instruction.

1.20 Achievement

Accomplishment or proficiency of performance in a given skill or body of knowledge. Achievement refers to performance in school or college in a standardized series of educational tests. The term is used more generally to describe performance in the subjects of the curriculum.

1.21 Basic Learning Needs

Basic Learning Needs comprise both essential learning tools (such as literacy, oral expression, numeracy, problem solving etc.) and the basic learning content (such as the knowledge, skills, values, attitudes, etc.) required by human beings to survive, to develop their full capacities, to live and work in dignity, to participate fully in development, to improve the quality of their lives, to make informed decisions and to continue learning.

1.22 Minimum Levels of Learning (MLL)/ Educational Attainments

National Education Policy 1998, spelt out the need for focusing not only on quantitative aspects but on quality in terms of achievement levels also. It refers to specified basic competencies to be achieved by all children at the primary stage which is known as Minimum Levels of Learning (MLL) in selected subjects, such as Urdu, mathematics, Science etc. across the country.

1.23 Assessment

In education, Learning Assessment is the process by which one attempts to measure the quality and quantity of learning and teaching using various techniques, e.g. assignments, projects, continuous assessment, objective type tests, final examinations and other standardized tests, etc. In psychology, it is the branch of applied psychology concerned with testing in educational, occupational, clinical or other settings e.g. the psychological assessment of mental and physical handicaps.

1.24 Competencies

Competency is an ability to apply to practical situations the essential principles and techniques of a particular subject matter/field. It is also defined as:

- a) Those skills, concepts and attitudes needed by all workers regardless of their occupations or specific jobs.
- b) Specific jobs are those concepts, skills and attitudes, which are specialized and relate directly to the single job classification in which the learner is interested, and the specific requirements of the learner's training.
- c) Specific occupations are those concepts, skills and attitudes essential to a broad occupational grouping, those with common usefulness to a family of occupations.

1.25 Pass-Fail

A grading option of students, usually exercised at the Primary/secondary/higher secondary levels which can take the place of the more typical A, B, C, etc, grade system. It also signifies the similar dichotomy of satisfactory/ unsatisfactory.

1.26 Basic Education

Basic Education according to UNESCO is the education intended to meet basic learning needs; it includes instructions at the first or foundation level on which subsequent learning can be based; it encompasses early childhood and primary/elementary education for children as well as education in literacy, general knowledge and skills for youth and adult.

Basic Education refers to a whole range of educational activities that takes place in different settings and that aims to meet basic learning needs as defined in the World Declaration on Education for All (Jomtein, 1990). It thus comprises both formal schooling (Primary and Elementary) as well as a wide variety of non-formal and informal public and private educational activities offered to meet the defined basic learning needs of groups of people of all ages.

1.27 General Education

General Education is mainly designed to meet the needs of all that leads to a understanding of a subject or group of subjects but not necessarily, with a view to prepare for higher level of education. Successful completion of these programs may or may not provide with a labor-market relevant qualification at this level. These programs are typically school based having a general orientation and not focusing on a particular specialization.

1.28 Knowledge

Knowledge is the aggregate of facts, information and principles that an individual acquires through learning and experience; formal education seeks to raise levels of knowledge systematically. Knowledge refers to cognitive domain of education.

1.29 Skills

Skill is defined as ability to do something. In education it is the ability to particular task. Skills refer to psychomotor domain of education.

1.30 Behavior

Behavior is the way in which a person responds to a situation or stimulus. Attitude, interest and values are examples of behavior. Behavior refers to affective domain of education.

1.31 Intelligence

Intelligence is mental abilities enabling one to think rationally, learn readily, act purposefully and deal effectively with one's environment.

1.32 Professional Education

Professional Education is that education which has direct value to prepare persons for professional calling or employment in life. It is differentiated, on the one hand, from vocational education which relates to those employments of social grades not recognized as profession and, on the other hand, from the general or so called 'liberal' education which has no specific practical application in view.

1.33 Technical Education

Technical Education designed at secondary and higher secondary levels to prepare middle level persons (technicians, middle management etc) and at University level to prepare engineers and technologists for higher management positions. Technical education includes general education, theoretical, scientific and technical studies and related skill training. The component of technical education may vary considerably depending on the types of field and personnel to be prepared and the education level.

1.34 Vocational Education

Vocational Education is designed mainly to lead participants to acquire the practical skills, know-how and understanding necessary for employment in a particular occupation or trade or class of occupations or trades. Successful completion of such programs can lead, but not necessarily to a labor-market.

1.35 Compulsory Education

Compulsory education refers to the number of years or the age-span during which children are legally obliged to attend school, which must be attended or undertaken by the law of a particular country or province. The legal requirement may be the education from a certain starting age to a certain school-leaving age or it may be the education to a certain standard.

1.36 Comparative Education

The study of educational systems of different countries is defined as comparative education. 'Comparative Education' refers to a field of study that applies historical, philosophical and social sciences theories and methods to international problems in education. It is primarily an academic and inter-disciplinary pursuit.

1.37 Inclusive Education

Inclusive Education means that all students including (disabled and non-disabled children) in a school/college study together, regardless of their strengths or weaknesses in any area and all are part of the school/college community.

1.38 Recurrent Education

Recurrent Education is an approach that rejects the concept of education as a preparatory stage or apprenticeship process at the beginning of working life but seeks to make learning experience available flexibly throughout a person's life according to choice, interests, career, social and economic and job relevance. It has points in common with adult education, continuing education, permanent in-service training and life long education but places emphasis on readily availability and access to individual needs and on an autonomous learner situation. Recurrent education calls for a radical reshaping of the educational system rather than the mere provisions of second chance institutions.

1.39 Educational Innovation

Educational Innovation refers to an idea or practice new to a educational context that meets specified needs. It is the introduction or promotion of new ideas and methods that are devised in education or school practices which have a substantial effect on changing the existing patterns of behavior of a group or groups involved. Innovative strategies imply the development of new ideas which are disseminated and utilized; these usually occur in response to particular problems.

1.40 Course

A course is a planned series of learning experiences in a particular range of subjects or skills, offered by an institution and undertaken by learners.

1.41 Domain

The everyday usage of the word refers to an area of land or territory, which has clear boundaries. In education, the term refers to an area of educational interest, which is defined and bounded. However, educational domains are not like that. Intelligence is a good example of a domain where boundaries are not well defined. Educationists divide educational pursuits into three domains i.e. Knowledge, Affective (behaviors) and Psychomotor (skills).

1.42 Audio-Visual Aids

Audio-Visual Aids use the senses of both sights (seeing) and sound (hearing) collectively or sometimes individually. These aids include charts, models, Sound Films, Tapes/Slides, Broadcast Television, Closed Circuit Television (CCTV), Video-Recording etc. Recently, microprocessors have also been used in computer-assisted learning/training.

2. MODES OF EDUCATION

2.1 Formal Education

Formal Education refers to intentionally organized full time learning experience (curriculum) with fixed duration and schedule, structural hierarchy with chronological succession of levels and grades, admission requirements and formal registration; catering mainly to the population of 5-25 years old, which are organized within established educational institutions and use predetermined pedagogical organization, contents, methods and teaching/learning materials.

2.2 Non-Formal Education (NFE)

NFE refers to intentionally organized learning events catering essentially to persons not currently participating in formal education; the educational activities of NFE are not organized as part of formal school and university education as in Formal Education.

2.3 Informal Education

Informal Education is generally intentional but unorganized and unstructured learning events that occur in the family, the work place and in daily-life of every person on a self-directed, family directed or socially-directed basis.

2.4 Random Education/Learning

Random or incidental learning refers to unintentional learning occurring at any time and in any place in every person's everyday life.

2.5 Adult Education

Adult Education means the education of the adults in the age group of 15 years and above. In the western world, it is some sort of continuing education of the adults.

In the Pakistani context, adult education is a major program of the Federal and Provincial Governments. It started with social education and took the shape of a commission, i.e., National Literacy Commission for the eradication of illiteracy in the country amongst the age-group 15-35 years. The objectives of NLC were as follows:

- Achieving self-reliance in literacy and numeracy;
- Generating awareness about the cause of deprivation;
- Improving life through organization and participation in the process of development;
- Acquiring skills to improve the economic status and general wellbeing;
- Improving the values of national integration, conservation of environment, women's equality and observance of small family norms.

2.6 Special Education

The term Special Education essentially refers to the provisions for educating children having disabilities. Earlier these children were being educated primarily in special schools established for the purpose as a part of social welfare activity. Presently it is being advocated that all such children be educated in normal/general schools along with their peers. Emphasis is on meeting the needs and facilitating learning and not labeling a child. Disabilities are as under:

- Blindness
- Hearing Impaired
- Leprosy Cured Persons
- Loco motor Disability
- Mental Retardation
- Low Vision

2.7 Distance Education

Education from the distance and not face-to-face but indirect/remote and involving a wide variety of channels and media. Distance Education has the following types:

- Correspondence Courses
- Private/Home Study
- Open Education
- E-Learning

2.7.1 Correspondence Courses/Study: Correspondence Courses/Study is a (1) method of providing for the systematic exchange between student and instructor of materials sent by mail for the purpose of instruction in units of subject matter; (2) set of printed lessons or assignments based on textual

materials and/or instructional media with directions for study, exercises, tests etc. to be used as primary or supplemental aids to learning outside a regular classroom environment; (3) formal study and instruction conducted by mail, using texts, course outlines, and other materials, with lesson reports, corrections and examinations. Allama Iqbal Open University offer such courses in Pakistan.

2.7.2 Private/Home Study: Boards and Universities permit students to appear in certificate, Degree and Post Degree courses privately without having attended any college or without undergoing any correspondence course whatsoever. Such students do their home studies themselves and appear in the examinations after, of course, paying examination dues.

2.7.3 Open Education: Open Education is not very well organized in Pakistan. A number of private institutions are now offering open education system. Under the open education system the students are not required to comply with the hierarchical ladder. Students are free to undertake courses without any restriction.

2.7.4 E-Learning: E-Learning is the effective learning process created by combining digitally delivered content with (learning) support and services. Virtual University is an example in Pakistan.

2.8 Montessori Method

Maria Montessori (1870-1952) was an Italian physician and educator who developed a special method of teaching young children as a result of initial experience of working with mentally retarded children. The method worked out, in great detail, received wide attention. In Montessori Method, the child is considered a self-activated learner at work in a prepared environment of programmed materials which encourage auto education under the trained observation of a teacher. Montessori's term refers to the development of confidence, competence, self-discipline and the preparedness to meet environmental challenges.

2.9 Kindergarten

Kindergarten is an institution for furthering the systematic development of children below the school age by the organization of their natural play instincts in accordance with the principles upon which development is based. The name signifies children's garden or garden of children, and its founder, Friedrich Froebel, selected it because it expressed the idea of development directed by knowledge. It foresees individual be

developed and aided by the selection of a right environment. There is another aspect of the Kindergarten, i.e. its social aspect, of which this name gives no suggestion. From this standpoint, it has been defined as "a society of children engaged in play and in various forms of self-expression through which the child comes to learn something of the values and methods of social life without being burdened by its technique."

3. STAGES OF EDUCATION

Pakistan follows centralized system of education and there is statutory requirement for all schools and colleges to follow a national curriculum. The structure of education in Pakistan is given at Annex-I. The system has adopted three-tier mode (8+4+4) with following distinct stages:

3.1 Pre-school Education

The preschool education contributes towards the time-bound development of child. The young child is more flexible in the earlier years. It helps to lay foundations of child's basic cognitive, social, emotional and personality structures. It is usually said that once these psychological structure are shaped, it becomes difficult to change them later. The early childhood is a developmental period that extends from the end of infancy to about five years. A child of 3+ years is usually considered suitable for preschool education. There are four types of developments that are considered during pre schooling:

1. Social
2. Emotional
3. Physical
4. Cognitive

Early Childhood Care & Education (ECCE) offers a structured and purposeful set of learning activities either in a formal institution or in a non-formal children program. The age-span covered under ECCE is from conception to 5 years. Emphasis has been given to a child centered approach, play-way and activity based learning in place of formal methods of teaching. National Policy on Education 1998-2010 has given a great deal of importance to ECCE as a crucial input in the strategy of human resource development.

3.2 Elementary Education

The elementary education comprises two distinct stages- Primary and Middle.

3.2.1 Primary Stage: The primary stage (Grades: I-V) extends over five years (age 5+ to 10+). Programs at Primary school education require no previous formal education. Net primary enrolment rate is 66%. The medium of instruction in most of the schools is Urdu- the national language. There are English-medium schools as well. However, the curriculum for primary classes is almost the same throughout the country. The major focus of this stage is on basic mathematical and literacy skills, appreciation of traditions and values, and socialization. Promotion to next class is either automatic or

depends on the result of the school examinations. Schooling is being made compulsory through appropriate legislation.

3.2.2 Middle Stage: The Middle stage (Grades: VI-VIII) is of three years duration and is offered in schools either having primary or secondary classes. The curriculum is common for males and females as well as for urban and rural dwellers. The focus of this stage is to strengthen foundations of first and second languages, mathematics and science and developing understanding of family, community, environment, health and nutrition. Provincial Education Departments as well as schools conduct terminal examination at this stage.

3.3 Secondary Education

Secondary education is comprised of two stages- Secondary and Higher Secondary.

3.3.1 Secondary Stage: The secondary education is of two years duration comprising Grades: IX-X. It covers 13-15 years cohort of children. There is a Secondary Schools Certificate (SSC) examination at the end of the tenth class and is conducted by the Boards of Intermediate and Secondary Education through out the country. The medium of instruction in most of schools is Urdu, except in English medium schools. Streaming of children starts at this stage. Students opt for a group of their choice such as Science, Humanities, and Technical. Urdu, English, Pakistan Studies, Islamic Studies and Mathematics are compulsory subjects. A group of three elective subjects determines the specified stream.

3.3.2 Higher Secondary Stage: The higher secondary education (Grades XI-XII) is imparted at both Intermediate Colleges and Higher Secondary Schools. The students follow two years program of study at higher secondary level, which lead to the Higher Secondary School Certificate (HSSC) and is a pre-requisite for entrance to university or an institutions of higher education. The medium of instruction in science subjects is mostly English. The Boards of Intermediate and Secondary Education at the end of 12th grade conduct the examinations for higher secondary school certificates.

Division of students takes place at various levels of school education. After the middle stage students can follow either academic course in secondary schools or a trade course at vocational institutions. After secondary school stage students can enter Intermediate Colleges or Higher Secondary Schools for pre-university courses and the other can join

polytechnics to take up three-years diploma course in a particular branch of technology or trade. After Higher Secondary School Certificate (HSSC) one can either join general universities or professional institutions such as agricultural, engineering and medical.

3.4 Tertiary Education

Recognizing the significance of human resources the Government of Pakistan has reorganized the higher education in the country. To meet the challenges and devising policies Higher Education Commission (HEC) has been set up. Accordingly focus of higher education have been determined and institutions of higher learning are being strengthened academically as well as financially. New specialties and sub-specialties have been planned and are being implemented. Special incentives have been provided to professional growth and research. Universities in Pakistan offer undergraduate, graduate and postgraduate programs of studies in general and professional education. Bachelor degree programs in arts and science (B.A. and B.Sc.) are of two years. All efforts are underway to reorganize degree programs and extent to three years and honors degree programs to four years. The curriculum is continuously being reviewed to meet the challenges of time to come.

There are about 109 universities and degree awarding institutions in the country. Of them about 54 are being managed by private sector. A bachelor degree is a requirement for admission to postgraduate courses in the general universities. The Master degree programs in arts and science (M.A./M.Sc.) are of two years and courses are offered by universities and affiliated institutions. The universities also offer M.Phil and Ph.D. programs. The minimum duration of Master of Philosophy (M. Phil) program is two years. The Doctor of Philosophy (Ph.D) degree is offered by research as well as by course work cum research. The degrees of Doctor of Literature (D. Lit.), Doctor of Science (D.Sc.) and Doctor of Law are also awarded by some universities.

3.5 ISCED 1997

ISCED stands for the International Standard Classification of Education for the purpose of cross-country comparisons, classification and reporting of educational statistics to UNESCO. Designed by UNESCO in early 1970's to serve as an instrument suitable for collecting, compiling and presenting statistics of education, both within individual countries and internationally.

It presents concepts, definitions and classifications. It is a classification of educational programs and has been defined on the basis of their educational content as a sequence of educational activities, which are organized to accomplish a pre-determined objective or a specified set of educational tasks. Since it is difficult to define the content of a program level in an abstract way, proxy criteria are used to help describe educational programs and determine their levels. ISCED excludes communication that is not designed to bring about learning. It also excludes various forms of learning that are not organized.

Based on the above definition, UNESCO has divided levels of education for cross-country comparison of education and classification of educational statistics as under:

Levels of Education for Cross Country Comparison and Classification of Education Statistics

Level Code	Name of Level	Main Criterion
0	Pre-Primary	The educational properties of the program; School or centre based; The minimum age of children catered for; The upper age limit of the children
1	Primary education or first stage of Basic Education	Beginning of systematic apprenticeship of reading, writing and mathematics
2	Second stage of Basic Education or Lower Secondary	Education Subject presentation using more qualified teachers than for Level 1; Full implementation of basic skills and foundation for lifelong learning
3	Upper Secondary Education	Typical entrance qualifications (some 9 yrs of full time education since Level 1); Minimum entrance requirement
4	Post Secondary/Non-Tertiary	Entrance requirement, content, age, duration, (successful completion of Level 3; Program content to be more specialized)
5	First stage of Tertiary Education (not leading directly to an advanced research qualification)	Minimum entrance requirement; Type, duration of certification obtained.
6	Second stage of Tertiary Education (leading to an advanced research qualification)	Research oriented content; Submission of a thesis or dissertation of publishable quality, representing significant contribution to knowledge

The structure of education and learning in Pakistan has undergone significant changes over the last 58 years. The increasing complexity of education systems, often reflecting more choices, both between types of programs and modes of attendance have resulted in problems of classification. ISCED classification is as under:

3.5.1 Level 0: Pre-Primary level of education is the initial stage of organized instruction, designed primarily to introduce very young children to a school environment, i.e. to provide a bridge between the home and a school based atmosphere. It is generally confined to 3-4/5 year's age group.

3.5.2 Level 1: Primary Education usually begins at the age of 5 years and generally lasts 5 years in Pakistan. In some countries it lasts 6 years. Programs at the primary level generally require no previous formal education although it is becoming increasingly common for children to have attended a pre primary program before entering primary education. Level 1 gives students a sound basic education in reading, writing and mathematics along with elementary understanding of other subjects like social studies.

3.5.3 Level 2: Upper Primary or Lower Secondary level of education generally continues the basic programs of the primary level, although teaching is typically more subject-focused. Upper primary education comprises three years duration and usually starts at the age of 10 years and continues up to the 12th year.

3.5.4 Level 3: Upper Secondary level of education: Instructions in this level are more organized along subject matter lines than in lower secondary level and teachers need to have a higher level or more subject specific qualifications than at lower secondary level. The entrance age is 13 years and duration ranges between 4 years of schooling. This level may either be terminal and/or preparatory for tertiary education.

Secondary school education comprises four years duration: two years of secondary and two years of higher secondary. Admission requirement is the completion of upper primary school education. At the secondary/higher secondary level, a student has a choice for particular subjects/vocations.

3.5.5 Level 4: Post Secondary/Non-Tertiary: Level 4 was introduced in ISCED-97 to cover programs that lie between upper secondary and post secondary/non tertiary education. These programs are not considered as tertiary programs. In Pakistan we include under this category programs like Diploma Courses in Engineering and Technology, Diploma and certificate Courses in Education etc.

3.5.6 Level 5: First stage of Tertiary Education: The curriculum of programs at this level has a strong theoretical foundation, emphasizing the liberal Arts and Sciences (History, Philosophy, Mathematics etc.) or preparing students for professions with high skills requirements (e.g.

Medicine, Dentistry, Architecture etc.) Have a minimum cumulative theoretical duration of 2-5 years full-time or equivalent. In case a program has 2-3 years full-time duration, it is usually preceded by at least 12 years of previous schooling. Some programs directly lead the incumbent to market relevant qualifications.

3.5.7 Level 6: Second stage of Tertiary Education: This level is reserved for tertiary programs that lead directly to the award of an advanced academic and research qualification. The duration is 2-3 years in most countries. It requires submission of a thesis or dissertation of publishable quality, representing contribution to knowledge and is not solely based on course work.

4. ACCESS & EQUITY IN EDUCATION

4.1 Access

Access means a passage, an entrance or a doorway to education i.e. to provide access for all children to basic education according to the national and international norms.

It has a two-way role:

- (i) A physical approach;
- (ii) Utilization of existing facilities: It is not only essential to provide education facilities but it is equally important that these facilities are utilized.

4.2 Equity

Equity means equal and impartial (equitable) access to and participation in all educational programs and functions regardless of gender, race, colour, national origin, disability and age.

4.3 Gender

Gender refers to the social differences and relations between men and women. The term gender does not replace the term sex, which refers exclusively to biological difference between men and women. For example, statistical data are broken down by sex. The term gender is used to analyze the roles, responsibilities, constraints and needs of women and men in all areas and in any given social context.

4.4 Gender Equality

Equality entails that all human beings, both men and women, are free to develop their personal abilities and make choices without the limitations set by stereotype behavior, rigid gender roles and prejudices. In Gender equality the different behavior, aspirations and needs of women and men are considered, valued and favored equally. Their rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equity means fairness of treatment for women and men, according to their respective needs. This may include equal treatment or be considered equivalent in terms of rights, benefits, obligations and opportunities.

5. LEGAL BASIS OF EDUCATION

5.1 Legal Basis

Legal Basis of education means the legal provisions or legislative authority Government has for imparting education for its people.

5.2 Concurrent Education

Concurrent education means a joint responsibility of Federal Government and Provincial Governments. The Constitution of Pakistan has put education in the Concurrent List and empowered the National Assembly with the authority to legislate on education concurrently with the Provinces.

5.3 Decentralization of Education

The Devolution Ordinance 2001 provides for decentralization of school education and entrust primary and secondary education to the District governments.

5.4 Some Important Legislations

- West Pakistan Primary Education Ordinance XXIX 1962.
- Federal Provision of Curricula, Textbooks and Maintenance of Standards of Education Act 1979 (X of 1976).
- To Encourage Literacy Ordinance No. XXVII 1985.
- Literacy Amendment Act 1987.
- The Punjab Compulsory Primary Education Act 1994.
- The North West Frontier Province Compulsory Primary Education Act 1996.
- Sindh Compulsory Primary Education Ordinance 2001.
- Islamabad Capital Territory (ICT) Compulsory Primary Education Ordinance 2002.

6. POLICIES & PLANNING

6.1 Policy

Policy is a set of decisions, statement of aims, purposes, principles or intentions, which serve as continuing guidelines for the management in accomplishing the objectives.

6.2 Vision

Vision is something which is apparently seen otherwise than by ordinary sight. The action or fact of seeing or contemplating something not actually visible or present to the eye; mystical or supernatural in foresight. Vision is to articulate the purposes of an organization into goals.

6.3 Policy Formulation

Policy is an incentives of a given society or state, wherein the broad goals are defined relating to present as well as of future. Policy formulation takes place through the participation of all concerned, stakeholders and experts. Contacts can be both formal and informal.

6.4 Plan

It is coherent whole of facts and figures indicating more desirable course of events. Plans are statement of things to be done and the sequence and timing in which they should be done in order to achieve a given end. Plans are both long term such as 5 year Development plan and short term such as Medium Term Development plan. Fast track intervention plans are used for immediate ends.

6.5 Planning

Planning is the formal process of making decisions for the future of individuals and organizations. Planning is an activity concerned with developing short and long-term guides for management that will most optimally use the available resources to achieve specified objectives. Planning involves formulation of aims and objectives, selection of correct strategies and program to achieve the aims, determining and allocating the resources required and ensuring that plans are communicated to all concerned.

6.6 Planning Process

Planning is to provide a bridge between useful knowledge and purposeful coordinated action. Planning is used to gain control of the future through current acts. Planning is not an automatic process. The link between knowledge and action develops best when the planning process is built directly into the management system.

6.7 Educational Planning

Educational planning is a process of preparing a set of decisions about educational enterprise in such a way that the goals and purposes of education will be sufficiently realized in future with available resources. It is continuous process of obtaining information, analyzing and providing exact information to the decision makers on how well the education system is accomplishing its goals and how well the development project can be improved.

6.7.1 Characteristics of Planning

- It should be based on national goals-this objectives should be stated into clear and quantifiable terms
- The plan should be feasible
- It should be based on relevant, adequate and accurate data
- The plan should be flexible
- It should observe the principle of balance and objectivity
- It should be a continuous process
- It should be correlated with other factors of development
- The planning should close an appropriate approach and planning

6.7.2 Benefits of Planning

- Planning help us in dealing with foreseen and unforeseen problems
- It helps us in preparing for needed changes and mitigate some outcomes that might be considered undesirable
- It is a tool for adapting to an existing new innovation for resolving conflicts, improving old, approaches, upgrading existing quality, improving communications, and achieving many other desired outcomes.
- Planning facilitates in problem solving
- It offers significant opportunities for developing and maintaining individual growth.

- It promotes the use of measures of performance.

6.7.3 Problems of Planning in Pakistan

- Improper Information System (Weak Data Basis)
- Lack of Coordination
- Limited Resources
- Inadequate evaluation
- Unrealistic policies
- Unrealistic targets
- Lack of Trained Manpower
- Research
- Unrealistic Plan
- Lack of participation
- Centralized Planning
- Lack of Infra structural facilities
- Lack of external assistance

6.8 Types of Planning

There are two basic kinds of planning: strategic and operational.

Strategic planning, also known as long range, comprehensive, integrated, overall and managerial planning, which has three dimensions: the identification and examination of future opportunities, threats and consequences; the process of analyzing an organization's environment and developing compatible objectives along with the appropriate strategies with policies capable of achieving those objectives; and the integration of the various elements of planning into an overall structure of plans so that each unit of the organization knows in advance what must be done when and by whom.

Operational planning is concerned with the implementation of the larger goals and strategies that have been determined by strategic planning; it is also concerned with improving current operations and with the allocation of resources through the operating budget.

6.8.1 Macro Planning: Macro Planning deals with broad entities having such large magnitude, aggregates, and averages as National Income, per Capita Income, National Expenditure on consumption and income; Balance of Trade and Balance of Payment, National Population, Total Enrolment, Enrolment Ratios, Age Structure etc. Thus, macro-planning deals with broad

plans not taking note of breakdowns between skills or scheme implementation at grass root level.

6.8.2 Micro-Planning: As against macro theory, micro economic theory analyses consumption and investment of households, prices of particular goods, output, sales and purchase decisions of individual firms and industries. Micro-Planning in education starts from grass root level. For instance, the head of an institution has to plan how best he/she should bring all the children to school in his/her area. Here planning at the village level has to be done. How best individual schools can bring and retain all the children in schools; how schools in individual habitations can be provided; and whether eligible students are getting their scholarships on time.

6.8.3 Meso-planning: It is a level of planning process undertaken at provincial or district level.

6.8.4 Decentralized Planning: Decentralization implies distribution of administrative powers and functions among local constituents. Decentralized planning means to confer the authority of planning for the local development. The Devolution Plan has placed the primary and secondary education under the control of District governments. Under the decentralized planning model, all local units prepare their plans after due consultations with their people and analysis of the strengths and weaknesses of the planning area. These local level plans are then coordinated and summated to make the district plan by taking into account the availability of the physical and financial resources. Apart from this, in Pakistan the Government has also delegated financial and administrative powers to the heads of district government to which budget is also allocated to be spent by them according to their requirements. Such financial delegations are available in the general Financial Rules. The administrative powers are delegated according to the provisions contained in the Devolution Ordinance 2001.

6.8.5 School-based Planning is viewed as something opposite to centralization. The concept of centralized planning was practiced as the central authority did all planning. These plans were then passed on to the grassroots for implementation. In school-based planning financial and administrative powers are delegated to the heads of educational institutions to plan and prepare budget.

6.8.6 Rolling Plan: A long-term plan that is revised regularly and each revision is projected forward again for the same period as the original plan. Thus, a three year Rolling Plan might be revised each year so that at the

end of year one the plan is revised and fresh projections made to the end of the year four.

6.8.7 Contingency Planning: A planning technique, which determines actions to be taken by individual and group at specific places and times if abnormal threats or opportunities arise.

6.8.8 Corporate Planning: A technique, which aims to integrate all the planning activities of a company and relate them to the best overall objectives for the company.

6.8.9 Manpower Planning: A generic term for those techniques used to arrive at a specification of any aspect of future manpower requirement, deployment or development needs. Manpower planning has been an important feature of planning.

6.8.10 Participative Planning or Indicative Planning: Indicative Planning is planning by agreement and indication of desirable targets rather than by compulsion or decree. It is also known as Participative Planning.

6.8.11 Development Planning: It is defined as a set of complex activities designed to optimize the effects of all government measures as well as to establish linkages between macro economic targets and sectoral programs.

6.9 Types of Plan

There are different types of plans in vogue as under:

6.9.1 Annual Development Plan (ADP): Planning Commission has devised a prescribed proforma in which all the financial requirements for the next year of all the development projects for the schemes are listed. The draft ADP is prepared at different levels and submitted at subsequent higher levels for its approval.

At Federal level, the draft ADP's are prepared by the individual Ministries/Divisions and submitted to the Planning and Development Division for its recommendations to the Finance Division.

At Provincial level the draft ADP's compiled by different departments are forwarded to the departments of planning and development.

But regarding ADP's for education sector, it is prepared scheme wise and level wise. The projects are arranged in order of priority within the sub-sector/level.

The following are some of the major strategies usually adopted while preparing ADP's.

- Requirements of the individual priority projects.
 - Percent share of total budget/GNP.
 - Absorption capacity.
- a. **Approval of ADP's:** The prepared draft of ADP's is finally approved through the following levels:
- i. **Priorities Committee:** It is headed by the Secretary, planning and development division. It allocates financial allocations to different Ministries/Divisions for their development programs on ADP's.
 - ii. **Annual Plan Coordination Committee (APCC):** This committee is headed by the Minister for Planning and Development further examines the overall ADP and readjusts the allocations between various sectors of economy according to the anticipated resources for the next year.
- b. **Implementation of ADP:** At present different procedures are followed at Federal and Provincial levels for release of development funds out of the approved budget for implementation of the Annual Development Program such as:

At Federal level, the funds are released on quarterly basis to the implementing agencies in respect of all approved development project. The funds against the unapproved projects included in ADP are released as and when the project is approved by the competent authority, or anticipatory approval of the Chairman, Executive Committee of the National Economic Council.

At Provincial level the development funds are released in the beginning of the financial year against the approved schemes.

- c. **Evaluation of ADP:** The implementation of the Annual Development Program in financial as well as physical terms is generally evaluated on quarterly basis by the Education Secretary at Federal level, and at similar appropriate levels in the provinces.

6.9.2 Mid-term Development Plan: It is usually prepared for a period of three years or sometimes during a five-year plan.

6.9.3 Five Year Plan: As stated earlier, policy is an enunciation of incentives. These incentives are then metamorphosed into plans based on resources availability. A sequence of 5-years plans are prepared in Pakistan, such as

- First Five Year Plan (1955-60)
- Second Five Year Plan (1960-65)
- Third Five Year Plan (1965-70)
- Non Plan Period (1970-78)
- Fifth Five Year Plan (1978-83)
- Sixth Five Year Plan (1983-88)
- Seventh Five Year Plan (1993-98)
- Eighth Five Year Plan (1998-2003)
- Medium Term Development Framework (2005-2010)

6.9.4 Roll-on Plan: A roll-on plan is a medium term plan in which the sectoral and project-wise position is adjusted according to the foregoing year. Actually it is developed to bring flexibility into the Five Year Plan and to relate the sectoral and project-wise allocations with (a) the financial position and (b) project implementation. For example, if a plan is prepared for three years say Y1, Y2, Y3. Next year Y1 year would be completed and Y4 year would be entered so that the plan remains again for three years i.e. Y2, Y3, and Y4.

6.9.5 Long-Term or Perspective Plan: It is a plan which provides a frame-work for social and economic policies spread over a long term period from 15-25 years. The main purpose of it is to achieve objectives to be incorporated in and medium term frame work. In Pakistan the following two perspective plans were developed. First Perspective Plan 1965-85 20 years Second Perspective Plan 1988-2003 15 years.

6.9.6 Sectoral Plan: It includes detailed requirements of each sector and needs of the country based on certain economic assumptions over a quite long planning horizon.

6.10 Public Sector Development Program (PSDP)

It is an annual program, which consists of all the public sector projects/programs with specific allocations. It is the operational side of the Five Year and Annual Plans. It deals with the development expenditure with or without foreign exchange component. It is coordinated by the programming section of the planning and development division.

For Public Sector Development Program call letter is sent annually to all Government Ministries/Divisions, Provincial Government and Chief/Heads of Technical Section of the Planning and Development Divisions. The invitation include time schedule, a prescribed proforma with guide lines for the preparation of PSDP.

6.11 Special Development Program (SDP)

The Federal Government introduced a special development program in the year 1982-83 to accelerate the pace of the development of backward areas such as Balochistan and Tribal Areas of NWFP. This program is extended to Karachi, Thar Areas of Sindh, Barani Areas of the Punjab, Azad Kashmir and Northern Areas.

7. EDUCATIONAL MANAGEMENT

Management is a process to ensure the cooperation, participation, intervention and involvement of others in the effective achievement of determined educational objectives. Being predominantly a social process it lays major emphasis on interaction of people both in and out-side the institutions or organization. Educational management is the indispensable tool for the implementation of policies in education.

7.1 Management Process

Management process consists of four elements or stages:

7.1.1 Planning: Planning includes creating, developing alternatives, programming and project formulation.

7.1.2 Organization: It includes resources, assembling, staffing and establishing framework for carrying out plans.

7.1.3 Direction: It includes setting time and cost framework, guidance and motivation, supervision and coordination.

7.1.4 Control: It includes budgeting, evaluation of performance, reporting and evaluation.

7.2 Educational Manager

Educational manager is a person in position who has to ensure change in other people's behavior patterns for the purpose of achieving the educational objectives entrusted to him/her.

7.3 Management Techniques

Management, techniques refers to the method or ways to increase the efficiency of the system. It is necessary in developing countries where there is paucity of data, unreliability of its collection and scarcity of data processing personnel.

7.4 Three Tiers of Management System in Pakistan

There is centralized system of education in Pakistan controlled by the Federal Government through Ministry of Education. Though education is a provincial subject but federal and provincial governments are responsible

for education. Under the devolution plan some responsibility of education has also been shifted from federal to provincial and district governments. Therefore there are three main tiers of administration and management of education in Pakistan- Federal Ministry of Education, Provincial Department of Education and District Governments.

7.4.1 Federal Ministry of Education: The Federal Ministry of Education is headed by Federal Minister of Education followed by the Secretary of Education who assists the minister. The Ministry of Education has five wings- Curriculum, Policy and Planning, Training Project and Administration. Joint Education Advisor heads each wing. Besides wings the Ministry of Education has a number of bodies for its assistance. The major functions of the Ministry of Education are as under:

- To formulate national education policy and to ensure its implementation.
- To coordinate with provinces and other organization in educational matters.
- To formulate curriculum and ensure uniformity in education through out the country.
- To coordinate with foreign governments and international agencies for the development of education in the country.
- To award scholarships for professional growth of students and teachers.
- To look after the development of education in the country and provide necessary funds to the provinces.

7.4.2 Provincial Departments of Education: All provinces have Departments of Education headed by provincial Ministers of Education. The Department of Education is responsible for the administration of elementary, secondary, technical and higher education in the province. The provincial Secretary of Education who assists the Minister of Education looks after the provincial structure of administration. Each provincial department of education has many bodies such as curriculum bureau, provincial institute of teacher education, textbook board, boards of intermediate and secondary education, etc. to carry out its functions.

7.4.3 District Administration: Under the devolution plan some functions have been decentralized and the district governments have been given responsibility to look after the educational affairs of the district. The nazim and Executive District Officer (EDO)(education) run the administration at district level.

7.5 Community Based Organization (CBO):

CBO refers to any organization that exists at local or grassroots level and works for the local community.

7.6 Performance Appraisal

Performance Appraisal is systematic assessment of an individual's performance in order to assess his training needs, potential for promotion, eligibility for a merit increment as part of pay or salary review or for management succession planning. Methods of appraisal include the Annual Confidential report, factor rating, ranking system, task based appraisal etc.

7.7 Forced Choice Appraisal

Forced Choice Appraisal is a performance appraisal technique in which the freedom of choice in making assessment is restricted.

7.8 Human Resource Development

Human Resource Development (HRD) is used by development economists and educational administrators to denote productive investment in human beings (formal and non-formal education, short term and on the job training) that enhances the knowledge, skills and abilities of personnel to perform day-to-day tasks.

7.9 Human Development Index (HDI)

HDI measures the overall achievements in a country in three basic dimensions of human development, namely: longevity, knowledge and standard of living. It is measured by life expectancy, educational attainment (adult literacy and combined primary, secondary and tertiary enrolment) and adjusted income. DDI of Pakistan in the world ranking was 135 in 2005.

7.10 Performance Auditing

It is an assessment of the activities of a organization to see if the resources are being managed with due regard for economy, efficiency and effectiveness and that the accountability requirements are being met reasonably. It covers:

- a. **Assessment:** It is the judgment based on relevant and reliable evidence. The judgment may contain a certain amount of

subjectivity. It is agreed on basic facts and is arrived at after carrying out generally accepted auditing procedures which is treated as valid.

- b. **Activities:** It reviews the main operations of the organization. It implies that auditors should have some understanding of technical operations to be audited.
- c. **Resources:** The resources of an organization consist of money, men, materials and machines (4 M's), auditing including utilization of resources.
- d. **Three E's:** It means Economy, Efficiency and Effectiveness, which are addressed during performance audit.
 - i) **Economy:** Review of economy is a primary element in performance auditing. Economy means acquiring resources at the lowest cost keeping in view the objectives of the organization.
 - ii) **Efficiency:** It refers to the relationship of inputs and outputs. It relates to the effective utilization of resources.
 - iii) **Effectiveness:** It means the extent to which an organization achieves its objectives.

7.11 Accountability Requirements

The following are the accountability requirements:

- Public managers must report back to the legislature, the outcome of the resources managed by them.
- The reports of the public managers should be reliable, relevant and timely.
- Public managers should comply with the rules and regulations.

7.12 Risk Management

Risk management is the process of measuring, or assessing risk and then developing strategies to manage the risk. In general, the strategies employed include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk. Traditional risk management focuses on

risks stemming from physical or legal causes e.g. natural disasters or fires, accidents, death, and lawsuits.

7.13 Conflict Management

Conflicts in the educational institutions are inevitable but manageable. It refers to the long-term management of intractable conflicts. Conflicts arise for variety of reasons. They occur when mutually exclusive goals and/or mutually exclusive values exist. There are four strategies of conflict management:

- a) **Neutralization:** to make ineffective, paralyze or counteract the effectiveness of the opposition to a proposed solution.
- b) **Resolution by submission:** the parties in conflict submit to formal outside intervention under a new set of rules.
- c) **Resolution by system restructuring:** modification of organizational structure so as to prevent, reduce or eliminate conflict.
- d) **Utilization:** the mechanism of conflict to get some response about and/or resolve interpersonal and interorganizational problems.

7.14 Disaster Management

Disaster management means a continuous and integrated multi-sectoral, multi-disciplinary process of planning and implementation of measures aimed at prevention and mitigation, preparedness, response, and recovery in relation to natural and man-made disasters. Disaster management therefore refers to programs and measures designed to prevent, mitigate, prepare for, respond to and recover from the effects of disasters.

7.15 Knowledge Management or KM

Knowledge management is a term applied to techniques used for the systematic collection, transfer, security and management of information within organizations, along with systems designed to help make best use of that knowledge. In particular it refers to tools and techniques designed to preserve the availability of information held by key individuals and facilitate decision making and reducing risk. It is both a software market and an area

in consultancy practice, related to disciplines such as competitive intelligence. A particular focus of knowledge management is knowledge which is not easily codified in digital form, such as the intuition of key individuals that comes through years of experience and being able to recognize various patterns of behavior that someone with less experience may not recognize.

The KM process has the following principal aims:

- Identifying, collecting and organizing existing knowledge, and
- Facilitating the creation of new knowledge
- Initiating innovation through reuse and leveraging the expertise of people across organizations to produce enhanced business performance.

7.16 Time Management

Time management refers to tools or techniques for planning and scheduling time, usually with the aim to increase the effectiveness and/or efficiency of personal and corporate time use. These are embodied in a number of books, seminars and courses, which may offer conflicting advice. The common denominators of these strategies are a to-do-list, setting priorities and goal management. Some of the best known examples of time management strategies are tied to specific lines of time management products. Time management for personal use is a type of self-management. In a corporate setting, time management software can satisfy the need to control employees, make it easier to coordinate work and increases accountability of individual employees. Planning time and writing to-do-lists also consumes time and needs to be scheduled. This is one of the major criticisms of time management.

7.17 Operational Management

APICS (The Association for Operations Management) defines operations management as "the field of study that focuses on the effective planning, scheduling, use and control of a manufacturing or service organization through the study of concepts from design engineering, industrial engineering, management information systems, quality management, production management, inventory management, accounting, and other functions as they affect the organization."

7.18 Quality Management

Quality management is a method for ensuring that all the activities necessary to design, develop and implement a product or service are effective and efficient with respect to the system and its performance.

7.19 Strategic Management

strategic management is the process of specifying an organization's objectives, developing policies and plans to achieve these objectives, and allocating resources so as to implement the plans. It is the highest level of managerial activity, usually performed by the Chief Executive Officer (CEO) and executive team. It provides overall direction to the whole enterprise. An organization's strategy must be appropriate for its resources, circumstances, and objectives. The process involves matching the company's strategic advantages to the business environment the organization faces. One objective of an overall corporate strategy is to put the organization into a position to carry out its mission effectively and efficiently. A good corporate strategy should integrate an organization's goals, policies, and action sequences (tactics) into a cohesive whole. Strategic management can be seen as a combination of strategy formulation and strategy implementation.

Strategy formulation involves:

- Doing a situation analysis: both internal and external; both micro-environmental and macro-environmental.
- Concurrent with this assessment, objectives are set. This involves crafting vision statements (long term view of a possible future), mission statements (the role that the organization gives itself in society), overall corporate objectives (both financial and strategic), strategic business unit objectives (both financial and strategic), and tactical objectives.
- These objectives should, in the light of the situation analysis, suggest a strategic plan. The plan provides the details of how to achieve these objectives.

Strategy implementation involves:

- Allocation of sufficient resources (financial, personnel, time, computer system support) Establishing a chain of command or some alternative structure (such as cross functional teams)
- Assigning responsibility of specific tasks or processes to specific individuals or groups

- It also involves managing the process. This includes monitoring results, comparing to benchmarks and best practices, evaluating the efficacy and efficiency of the process, controlling for variances, and making adjustments to the process as necessary.
- When implementing specific programs, this involves acquiring the requisite resources, developing the process, training, process testing, documentation, and integration with (and/or conversion from) legacy processes.

7.20 Human Resource Management (HRM)

The management of various activities of employees with respect to their abilities aiming to enhance the effectiveness of an organization's work force in achieving the goals.

7.21 Management Information System (MIS)

MIS are information systems, typically computer-based, that are used within an organization. Word Net describes an information system as "a system consisting of the network of all communication channels used within an organization". A management information system may also be defined as "a system that collects and processes data (information) and provides it to managers at all levels who use it for decision making, planning, program implementation, and control". An information system is comprised of all the components that collect, manipulate, and disseminate data or information. It usually includes hardware, software, people, communications systems such as telephone lines, and the data itself. The activities involved include inputting data, processing of data into information, storage of data and information, and the production of outputs such as management reports.

As an area of study it is commonly referred to as [*information technology management*]. The study of information systems is usually a commerce and business administration discipline, and frequently involves software engineering, but also distinguishes itself by concentrating on the integration of computer systems with the aims of the organization. The area of study should not be confused with computer science which is more theoretical in nature and deals mainly with software creation, or computer engineering, which focuses more on the design of computer hardware.

8. FINANCIAL MANAGEMENT

A financial management system can properly balance the needs of national, provincial and institutional interests while also allowing manager to respond to changes in their own educational setting. It is different from accounting although, accounting is an important part of financial management. A well designed and managed system of educational resources will allow (i) Cost analysis which increase great efficiency (ii) greater planning, thus to meet all educational cultural and development goals (iii) accountability to ensure that national resources allotted to education are spent on education. The goals of budget and financial management are fourfold e.g. planning, analysis, control and flexibility.

8.1 Financial Year

In Pakistan, financial year extends from 1st July of the year to the 30th June of the subsequent year.

8.2 Date of Reference

The date of reference in case of financial data is 30th June while in case of statistical data it is 31st October in old academic session and in the new it is 31st January of the year.

8.3 Cash Flow

Cash flows are of two types: inflows i.e. income, revenues, etc. and outflows i.e. expenditures.

8.4 Income

Income means receipts of the institution during the financial year from all sources. These, however, does not include the following:

- a) Refundable security deposits, such as library deposits, hostel caution money, and laboratory caution money etc.
- b) Money collected on behalf of other authorities like boards registration fee, university enrolment fee, boards'/ university's' examination fee etc. which is passed on to them.
- c) Fees collected from students for providing specific services like bus fees etc.

- d) Repayment of loans.
- e) Hostel fee excludes the messing fee,
- f) Fees foregone on a/c of free studentship should not be included in the menu of the institution.

8.5 National Income

National income is the sum of the earned incomes of all the individuals during a given period of time. Gifts, either from individuals or from government are cash receipts but not earned and are therefore not considered as income. Even pensions are excluded because they are not earned during the period in which they are paid.

8.6 Gross National Product (GNP)

GNP is the value of all final goods & services produced by domestically owned factors of production within a given period. The insistence on final goods and services is simply to make sure that we do not double-count. The components of the car, sold to manufacturers are called intermediate goods and their value is not included in GNP. A considerable attention is devoted to calculate GNP because it serves as an indicator of the extent of economic well being and as a basis for economic planning.

8.7 Gross Domestic Product (GDP)

GDP is the value of final goods produced within the country. Part of GNP is earned abroad, e.g. the income of a Pakistani citizen working in America or Japan is part of Pakistan's GNP. But it is not part of Pakistan's GDP because it is not earned in Pakistan.

8.8 Gross National Product at Market Prices

GNP at market prices is equal to the Gross Domestic Product at market prices + net factor income from abroad. Net National Product (NNP) at market prices is equal to GNP at market prices minus consumption of fixed capital. Net National Product at factor cost is equal to GNP at market prices minus net indirect taxes.

8.9 Budget

Budget is a statement in quantitative and usually in financial terms of the planned allocations and use of resources. It is an itemized list of expected income and expenditure for specific future period. It is the annual financial statement of income and expenditure of government for a fiscal year and is generally approved by the public representative body like Parliament and Legislature. Revised Budget is an itemized list of expected incomes and expenditures for the remaining period of the current year whereas Budget Estimates (BE) is an itemized list of expected incomes and expected expenditures for the ensuing year.

8.10 Budget Cycle

The budget Cycle is spread over a year. It turns around and around as we move ahead. The most important parts of the budget cycle are the estimation of revenue budget and the formulation of expenditure budget.

8.11 Types of Budgets:

- i. **Revenue Budget:** It tells how much money is available to be expended. The expenditure part of the budget tells what will be spent from the funds available.
- ii. **Zero Based Budgets:** A system of budgeting which requires managers, while preparing their budget to justify all their expenditures from a zero base rather than simply asking for increments to previously budgeted figures. Thus all activities and programs have to be re-evaluated to decide whether they should be eliminated or funded at a reduced, similar or increased level.
- iii. **Deficit Budget:** Deficit budget is that budget when current expenditure of the government is in excess of the current income or revenues of the government. A budget deficit occurs when an entity (often a government) spends more money than it takes in. The opposite is a budget surplus.
- iv. **Surplus Budget:** Surplus budget is that budget when the current expenditure of the government is less than the current income or revenues of the government.

- v. **Balanced Budget:** Balanced budget is that when the current expenditure of the government is equal to the current income or revenues of the government.
- vi. **Recurring or Non-Development Budget:** The recurring budget is the basis operating budget of the educational sector. It does not lead to new initiatives programs or building but continuously re-budget ongoing programs established in the past. In other words, it is a plan for the annual expenditure of funds for consistent services level. Recurrent costs apply to educational inputs that are consumed in a single budgetary year. It consists of expenditures on salaries and other compensation for teachers, administrative staff and other supporting staff, utilities and supplies etc.
- vii. **Non-Recurring or Development Budget:** It is that budget which deals with development items of institutions such as various projects, building construction etc. PC-I and other request forms are filed under the development budget's schedule. In other words, it is the second major portion of the annual budgeting process.

8.12 Cost Estimation

The "estimation" is the word used by administrators for "guess". Different units of costs and rates are used by the educational planners and administrators in estimation of their future requirements.

8.13 Costing

Costing is the process of determining the cost of doing something e.g. cost of manufacturing an article, rendering a service or performing of function.

8.14 Personnel Costs

It includes annual costs of teachers, administrators and other supporting staff.

8.15 Non-Personnel Costs

It consists of annual costs on textbooks, teaching aids, utilities, transportation and health care etc.

8.19 Total Recurrent Cost

It is the sum of personnel costs and non-personnel costs.

8.20 Capital Cost

Capital costs apply to educational inputs that are consumed over a number of years. It includes expenditures on the purchase and development of land, school building (class rooms, Labs. And furniture, fixed equipment) other instructional equipment and physical facilities.

8.21 Institutional Cost

Institutional Costs on education is the sum of total recurrent cost and total capital cost.

8.22 Educational Cost Index

It is defined as a ratio of the cost in a year to that of a base year. In other words, a teacher cost index can be defined for total teacher cost for each level of education in public education, private education as well as public plus private education. Educational Cost index reveals the magnitude in the changes of educational costs over time.

8.23 Depreciation Method

It is the method in which the original cost of item is marked down by an appropriate depreciation factor.

8.24 Replacement Method

It is the method in which the current value of the item is estimated to be the cost for replacing the item at present, adjusting depreciation.

8.25 Cost Indicators of Education

Educational cost indicators are variables that measure or reflect the state of health and/or the level of the performance of the education system or a sub system with respect to the economic aspect of education. This provides a basis for an anatomical examination of the utilization of various resources devoted to education as a useful diagnostic function. In other words, these indicators are useful for diagnostic purposes with regard to

educational investment. They indicate the state of affairs in the education, uncover the areas of abnormalities and provide a basis for improvement.

8.26 National Effort Indicators (NEI)

A national effort indicator is a ratio of an educational expenditure (E) to national output (GNP).

8.27 Fiscal Effort Indicators (FEI)

A fiscal effort indicator is a ratio of total public educational expenditure (PEEI) to total expenditure (TPE).

8.28 Financial Indicators

These indicators show the percentage distribution of educational costs by sources of finance. These indicators can be calculated for each level of education and can be applied to national or provincial level. These are useful for addressing educational finance issues.

8.29 Unit Costs of Education

Unit costs of education are used not only for costing purposes they also reflect the characteristics of per student expenditure in education so that the efficiency of the education system/investment can be assessed. A number of unit costs of education relevant to educational cost analysis can be identified as cost per pupil enrolled, cost per pupil actually attending school; cost per graduate; cost by level of education attained; cost of education per capita, cost of per class; cost of per hour, average recurrent cost per teacher, and capital cost per place etc.

8.30 Opportunity Cost

It refers to what is needed to give up (forego) in order to achieve or acquire another thing close. In education the opportunity cost of any level of type of education is the value of the income, which a student foregoes while acquiring their education.

8.31 Cost-Benefit Analysis

Economists use the technique of cost-benefit analysis to measure and compare the costs and the expected monetary benefits of an investment in order to provide a measure of its profitability. Rate of return

approach is used for prioritization of investment decision. The fact that education is an important form of investment in human capital has resulted in a number of attempts to apply cost-benefit analysis to education in order to assess the profitability of expenditure on education as an investment for society as a whole or for the individual student.

Cost Benefit Analysis is a systematic comparison between the cost of carrying out the service or activity and the value of that service or activity, quantified as far as possible, all costs and benefits direct and indirect, financial and social, being taken into account.

8.32 Benefit Cost Ratio (BCR)

Both the benefit and opportunity cost streams are discounted at a rate considered to be closer to the cost of capital and the ratio between the present worth of benefits divided by present worth of the costs is determined. When the ratio is equal to one or above, the project is treated as viable.

8.33 Net Present Worth (NPW)

The Net Present Worth is calculated by subtracting present worth of costs from present worth of benefits discounted at opportunity cost of capital. When the Net Present Worth is positive, the project is said to be desirable. (A project with positive NPW at 12% opportunity cost of capital is considered justified for implementation).

8.34 Internal Rate of Return (IRR)

It is the discount rate which just makes the NPW of the cash-flow equal to zero. This discount rate is termed as the Internal Rate of Return (IRR) and is the weighted average earning power of the resources used in the project over life. The cash-flow is discounted to determine its present worth. By trial and error, one discount rate is found which is too low and which leaves a positive present worth, another discount rate is found which is too high and which leaves a negative present worth of the cash-flow stream.

8.35 Net Benefit Investment Ratio (NBIR)

It is simply the present worth of net benefits which is divided by the present worth of investment. It is measured by dividing the sum of the present worth after the incremental net benefit-streams has turned positive

by the sum of the present worth of the negative incremental net benefits. It is calculated to know the investment that selects projects on the basis of return to investment during the project period. If this value is one or greater, when discounting at the opportunity cost of capital, choose the project bearing with the largest ratios value and proceed until available funds are exhausted.

8.36 Capital-Output Ratio

It is defined as the average value-added produced per unit of capital expenditure. Normally projects of low capital output ratio are appreciated.

8.37 Value-Added

It is the amount of economic value generated by the activity carried out within each production unit in the economy. It is measured by the difference between the value of the output of the firm and the value of all inputs purchased from outside the firm. The value-added is the value that has been added by the labour and capital of the enterprise to the economy. Gross value added includes payment for taxes, interest, rent, profits, reserves for depreciation. Subtracting depreciation Net Value-Added is obtained.

8.38 Expenditure

Expenditure means the sums of money actually spent on a project, activity, program etc by the institution during the year. Public expenditure is the amount of money spent by the government on social and economic welfare programs/activities. These shall, however, not include the following:

- a. Refund of security deposits such as library deposits, hostel caution money, laboratory caution money etc.
- b. Money collected on behalf of other authorities like boards registration fee, university enrolment fee, boards/university's examination fee etc. which is passed on to them.
- c. Fees collected from students for providing specific services like bus fees etc. d. Repayment of loans.
- d. Hostel fee excludes the messing fee, but if the institution contributes anything towards hostel from its own funds that amount should be shown as its expenditure.

- e. Fees foregone on account, of free studentship should not be included in the menu of the institution.
- i. **Recurring Expenditure:** Recurring expenditure on education is the expenditure, which is required to be incurred frequently or which recurs repeatedly. Under this head, we may include salaries and allowances of staff, consumable stores, whitewashing, maintenance etc. of school plant, including repairs and maintenance.
 - ii. **Non-Recurring Expenditure:** Non-recurring expenditure on education is that expenditure which is comparable to capital expenditure on education. It includes expenditure on construction, purchase of major equipment, land, hostel, vehicles, development of laboratories, library etc.
 - iii. **Capital Expenditure:** Capital expenditure is the expenditure for assets that last longer than one year, and includes expenditure incurred on the purchase of land, construction of the building of an educational institution, fittings, fixtures, development of playground, hedging, protection walls of the institution and on development of institutional infrastructure that last for more than a year.
 - iv. **Expenditure (Revenue Account):** Expenditure (Revenue Account) includes all expenditure excluding capital expenditure.
 - v. **Plan Expenditure:** Plan expenditure is that expenditure which is incurred out of the funds provided under different Five Year Plans/Annual Plans of the country.
 - vi. **Non-Plan Expenditure:** Non-plan expenditure is committed expenditure for the maintenance of the existing school plant. While non-plan expenditure is maintenance expenditure, the plan expenditure is developmental expenditure.
 - vii. **Current Expenditures:** Current expenditures are expenditures for goods and services consumed within the current year, and which should be renewed if there is need for prolongation to the following year.
 - viii. **Total Public Educational Expenditure:** It is the sum of educational expenditure by all levels of government on education minus inter-governmental educational transfer payments. It consists of government expenditure on public

education and government subsidiaries to private education.

8.39 Program, Planning Budgeting System (PPBS)

The PPBS method is to set forth certain major objectives, to define programs essential to the goals, to identify resources to the specific types of objectives and to analysis systematically the alternatives available. The basic concept of PPBS is to help various new guesses such as Management by objectives (MBO), the local financial work approach (used by AID in educational planning), Zero Based Budgeting, the Goals Achievement Matrix Approach and other formats.

8.40 Education Production Function Analysis

It examines the relationship between what goes into education (inputs) and what comes out of education (outputs). It is measured and analyzed in an education production function analysis. It is usually school achievement. The inputs are teaching services, curriculum, instructional materials, physical facilities and equipment.

9. PROJECT CYCLE

9.1 Project

A Project is a combination of non-routine activities that must be completed with a set of resources and within a set time interval, e.g. (i) construction of a school building of a specific design, (ii) design of a training program for a specified group, (iii) production of textbook. It is a planned undertaking, a unit of management that clearly specifies what is to be accomplished, over that period of time, and at what cost.

9.2 Development of Project

9.2.1 Project Plan: It is a combination of objectives, policies, procedures, budget and other elements necessary to carry out a predetermined specific objectives. This is the basic element in organization of plans.

9.2.2 Project Design: Project design is a translated version of the project plan into a work plan.

9.2.3 Pilot Project: It is a small project undertaken to test and adapt a development approach to a particular social and geographic situation.

9.2.4 Simple Project: It aims at to achieve a particular objective by accomplishing a single task. For example organizing a training program or printing of teachers guide etc. It may be long term or very short term.

9.2.5 Complex Project: These are multivariate, multi-phased and often long ranging which are complex and necessitate a large or specific management organization for their implementation e.g. educational sector reform or changing of curricula according to societal needs etc.

9.3 Program

A program is a cluster of projects with specific time frame for accomplishment of interim objectives or set of activities directed towards attainments of one or more defined objectives. Programs are approved and authorized means, strategies and details of procedures for achieving the targets. The goals of the programme are desired ends to be achieved. The Federal Government adopted Education for All program for achieving the goals mentioned therein and simultaneously prepared the POA (Program of Action). It is an intermediate activity which breaks down the strategic

decisions in a plan into different components or projects which are technical or short term in nature.

9.4 Project Management

There are several phases in project management such as:

9.4.1 Project Identification: It is the first phase of the project's life cycle. A study is designed on environment to search for project to be managed. This study involves learning about the forces, conditions and institutions that are relevant to the project. The study of the environment and the setting of the planning premises will serve two purposes viz, those that suggest potential project ideas and definition of the major parameters that will be likely to promote or deter development of the project ideas.

9.4.2 The Feasibility Study: Feasibility study is a technique for discovering the extent to which a proposal is practicable. It is defined as a systematic gathering and analysis of data and the formulation of conclusions. It assesses the practicability or chances for success of a project or understating. This enables the researcher to foresee problems that may arise during implementation. It also serves the purpose in the formulation of a long-range plan.

9.4.3 Project Formulation: Once the project has been conceived and identified then a detailed work-plan indicating costs and benefits of the project and its feasibility needs are prepared. Project preparation is a complex task. It has technical, economic, financial, commercial, organizational and managerial dimensions. In the formulation phase the potential demand for the project output is estimated, and the size or level of service, the objectives, duration, agencies involved, and cost are determined. All the necessary requirements and justification etc. are reflected in the PC-I.

9.4.4 Project Appraisal and Approval: In Pakistan both phases are combined into a single project authorization procedure. Appraisal comes before approval. In this phase, the project is assessed thoroughly and necessary modifications are made on the basis of several questions already raised. It spells out the data in greater details and specificity. Data validity and accuracy is also ensured and details of tests is also investigated.

9.4.5 Project Implementation: The implementation phase in the project cycle begins when the project has successfully completed the phases of preparation, appraisal approval and acceptance. The project implementation

includes the organization for the project implementation, the inputs, the temporal aspects (alternatives) and the action planning and control. The success of project implementation is the availability of resource inputs in adequate quantity and acceptable quality. Delays in implementation occur due to non-availability of funds, material and equipment, technical support and the poor project preparation etc.

9.4.6 Project Monitoring: The prime aim of project monitoring is to develop an effective means of reporting the progress of implementation and status of finances of a project. Monitoring actually serves as the link between project implementation and planning by documenting experiences in implementation. It actually enables the management to adjust to conditions observed in the execution of the project so as to achieve the desired goals within the stipulated time frame.

9.4.7 Project Evaluation: Evaluation provides a way or helps to identify facts that accounts for the failure of the projects at different stages of the project cycle. It refers to the assessment of on going and completed projects. It may be conducted during or after completion. A good evaluation can suggest ways how to improve project design, project formulation development of relevant techniques for project appraisal and to support decision makers to reduce implementation lagger.

9.5 Types of Evaluation

Evaluation can be

9.5.1 Formative Evaluation: It is used when the project is in operation or purposes not easily definable in precise and explicit terms. In such a situation, formative evaluation is used to explore experiences or impact in order to provide sharpen definitions/strategies to the managers.

9.5.2 Summative Evaluation: It is used when the project has a single predominant objective. It is relatively low-cost and requires modest skills.

9.5.3 System Evaluation: It is a model used for institution building or complex projects with multiple objectives.

9.5.4 On-going Evaluation: It is the type of evaluation, which generally focus management function intended to assure the efficient use of resources, measures effectiveness in achieving the objectives.

9.5.5 Context evaluation: The following are four uses of context evaluation:

- helps in determining the objectives in the context of environment
- identifies unmet needs and unused opportunities
- diagnoses and strategic problems
- monitors the system to maintain a current baseline of information

9.5.6 Input Evaluation: It provides information for determining the use resources to meet programs, goals through

- relevant capabilities of the responsible agency
- strategies for achieving goals
- designs for implementing selected strategy

9.5.7 Process Evaluation: This evaluation is adapted during the implementation of the project which provides feedback for the following variables:

- The procedural design or in its implementation.
- Programmed decisions
- Record of the procedure as it occurs.

9.5.8 Product Evaluation: The purpose of product evaluation is to measure and interpret attainments not only at the end of the project cycle but during its implementing process as well.

9.6 Different Post-Evaluation Actions

- **Savings and Surrenders:** The savings in the allocations against various projects can occur due to different factors such as unapproved status of the project, non availability of manpower, material, equipment etc. The savings are noted for surrender or re-appropriation to other projects. The last date for surrender of savings at the Federal level is 31st March of each year.
- **Re-appropriation:** The savings identified in time can be re-appropriated to the projects requiring more funds for their accelerated implementation.

- **Supplementary Grants:** A supplementary grant is attained from the Ministry of Finance at Federal level or from the Finance Department at Provincial level to meet the urgent requirements of under funded priority projects or against the projects not included in the current Annual Development Plan.
- **Progress Report:** The progress of physical achievements is reported and published. The achievements of the past year and targets sets for the next year are also published in the form of Annual Plan by the Planning Division at National Level.

9.7 PC-I Form (Annex-II)

PC stands for project cycle. PCI is a prescribed form used for the approval of development projects. It has been designed by Planning and Development Division for project submission. It was devised first in 1952 and then revised in July 1961 and then 2005. It has following aspects:

9.7.1 Project Digest: This part of PCI contains background information and a summary of the cost structure. It is common to all sectoral PC's.

9.7.2 Project's Description and Financing: The information contained in this part is description of the project and cash flow statement for the project.

9.7.3 PC-I for acquisition of land: To large projects a separate PC-I for acquisition of land is prepared as phase-I. After acquisition of land other project activities are put up for consideration as Phase-II.

9.7.4 Umbrella PC-I: It is a used by Federal Ministry when it is required to prepare a project having provincial components to be financed through a joint loan. Such a PC-I is called an Umbrella PC-I. In the preparation of such PC-I form full coordination between the Federal Ministries and Provincial Governments is needed.

9.8 PC-II Form (Annex-III)

It is a proforma devised by the Planning and Development Division used for the surveys and feasibility study of the project. Where applicable this activity is undertaken before submission of PC-I. It consists of information such as:

- Name by whom survey will be carried out
- Administrative authorities responsible for
- Central Ministry concerned with

- Details of Survey/Feasibility study
- Details of scheme likely to be submitted after survey

9.9 PC-III Form (Annex-IV)

This is the form which is used for reporting physical targets based on PSDP allocations after the end of each quarter. In this form quarterly report is prepared and submitted which indices reflects quarterly progress about the physical targets of the project. This form focuses financial as well as physical progress of the schemes/projects with information on any bottlenecks experienced during the execution of the project. This form contains the following major information.

- Physical Status
- Bottlenecks hindering progress
- Administrative Status

9.10 PC-IV Form (Annex-V)

This is a form designed by the Planning and Development Division to be submitted on the physical completion of the project regardless of whether or not accounts of the project have been closed.

This form contains the following main information:

- Title of the project
- Administrative authority responsible
- Concerned Ministry
- Date of actual commencement of the project
- Date of completion of the project
- Date of completion of project as originally planned
- Project History
- Financial Phasing of project
- Physical phasing of project
- Status of accounts (closed/unclosed)
- Manpower used
- Benefits as remarked on the basis of actual costs
- Changes in scope and design of original scheme
- Suggestion for planning and implementation of similar projects in future

9.11 PC-V Form (Annex-VI)

It is a form submitted annually as the performance report of the completion of the projects.

The first report on PC-V must be submitted by 31st July of the year following the year in which the project was physically completed. Four subsequent reports for each of the four fiscal years must be submitted by 31st July of each year.

9.12 Progress Monitoring Proforma

The Planning and Development Division have devised performas to watch and examine the progress of various projects. This step has been taken to ensure the process for achieving the specified targets. These form are called PM-I and PM-II.

9.12.1 Progress Monitoring Proforma (PM-I): The following main information is desired during the monitoring process through proforma PM-I.

- Name of the sector and the title of the project as per PC-I.
- Cost of the project with the date of its estimates made.
- Revised cost with date/year of estimation made.
- Escalation Situation in detail
- Major bottlenecks in order of priority faced.
- Remedial measure to eliminate the bottlenecks
- Progress monitored using PERT/CPM techniques.
- Future guidelines and suggestions by the field officers to the planners/policy makers

9.12.2 Progress Monitoring Proforma (PM-II): In this proforma following information required;

- Sector name
- Project title and location
- Financial Phasing
- Funds releases
- Expenditure incurred during a quarter
- Total expenditure incurred in a year
- Physical progress and financial utilization
- Major bottlenecks faced
- Remedial measures envisaged through expenditure

10. APPROVING AUTHORITIES FORUMS OF PROJECTS

The Development Authority Section in the Planning Commission Coordinate the approval of development projects submitted by Ministries, Divisions, Provincial Departments or Autonomous Agencies.

- Small Projects may be approved by the Secretary or Director of the Department or Departmental Development Working Party.
- There are various approving authorities at different levels as follows:

10.1 National Economic Council (NEC)

It works under the Chairmanship of President/Prime Minister. It approves the total budget (Dev. & Non-Dev.) for its presentation to the National Assembly.

10.2 Economic Coordination Committee (ECC) of the Cabinet

This committee takes care of all economic matters and coordinate the economic policies submitted by the various departments of the Government. It also keeps an eye to the monetary and credit situation and propose regulations of credit to increase productivity and exports. It gives the approval of projects to the private sector.

10.3 Executive Committee of the National Economic Council (ECNEC)

The Executive Committee of the National Economic Council possesses the highest project authorization in the Country. It is a ministerial level Committee. The following are some major function of ECNEC:

- To sanction provincial and federal development projects costing more than Rs.500 million.
- To allow moderate changes in the plan and sectoral readjustments within the overall plan allocation
- To supervise the implementation of the economic policies laid down by the cabinet and the National Economic Council.

Once a project costing more than Rs.500 million has been scrutinized by the CDWP and recommended for ECNEC, the Planning and Development Division prepare a Working paper with its summary. After

considering the proposal the ECNEC have right either to accept or reject or it can also be accepted with modifications.

10.4 The Central Development Working Party (CDWP)

The Central Development Working Party is a Senior Committee. It has the following role:

- To approve development schemes submitted by the Federal Ministries Costing to Rs.40 million to Rs. 500 million.
- It reviews all the development schemes submitted by provincial government or Federal Ministries Costing more than Rs.500 million (non-recurring) and submits them before ECNEC.
- To ensure that the schemes are prepared on sound ground and necessary economic financial and technical secretary is carried out.
- To confirm that the scrutiny has been carried thoroughly and the schemes are disposed off according to schedule.
- The CDWP has right to accept project or suggest modifications if necessary.

10.5 The Departmental Development Working Party (DDWP)

The National Economic Council has authorized a body at Federal level which is called Departmental Development Working Party(DDWP). It is responsible to approve projects submitted by Federal Ministries and Divisions etc. The role of DDWP is almost similar to those of PDWP. However, the following are some major notable functions:

- To approve federal projects costing less than Rs.40 million
- If there is any disagreement between the members of DDWP, the project is submitted to the Central Development Working Party (CDWP)
- If the project cost exceeds Rs.40 million, it is then submitted to CDWP.

10.6 The Provincial Developmental Working Party (PDWP)

Each province has a PDWP, which is associated with its Planning and Development Department. It serves the following purposes:

- To approve projects costing up to Rs.500 million provided no federal or external financing is involved.

- To review all development project submitted by provincial Departments.
- To submit projects to ECNEC, if cost exceeds Rs.40 million when federal or external financing is involved.

A corollary to this is that the projects approval will be financed out of provincial funds and will not have repercussions beyond the borders after province. It takes the following decisions:

All provincial projects are submitted to the P&D Section where these are scrutinized. If PC-I is satisfactory a working paper is sent to each member of PDWP. The party in a meeting may take any of the following decisions.

- Accept the project out rightly
- Recommend to CDWP
- Accept it with certain modifications

10.7 Northern Areas Council

All schemes costing up to and including Rs.40 million (Non-recurring) are considered by this council. The approval is subject to the following:

- The schemes sanctioned by the Northern Areas Council are in line with the objectives of the National Plans and there is no deviation from the principles and policies laid down in the Plan.
- The schemes do not have economic or other repercussions beyond the Northern Areas.

10.8 Azad Government of the State of Jammu & Kashmir

All scheme costing up to and including Rs. 200 million Non-recurring are considered if:

- The schemes to be sanctioned by the Government are in line with the objectives of the National Plans and there is no deviation from the principles and policies laid down in the Plan.
- The schemes do not have economic or other repercussions beyond the AJK.

10.9 Northern Areas Development Working Party

All schemes costing below Rs.40 million (Non-recurring) and/or Rs.8 million (Recurring). The powers will be the same as mentioned in the conditions mentioned for Federal Ministries.

10.10 Islamabad Development Working Party

All schemes costing below Rs.40 million (Non-recurring) and/or Rs. 4.00 million (Recurring). The powers are the same as mentioned for the conditions for the Federal Ministries.

10.11 FATA

Governor NWFP is empowered to sanction FATA schemes to the extent permissible in respect of Provincial schemes i.e. all FATA schemes costing upto Rs. 60.00 million (Non-recurring) after they have been processed by the PDWP.

10.12 FATA DC

All schemes costing below Rs.40 million (Non-recurring) and/or Rs. 8 million (Recurring). The powers will be the same as for the conditions for Federal Ministries.

11. MONITORING AND EVALUATION TECHNIQUES

Periodic monitoring is linked to the PERT/CPM analysis at the time of plan formulation and its execution. For chalking out the construction phase of a project role of PERT/CPM techniques is quite useful in the construction of management. These techniques are termed as Network techniques which helps the manager to minimize the chances of schedule slippage, cost overruns and contractual problems.

11.1 Critical Path Method (CPM)

CPM is the project network analysis technique for determining the minimum project duration. Critical Path in a set of activities is that subset of activities, which will delay planned completion date for the whole project if any of its activities is subjected to delay.

It is useful technique of monitoring the project implementation. It is a technique concerned with finding the least cost way of carrying out a task which consists of a number of activities, some of which may have to be carried out consecutively. Main application of this technique is in the sphere of planning controlling and construction programs for large infrastructural and industrial project.

The critical path is the path with the longest completion of time. It is critical in the sense that its length determines the time required by the whole task. This approach is used to develop realistic schedules based on knowledge of resources required and the resources available and this also ensures the feasibility of planned schedules.

11.2 Program Evaluation Review Technique (PERT)

'PERT: acronym for 'Program Evaluation and Review Technique', is a planning and control process that requires identifying the accomplishment of programs and the time and resources needed to go from one accomplishment to the next. A PERT diagram shows the sequence and inter-relationship of activities from the beginning of a project to the end and uses probabilities for activity start and completion dates'

The Program evaluation and review technique is a useful way of analyzing various activities and events in the implementation of a plan or a project. It revolves recording of various activities on a network analysis chart which enables the plan or project manager to see their interrelationship and

to locate the critical path which consists of such activities that if any one of them is not undertaken, the project would be jeopardized.

The most important objective of PERT is to determine the time schedule of various activities. It is actually an auxiliary management method, an instrument in hands of the manager for the planning and use of his resources to achieve a defined objective. PERT has not been established to usurp the managerial function but to help the manager discharge his functions more effectively. PERT does not solve the problem, but shows them up in such a light that all the factors connected with the problems can be evaluated.

The basis of the PERT system in the network (chart or arrow diagram) is essentially the graphic representation of the logical structure of the project to be executed.

There are four main elements of PERT system:

- a. **Events:** The event is a stage or check point in the Plan. It defines the start or finish of one or more activities. The event is a point in time.
- b. **Activities:** It is represented by arrows joining two events following the direction of the lapse of time. It is symbol of work in hand of the consumption/labor.
- c. **Network:** A network is a diagrammatic representation of a project having a logical sequence of various activities which together make up a project.
- d. **Time estimate:** Minimum possible period of the activity is time estimate.

11.3. The Delphi Method

The Delphi technique is a planning and management technique of collecting and utilizing specific information from several experts as a basis for decision-making or planning.

The Delphi method can be used to elicit proposals for future education, to assess such proposals as to their effectiveness, desirability, financial, social costs and their incidental economic or social side-effects.

- A major problem in the use of Delphi method is the recruitment and use of experts. In education it will be useful to.
- Select experts from all relevant fields on the topic of concern. They can include educators, economists, social scientists, psychologists, politicians, lawyers, etc.
- Identify the people you want, first by choosing one or two of the most knowledgeable in the area of concern and ask them to participate and to give names of other educational planning people they regard as important for that matter including those who differ with their views but whose opinions ought to be heard.
- Invite each expert specially and independently giving him/her expert opinion will be required.
- In a specific place, each expert is given a questionnaire instrument to fill. The responses of the various experts will be computed and analyzed and the results can be of use as a guidance and aid for planners and decision makers.

11.4 Critical Incident Method

A method for determining what abilities are needed to do a particular job. The standards of success are established through actual incidents occurring on the job. Flangan used it to develop charts of the personal and social developments of elementary school children. Critical incidents films or tapes are sometimes used in teaching to study the causes and possible solutions of problems encountered in achieving success in the activity illustrated by such an incident.

11.5 Gantt Chart

A Gantt chart is a horizontal bar chart developed as a production control tool frequently used in project management. A Gantt chart provides a graphical illustration of a schedule that helps to plan, coordinate and track specific tasks in a project. Thus Gantt Chart is a graphical schedule to monitor the progress of a project with reference to its timeframe. Gantt charts may be simple versions created on graph paper or more complex automated versions created using project management applications such as Microsoft Project or Excel.

11.6 Planning, Programming, Budgeting System (PPBS)

PPBS is in effect an integration of a number of techniques in a planning and budgeting process for identifying, costing and assigning a

complexity of resources for establishing priorities and strategies in a major program and for forecasting costs, expenditure and achievements within the immediate financial year or over a longer period.

11.7 Synergy

Combining two or more courses of action when it is considered more effective rather than pursuing them individually.

12. POPULATION AND SETTLEMENT STRUCTURE

12.1 School-Age Population

School age-population is the number of children in officially defined school age group, whether enrolled in school or not. For instance, the population in the age group 5-9 years is the school age population for primary school education. 5-12 years population is elementary/Middle school age population while 5-14 years population is total school age population in Pakistan.

12.2 Disadvantaged Groups

Disadvantaged groups are those groups of people who, for one reason or another remained ignored and did not benefit to the same degree as the majority of other people in their country from services. In Pakistan, the disadvantaged groups of people include,

- Women
- Other Backward Classes

12.3 Urban Areas

The census adopts the criteria for treating habitations as urban which are statutory towns, i.e. all places within a municipality, corporation, cantonment board, or notified town area committees etc.

Blocks: In Pakistan, the urban areas of the country have been divided into 26696 Blocks.

12.4 Rural Areas

Rural areas are those areas which do not fall in the category of urban areas.

Village: Village represents a part of land whose boundaries are settled and defined for revenue purposes. Pakistan has 51000 villages.

12.5 Habitation

A habitation is a distinct cluster of houses existing in a compact and contiguous manner with a local name having a population of not less than

25 persons in plain areas and not less than 10 persons in hilly or sparsely populated areas.

12.6 Household

A 'household' is usually a group of persons who normally live together and take their meals from a common kitchen unless the exigencies of work prevent any of them from doing so. Persons in a household may be related or unrelated or a mix of both. However, if a group of unrelated persons live in a census house but do not take their meals from the common kitchen, then they are not constituent of a common household. Each such person should be treated as separate household.

12.6.1 Institutional Household: A group of unrelated persons who live in an institution and take their meals from a common kitchen is called an institutional household (e.g. hostels, boarding houses, hotels, messes, rescue homes, jails, orphanages etc.)

12.6.2 Houseless Household: Households that do not live in buildings or census houses but live in the open on roadside, pavements, under fly overs and staircases, or in the open in places of worship, railway platforms etc. are to be treated as houseless households.

13. EDUCATIONAL INSTITUTIONS

13.1 The School

A school normally comprises a group of pupils of one or more grades organized to receive instructions of a given type and level duly prescribed by a School Board/Government under one or more than one teacher. Schools are classified by type, by management, by category, by stage, by recognition etc.

13.1.1 Registered: A registered institution is one which fulfills the criteria and certified by the district management authority.

13.1.2 Unregistered: Unregistered institution is one which is not certified by the district management.

13.2.1 Recognized School: A recognized school is one in which the course(s) of study followed is/are prescribed or recognized by a University or a Board constituted by law. It runs regular classes and sends candidates for public examinations, if any.

13.2.2 Unrecognized School: Unrecognized schools are those which are not recognized by Board/University etc. Such schools are not obliged to follow the prescribed curriculum or the textbooks.

13.3 Categories of Educational Institution

The educational institutions are divided into three types, viz: Boys, Girls and Co- educational.

13.3.1 Boys Institutions: An educational institution for boys is one where only boys are admitted to all classes and admission of girls is restricted to some specific classes only. For instance in a Senior Secondary School for Boys, there is the facility for teaching of geography which is not available in the adjoining Girls Senior Secondary School. So, the girls of that School will be admitted to this school for the teaching learning of geography only but it will still be treated a Boys Senior Secondary School and not a Coeducational Senior Secondary School.

13.3.2 Girls Institution: An educational institution is girls institution if only girls are admitted to all classes and admission of boys is restricted to some specific classes as described above.

13.3.3 Co-educational Institution: A co-educational institution is one in which both boys and girls are admitted to all classes in the institution.

13.4 Special Schools for the Handicapped

The special education for the disabled is conducted in two types of schools. One type of schools are known as special schools for the handicapped, such as schools for mentally retarded/ school for deaf and dumb/school for the blinds etc. These schools are usually meant for severely handicapped children who are trainable. The other types of schools fall under "integrated education". In this category, the educable disabled children are taught along with normal children. The only difference in this type of education is that there are special teachers for different disabilities along with resource rooms where the disabled children are prepared by the resource teacher and then they are integrated with the normal students.

13.5 Institutions in the Same Building

If two institutions are functioning in the same building with separate heads of institutions and administration for want of accommodation, these institutions will be treated as two institutions and each institution will fill up a separate form of educational statistics. However, in the case of an institution having two shifts under the same head and administration, it will be treated as one institution and, only one form of educational statistics about both the shifts, will be filled up by the institution for information.

13.6 Shift Schools

Shift schools are quite popular in many parts of the world. Shift schools are normally opened to optimally utilize the school infrastructure or to provide one level of education in one shift and another in the second or third shift. Shift schools also function to provide separate educational facilities to the boys and girls. In Islamabad there is the concept of shift schools, ie, two shifts, one in the morning and the other in the evening are functioning with separate Vice-Principals in charge. These have been treated as separate schools for various reasons as follows:

- a) These shifts are under separate heads
- b) These shifts will be under separate by nomenclature if the morning shift is for boys and the evening shift is for girls with separate name.

- c) Even if in some cases the shifts are not for boys alone, the morning shift is a primary school and the evening shift is for secondary school; these are separate schools.

13.7 Residential Schools

Residential schools are those schools where both boarding and lodging arrangements are made by the school management for the students along with teaching learning. Residential schools are of following types:

- a) Those who admit only boarders and day scholars are not admitted to schools.
- b) Those who admit both boarders and day scholars as well. In this category fall all other schools that have attached hostels.
- c) Sports hostels; In order to encourage sports, there are sports hostels attached to schools where admission is restricted to sports persons only and none else.

13.8 Resource Centre/Learning Out-post

A nodal school provides academic support to a number of schools lying within short distance of the nodal school. The resource center acts as a nodal point for providing academic support and in-service training of teachers. It does not perform any administrative functions.

13.9 School Pattern

The predominant school pattern of schools is I-V, I-VIII and VI-X. However there are also schools which follow I-X, VI-XII and I-XII.

13.10 Schools by Stage

Schools are established for teaching of specific grades which may or may not follow a particular level of education. For example, a school may be offering education from class 1 to class 12. Such a school would be classified as a Higher Secondary school. However, it comprises of four stages of education, namely, Primary, Middle, Secondary and Higher Secondary. The classification of schools by stage is as follows:

- a) Primary stage: A primary school comprising class I-V.
- b) Middle stage: A stage of school comprises classes V-VIII.

- c) Elementary (Primary and Middle stage): Middle school comprises Middle stage school as well as primary classes (I-VIII).
- d) High School (Middle and Secondary stage): A high school having upper primary and secondary classes (VI-X).
- e) Primary, Middle, Secondary and Higher Secondary stage: A higher secondary school having middle, secondary and higher secondary classes (VI-XII).
- f) Primary, Middle and Secondary stage: A high school with primary, middle and secondary classes (I-X)
- g) Higher Secondary stage: A stage having classes XI-XII.
- h) Intermediate stage: A higher secondary stage comprising classes (XI-XII).

13.11 School Management

The authority, which runs an educational institution, determines its type of management. It may be government, local body, and private body receiving grants-in-aid or not receiving grants-in-aid. As such educational institutions may be classified as follows:

13.11.1 Public/Government: An educational institution run by Federal or Provincial Government, public sector undertaking or autonomous organization and wholly financed by Government will be classified as Public/Government educational institution.

13.11.2 Local Body: An educational institution run by Union Council/Municipal Committee/Corporation/Cantonment Board etc, is classified as local body institution.

13.11.3 Private School: A private educational institution is one, which is run by an individual or a private organization, including religious bodies, private trusts and philanthropic institutions. Private recognized schools are of two types.

13.11.4 Private Aided School: It is privately managed but is in receipt of regular Maintenance grant from the government/Education Foundation, local body or from any public authority. If an institution which is on the grant-

in-aid list of a public authority but does not get the maintenance grant in a particular year, that institution will still be treated as an aided institution for that year.

13.11.5 Private (Unaided) School: A private educational institution is one which is managed by an individual or a private organization and is not receiving maintenance grant either from government, local body or any public authority etc.

13.12 Community Schools

This concept was started by Henry Morris, with the establishment of Village Colleges in 1920s. The college housed not only the school but the village hall, the branch of county library, the clubroom for old pensioners, and so on; the facilities available to the school like workshops and gymnasium were also available to the community. The college was the place not only where children went to school but also where their parents and elder brothers and sisters went to concerts, attended evening classes or meetings of the women's institutions, etc. In Pakistan, we have established community schools, but with different scope.

13.13 Mosque School

This concept was developed in 1979 Education Policy. The idea was that the children of a particular area where there is no school should be facilitated by the appointment of a teacher and adding one room adjacent to mosque.

13.14 Deeni Madrassa

Deeni madrassa is a religious school. Some of them have also adopted formal education subjects. In Pakistan there are three wafaqs, one rabita and one tanzeem which have groups of school under their control. There are also individual schools which have their own management.

13.15 Mobile Schools

Mobile school is an innovative and alternative method of school teaching where unreachable children of the nomadic tribes are provided education. The nomadic tribes continue moving from one place to another along with their families and folks. For the education of their children, teachers are sent along with the moving population. This experiment has not been very successful. The other experiment is that the children of these

nomadic tribes are allowed attendance in various public schools wherever these nomadic tribes move. This experiment has also not been very useful.

13.16 School Mapping

School mapping is an exercise, which is undertaken to identify the location of each school in a given area. It can be a mapping survey of all existing facilities, like school building (i.e. availability of classrooms, laboratories, lavatories, drinking water facilities etc.) library, library books, teachers, equipment, consumable stores, availability of schools in habitations/villages, etc. so that the deficiencies are pinpointed out for taking corrective measures.

14. ENROLMENT

14.1 Grade/Class

Grade is a stage of instruction usually covered in one school year. In Pakistan, this is also known as class. Classes are further divided into sections depending upon the strength of students.

14.2 Section

All students in a grade or class are divided into groups for convenience of teaching. Each such group is called a section. In a big may grade, there can be a number of sections labeled as A, B, C, D etc.

Sections are also formed to teach various types of optional subjects. There can be variations in the number of students amongst sections. These need not be uniform.

14.3 Stage

A stage is a group of students in any specific level of education whether these students are studying in primary or middle or high schools. For example, students of primary schools plus pupils of primary sector of middle and high schools. This constitute a stage of primary school pupils.

14.4 Enrolment

Enrolment is the number of students registered on the rolls of an educational institution on a specific point of time. In Pakistan, the enrolment refers to the number of children enrolled as on 30th October of the academic session.

14.5 Student (Pupil)

A student is a person formally enrolled in an educational program for undergoing a course of study.

14.5.1 Foreign Student: A foreign student is a person enrolled in an educational program in a country of which he is not a permanent resident.

14.5.2 Full-Time Student: A full-time student is a person enrolled in an educational program whose study load is considered to be fulltime by national norms or conventions.

14.5.3 Part-Time Student: A part-time student is a person whose study load is less than that of a full-time student and who consequently will require a longer period of time to complete an equivalent education program.

14.6 Adolescents

Chronological years of individual growth and development beginning with puberty (about 13 years old) and lasting more or less until maturity (above 21 years old). Adolescent is past childhood and not yet an adult so that the physical and psychological process of development may be erratic or confusing and lead to difficulty in adjustment or adolescent crisis.

14.7 Cohort

A group of individuals that have a statistical factor in common. Another definition of Cohort given by IIEP, Paris is: 'Cohort is a group of pupils joining standard 1 of primary education in a given year.'

14.8 Graduate

Graduate is a student who successfully completes a level of education, such as primary education, elementary education, etc.

14.9 Truancy

Students' absence from school for unexcused reasons is truancy.

14.10 New Entrants

New entrants are those pupils who enter Grade I of primary education for the first time. OECD has defined new entrants as: New entrants to a level of education are students who are entering any program leading to a recognized qualification at this level of education for the first time, irrespective of whether students enter the program at the beginning or at an advanced stage of the program. Individuals who are returning to study at a level following a period of absence from studying at that same level are not considered new entrants.

14.11 Disturbed Child

A child with emotional difficulties stemming from organic or functional disorders, which interfere with his normal learning and usually cause behaviour problems in the school is called as disturbed child.

14.12 Gross Enrolment

Gross Enrolment is the total enrolment of pupils in a grade or cycle or level of education, regardless of age, in a given school year.

14.13 Net Enrolment

Net Enrolment is the number of pupils in the official school age-group in a grade or cycle or level of education in a given school year.

14.14 Typical Ages

Typical ages are the age of students at the entry time of a level or a cycle of education.

15. RATIOS AND RATES

15.1 Ratios

For the analysis of educational situation some indicators are calculated from stock data. Indicators calculated in such a fashion are called ratios.

15.2 Rates

For diagnostic purposes in educational planning certain indicators are computed from flow data. These indicators are in the form of rates.

15.3 Education Indicators

Indicator is that which points out, directs attention to, something. Nuttal defined education indicator as "which tells something about the performance or behavior of an education system and can be used to inform educational decision making." It is a tool to have both a sense of the state of an education system and to report on that state to the whole of the community. Education indicator is information processed so as to permit the study of an educational phenomenon. World Education Report 1991, indicates that a good indicator should be:

- policy relevant by being capable of providing clear and unambiguous responses to key policy issues and concerns.
- user friendly, i.e. comprehensive, timely and a few in numbers.
- derived from a frame-work which allows interpretation of one figure in the context of the other basic variable of a particular country.
- technically sound, i.e. valid, reliable and comparable.
- feasible to measure at reasonable cost, i.e. the basic statistics required for deriving them can be either readily available or comparatively easy to collect within a well-defined time-frame.

IIEP Paris has given the following definition of educational indicators:

'Educational indicators are the indices, ratios, growth rates which are calculated using educational statistics and, where necessary, demographic, economic and other types of data'.

15.4 Index

Indices is plural of index. An index is a number developed from a ratio by expressing the denominator as a fixed base value, expressing the numerator in terms of this, and then suppressing the denominator which is implied.

15.5 Enrolment Ratio

It is defined as the ratio between the number of pupils enrolled at a given age in particular level of education to the size of the population at that age group.

These are commonly used indicators applied to assess the development of any country's education at a particular level.

15.6 Over-all Enrolment Ratio

It is defined as the ratio between the total enrolment at all levels of education to the population of the corresponding age-group.

15.7 Gross Enrolment Ratio

It is defined as "the ratio of enrolment of pupils at a particular level of education irrespective of their age to the population of that level".

15.8 Net Enrolment Ratio

It is defined as the ratio of enrolment of pupils having specified age at a particular level of education to the population of that level.

15.9 Age-Specific Enrolment Ratio (ASER)

It is defined as "the ratio of enrolment of pupils of given age or age-group in a given year to the population of the same age in the same year".

15.10 Pupils-Teacher Ratio

It is a useful indicator which measure the average work load of a teacher at a particular level of education. The main purpose of this indicator is to compute the number of pupils per teacher at each level of education. It helps the planner to find the additional number of teachers that would be required for an effective teaching learning process.

15.10 Gender parity Index

It is the principal measure of gender-composition, which is the number of females per 100 males. It indicates the status of female enrolment as compared to males.

15.11 Entry Rate

Entry rates measures the flow of students into each level of education, at primary level, pupil arriving at school age and at high level, from successful leavers at the preceding level. It is also known as intake rate or admission rate. In other words, the movement of pupils into the education system is measured by entry rates.

15.12 Attrition Rate

It is defined as the ratio of the difference between the enrolment in each grade to the total enrolment in grade-1 in the base year. Commutative attrition rate represents wastage in the educational system.

15.13 Retention Rate

It indicates the capacity of the school system to retain certain number of pupils within the system. It makes allowance for repetition and promotion.

15.14 Progression Rate

It is defined as the ratio of the enrolment in a grade in a given year to the enrolment in the previous grade in the previous year. This rate gives an idea of the movements of pupils enrolment in the school system. The value of these rate is always less than unity in all the grades.

15.15 Graduation Rate

It is ratio of the number of graduates from the final grade of the cycle of education such as primary, middle, higher to the enrolment in the same grade in the same year.

15.16 Transition Rate

It is defined as that rate which describes transition between different cycles of education to the first grade of education or it indicates the

movements of pupils from one level of education to another level. It has a great significance and can be manipulated for the purpose of education policy to increase or decrease the flow of pupils through the chain of educational cycle.

15.17 Grade Retention

It is a technique used by educational planners to form a rough idea of pupils movements from one grade to the other, and of the thinning out process that occurs through a school cycle. This method is used when data on repeaters is not available.

16. PUPILS FLOW ANALYSIS

16.1 Pupils Flow

The flow of pupils from one grade to higher determines the relationship between the output from the final grade and the corresponding enrolment in the initial grade.

16.2 Promotion

It means number of pupils who have passed lower class and entered to next higher class.

16.3 Dropout

By repetition means that a pupil either failed in any class and detached himself from the education system without completing the education cycle. It is crucial in the early stage of primary education.

16.4 Repetition

It is a technical jargon which means a pupil either failed in any class or could not appeared in the final examination and is repeating the same class next year.

16.5 Cohort

It is a demographic term which means a specified group of pupils or persons for example those who enter the first grade of any education cycle and subsequently experience the events of promotion, repetition and dropout or successful completion of final grade.

16.6 Cohort Analysis

It traces the flow of a group of pupils who enter grade I in the same year through an entire educational cycle. It is used to measure the internal efficiency of the education system.

16.7 Pupil-Year

The pupil year is not used for measuring of inputs allocated to him or her to presents a convenient non-monetary unit of measuring educational

inputs. One pupil-year stands for all the resources spent to keep one student in school for one year.

16.8 Stagnation

Stagnation means that a pupil is stagnated when he has to repeat once or more often, one or more stages in the course.

16.9 Non-Schooling

It indicates a gap of the number of children who are at the age of school going but could not enrolled in the school to the population of that age group.

17. COHORT FLOW INDICATORS

17.1 Survival by Grade

This indicator means how many pupils of the cohort will eventually reach or survived in each grade.

17.2 Dropout by Grade

It is defined as the number of pupils who dropped out between each grade.

17.3 Enrolment by Year of Study

This indicator shows how many pupils have studied and how long.

17.4 Dropout by Year of Study

It is defined as the number of pupils who dropped out after consuming a number of years for study.

17.5 Graduates by Years of Study

It is the indicator which shows actual situation of pupils who graduates exactly after five years of primary education, graduated with one repetition, two and three repetitions.

18. SCHOOL EFFICIENCY

18.1 Out-of-School Children

Out-of-school children are those children in the official school age group who are not enrolled in schools. These comprise dropouts and never enrolled children.

18.2 Pupil-Cohort

Pupil-cohort is a group of pupils who enter the first grade of a level of education in the same school year and subsequently experience promotion, repetition, drop-out each in his or her own way.

18.3 Efficiency

It is defined as the optimal relationship between the inputs and the outputs in school cycle.

18.3.1 Internal Efficiency: Internal efficiency means effectiveness of the system to retain pupils in schools and enable them to graduate from the final grade within the prescribed duration of time. In other words, when outputs are measured in non-monetary terms directly related to the products of the system, it reflects internal efficiency.

18.3.2 External Efficiency: External efficiency means the degree to which the education system meets the broad social, cultural and economic objectives of the wider system of which it is part. When outputs are measured in monetary terms rather than in terms of the direct product of the system, it reflects external efficiency.

18.4 Educational Wastage

Wastage implies inefficient use of educational resources. In education it refers to dropouts, repeaters, misguided type of education, non-employment of school leavers etc. Educational wastage in the form of dropout and repetition means extra educational efforts which can be quantified in terms of extra pupil-years spent by a cohort over and above the years spent in a fully efficient system having no dropouts and recreates.

18.5 Educational in-puts

The number of pupils spending a year in an educational cycle alongwith required physical facilities such as classrooms, teachers, furniture and text-books etc. It is measured in terms of pupils-years.

18.6 Educational out-puts

The number of pupils who successfully complete a particular cycle of education.

18.7 Apparent Cohort Method

When the data on enrolment by grades is available but data on repeaters is not available in such a situation grade retention method is used to derive indicators of survival by grade. This approach is referred to as Apparent Cohort Method.

18.8 True Cohort Method

In this method, the progress of a group of pupils through a cycle of education is determined on the basis of an individualized data system (IDS) where each pupil is given a code number that would be valid throughout their career.

18.9 Reconstructed Cohort Method

This method uses successive year grade data on enrolment and repeaters which are given for a full cycle of cohort. Promotion, repetition and dropout rates are calculated by this method. Flow diagram is reconstructed with the help of this method assuming that:

- No additional new entrants in subsequent years.
- Same promotion, repetition and dropout rates will be used throughout the analysis.

18.10 Coefficient of Efficiency

Coefficient of efficiency is a measure of the internal efficiency of an education system obtained by dividing the total number of pupil-years required for a pupil cohort to complete a level or cycle of education by the estimated total number of pupil years actually spent by the same pupil

cohort. The reciprocal of the co-efficient of efficiency is the input: output ratio.

18.11 Survival Rate

Survival rate is the percentage of a pupil cohort that enters together in the first grade of primary education and that reaches a given grade (e.g. Grade 5) or the final grade of an educational cycle either with or without repeating a grade.

18.12 Drop out

A dropout is the pupil who leaves school before the completion of a given stage of education or leaving at some intermediate or non-terminal point in a cycle of schooling.

18.13 Repeater

International Institute for Educational Planning, Paris, has defined repeater as follows: 'Repeaters are pupils who, at the beginning of a given school year, are enrolled in the same standard doing the same work as in their previous year in school'. Repeater is a pupil who is enrolled in the same grade for a second (or further) consecutive year. Repeaters include the following:

18.13.1 Repeater Due to Failure: A student who appeared but failed in the annual examination; also includes the student who didn't appear in the annual examination and is declared as 'fail'.

18.13.2 Repeater Due to Readmission: A child whose name was deleted due to some reason from the school register (including transfer certificate cases) but is again readmitted into the same class after a gap of more than one academic session.

18.13.3 Repeater Due to Long Absenteeism: A child who got admitted once but discontinued schooling for more than 3 months without any prior intimation and the same child again starts attending school.

18.14 Promote

A promote is the pupil who is promoted to the next grade in the following school-year after successfully completing the prescribed procedures.

18.15 Pupil-Year

Pupil-year is a non-monetary measure of educational inputs or resources. One pupil-year denotes the resources spent to maintain a pupil in school for one year.

18.16 Monitoring

Monitoring is a management function and operates during the implementation phase. It tracks the progress of implementation against the pre-defined benchmarks and milestones. Monitoring is undertaken through an efficiently designed Information Management System to find out and identify:

- Specific problems as they arise for corrective measures
- Whether or not to continue the relevant activity, etc.

18.17 Evaluation

Evaluation is an important tool for ensuring accountability. As a result of program's interventions, the achievements or failures are determined. Evaluation also tells us whether the program has been implemented effectively or not. Evaluation and impact assessment can be summative or formative. Summative processes are carried out to determine how effective program was, whereas formative processes are carried out during the programme for providing feedback into the program reformulation and effecting mid-course changes.

18.18 School Life Expectancy

School life expectancy of a child of certain age is defined as the total number of years of schooling. It is the sum of the age specific enrolment ratios for primary, secondary and higher education.

18.19 Grade Transition

In education, grade transition is the number of a cohort of pupils who enters first grade of primary education and who experience promotion, dropout and repetition from grade to grade, i.e. how many of them roll over to the next grade, next year and so on, and thus complete a particular level or stage of education.

19. DEMOGRAPHIC CHARACTERISTICS

Any plan for educational development and administering educational policies essentially requires information relating to demographic characteristics. Some of the basic indicators in demography are as under:

19.1 Crude Birth Rate (CBR)

Crude Birth Rate (CBR) is defined as the ratio between the number of births in a year to mid year population. It is usually expressed per 1000 of the total population.

19.2 Crude Death Rate (CDR)

It is defined as the ratio of number of deaths in a year to mid year population. It is expressed as per 1000 of the total population.

19.3 Rate of natural increase

It is difference between the crude birth rate and the crude death rate.

19.4 General Fertility Rate (GFR)

It is the ratio of live births per year to the number of women of child bearing-age.

19.5 Age-Specific Fertility Rate (ASFR)

It is defined as the ratio of births to women of a specific age to the number of women of that age. It is expressed as per 1000.

19.6 Total Fertility Rate (TFR)

It is defined as the ratio of the sum of the births to women of a specific age to number of women of that age.

19.7 Gross Reproduction Rate (GRR)

It is the ratio of the sum of births to women of any child bearing age to number of women to that age. It is expressed as per 1000.

19.8 Age Specific Death Rate (ASDR)

It is defined as the ratio of deaths occurring at some specific age to population of that age. It is expressed as per 1000.

19.9 Infant Mortality Rate (IMR)

It is the ratio of the deaths occurring at age zero to number of live births. It is expressed as per 1000.

19.10 Life Table

A life table records the life history of a hypothetical group or cohort of people as it is diminished gradually by deaths. The record begins at births and continues until all have died. The mortality patterns of men and women are usually different therefore separate life tables are constructed for men and women. This is most important and significant for the purpose of making population projections by age.

20. TEACHING AND NON-TEACHING STAFF

20.1 Teacher

Teacher is a person who in his/her professional capacity, guides and directs pupils learning experiences in gaining knowledge, skills and attitudes that are stipulated by a defined curriculum program. Briefly stated a teacher is a person who is directly engaged in instructing a group of students. A teacher is defined as a person whose professional activity involves the transmission of knowledge, attitudes and skills that are stipulated in a formal curriculum to students enrolled in an educational program. The teacher category includes only those personnel who participate directly in instructing students.

20.1.1 Full-Time Teacher: A full-time teacher is a person engaged in teaching for a number of hours of work statutorily regarded as full-time at a particular level of education in a given year.

20.1.2 Part-Time Teacher: A part-time teacher is one who takes only a few classes on contract basis in an academic session. Part-time teachers are not full-time employees of the school/institution where they are teaching.

20.1.3 Para-Teachers: Para-teachers are full-time employees in the schools who are not necessarily professionally qualified as teachers but are generally from amongst the same population/community/area. Such teachers are normally appointed on a fixed salary/honorarium, which is much lower than the normal compensation of full-time teachers. Para-teachers include: Voluntary teachers Contract teachers, Community Teachers, etc. Para-teachers' salary, recruitment procedure and service conditions are entirely different from those for regular teachers.

20.1.4 Trained Teacher: A trained teacher is one who has successfully undergone a course of teachers training from a recognized teacher training institution; deemed trained are those teachers who have been awarded a certificate by the department of education on the basis of experience or age etc. The different teachers training courses in Pakistan include PTC, CT, B.Ed, B.S.Ed, M Ed, SV, JV, Dip. In Edu, M.A.Ed, OT, DM, PET etc.

20.1.5 Untrained Teacher: An untrained teacher is one who has not received any professional training.

20.2 Supporting Staff

In educational institutions, the supporting staff is also classified as non-teaching staff and comprises the following:

- a) Non-teaching staff – ministerial, such as Superintendent, Assistant, Clerks, Class IV, etc.
- b) Supporting staff, such as Lecture Assistant, Lab Attendant, Laboratory Staff, library staff, etc.

20.3 Categories of Teaching Staff

Teachers are classified according to their pre-service training and type of school. There is no standard classification in Pakistan. However, illustrative categories are: Headteacher/Principal/Trained Graduate Teacher (TGT)/ Secondary School Teacher (SST), Subject Specialist/ Oriental Teacher (OT)/ Language Teacher (LT)/Drawing Master (DM)/Physical Training Instructor (PTI)/ Primary School Teacher etc.

20.4 Teachers Training Institutes

Teachers Training Institutes are those institutes which are engaged in imparting pre-service/in-service teachers training of a specified duration. Following are teachers training institutions:

- Institutes of Education & Research (IERs)
- Departments of Education in universities
- Colleges of Teacher Education (CTEs),
- Elementary Colleges of Education and Terms in Educational
- University Colleges of Education.

A large number of Universities undertake pre-service teachers training programs annually through their Teaching Departments or affiliated colleges.

20.5 Teaching-Learning Methods (TLMs)

Teaching-learning methods are processes in the education of a student that facilitate learning. Teaching learning methods are undergoing changes over time especially after the introduction of computers and the emergence of multimedia application.

20.6 Teaching-Learning Material (TLM)

The teacher in order to augment learning to take place amongst the pupils uses teaching-learning materials. These include books, notebooks, charts, AV Aids, chalks, blackboards, slide projector, overhead projector, computer, internet, education kits, science kits, mathematic kits, etc.

20.7 Resource Teacher

A specially trained teacher assigned to work with an individual or with small groups of students who have learning or behavioral problems. The Resource Teacher may also consult the regular classroom teacher as a means of assisting students in the regular classroom.

21. SCHOOL BUILDINGS

21.1 Status of School Buildings

The status of the school buildings refers to the ownership and type of occupancy of school buildings. The following classifications are used for this purpose:

- Owned
- Rented
- Rent-free
- No building/Shelterless

But some questionnaires have asked information differently as under:

- Private
- Rented
- Government
- Government school in a rent-free building
- No building/Shelterless

21.2 Structure of School Buildings

The school buildings are classified on the basis of the type of construction and the materials used in the construction of the building. Following classification for the school buildings is used:

- Pucca building (Cemented)
- Partly Pucca building
- Kucha building
- Tent/pre-fabricated materials
- Shelterless: Shelterless school means no building of the school. That is either functioning in open air.

21.3 Condition of School Building

Following classification is used:

- Satisfactory
- Need minor repair
- Need major repair
- Dangerous

22. EDUCATIONAL ATTAINMENTS & LITERACY

22.1 Educational Attainments

Attainment has been defined as the performance in a school subject or in the whole curriculum, which is measured by examinations or tests. The educational usage of the term 'attainment' is based on describing a level on a scale for a certain attribute. The scale, itself, however, has no true zero and no definable top level. The concept of such a scale can be implied in everyday usage but it can also be dispensed with altogether.

In Pakistan, educational attainment means the highest level of education attained by an individual. It is measured in different ways. Usually information is collected on educational levels as follows:

- a) Literate (without education of any level)
- b) Completed Primary level
- c) Completed Middle level
- d) Completed Matriculation (Secondary) level
- e) Completed Higher Secondary/Intermediate
- f) Graduate and above

It may be noted that if a person has successfully passed the final year of a given level, then and only then will he/she be considered to have attained that level. For example, the level attained by a person studying in class IX will be middle but the level at which he/she is currently studying is secondary.

22.2 Literacy

Census 1998 in the instruction manual for filling up the household schedule has defined literate as "a person who can both read and write with understanding in any language." A person, who can only read but cannot write, is not literate. People who are blind and can read in Braille will be treated as literate. UNESCO has defined literacy as follows:

1. A literate person is the one who can with understanding both read and write a short simple statement relevant to his everyday life.
2. Literacy is not the simple reading of word or a set of associated symbols and sounds, but an act of critical understanding of men's situation in the world.

3. Literacy is not an end in itself but a means of personal liberation and development and extending individuals educational efforts involving overall interdisciplinary responses to concrete problems.
4. A literate person is the one who has acquired all the essential knowledge and skills which enable him to engage in all those activities in which literacy is required for effective functioning in his group and community and whose attaining in reading, writing and numeracy make it possible to use these skills towards his own and his community's development.

22.2.1 Prose Literacy: Prose Literacy refers to the knowledge and skills required to understand and use information from texts, such as editorials, news, stories, poems, fictions etc.

22.2.2 Documentation Literacy: Documentation Literacy refers to the knowledge and skills required to locate and use information contained in various formats, such as job applications, payroll forms, transportation timetables, maps, tables, graphs etc.

22.2.3 Quantitative Literacy: Quantitative Literacy refers to knowledge and skills required to apply arithmetic operations to numbers embedded in printed materials, such as balancing a cheque book, calculating a tip, completing an order form or determining the amount of interest on a loan from an advertisement.

22.2.4 Functional Literacy: A person is functionally literate if his/her ability to read and write is adequate enough for the needs of his/her job, the demands of a situation or the like. Functional Literacy is the ability to use literacy skills for particular purposes in the home, community or workplace.

22.3 Literacy Rate

Literacy is the proportion of the number of people (who fulfills the definition of literacy) to the population at a particular point of time. We have adopted different definitions of literate in different census as under:

- **1951 Census definition:** One who could read a clear print in any language (All Ages)
- **1961 Census definition:** One who was able to read a simple letter in any language with understanding (age 5 years and above)

- **1972 Census of definition:** One who could read and write in some language with understanding (age 10 years and above)
- **1981 Census definition:** One who could read news paper and write a simple letter (age 10 years and above)
- **1998 Census definition:** One who can read and write a letter with understanding in any language (age 10 years and above)

23. EDUCATIONAL STATISTICS

It is a scientific method for collection, classification, tabulation, interpretation, analysis and forecasting of numerical data.

23.1 Statistic

A statistic is a quantitative measure that describes some characters of the sample with respect to population.

23.2 Functions of Education Statistics

Education statistics describes the Stock data and Flow data of pupils, administration and teaching personnel, equipment and facilities for comparisons of educational provision and performance between different institutions and population groups.

- For monitoring and accounting of day-to-day operations.
- For planning where information is required not only on the current situation but also on the likely results of alternative choices.
- For evaluating the programs and performance of the education system against stated objectives or the impact of a specific program of action.
- For educational research to investigate the casual relationships between factors inside and outside the education system.

23.3 Use of Education Statistics

a) In Educational Planning

Education Statistics provides tools, which help to monitor current developments within the education sector as well as to understand how the complexities can be identified and resolved in order to make plans for the future. The knowledge of statistics helps:

- In formulation of educational policies, goals and objectives of education.
- In planning for future educational development
- In preparation of various program and projects for improvement of educational system.

- In evaluation of the results of educational plans and projects.

b) In Management of Educational System

- In day-to-day administration of the educational system.
- Identification of problems and working out solutions to problems being faced in educational system.
- Monitoring the educational programs and projects under implementation.
- Accounting for the educational facilities provided and expenditure incurred in education.

c) For Assessing Qualitative Change in Education

- Planning and organization of research studies for the qualitative improvement of education such as curriculum, instructional method, teacher training, evaluation of student's performance etc.
- Furnishing information and feedback to educational policy makers with relevance and quality of education.

d) For Assessing Demographic Characteristics: Demographic data helps in assessing the percentage of school age population not benefiting from education and identifying ethnic and other groups belonging to different areas and sex etc.

e) For Assessing Manpower Situation: Manpower data are needed to give an idea of the occupations for which there is demand of education and training, job absorption whether matched or unmatched etc.

f) For Economy and Finance Situation: Data on economy and finance are most crucial for diagnostic analysis as they provide information on unit costs, imbalances in expenditure on education and the resources likely to be available for the educational plans.

23.4 Educational Quantities

These refer to the quantities of inputs to and outputs of education. For example, enrollments of students by grade, level, number of graduates,

repetition and dropout rates by grade and level; number of teachers and quantities of physical inputs.

23.5 Educational Norms

These refer to the various norms or standards used in school. For example, class-size, the physical specifications of a school, staff-student contact hours and the ratio of senior to junior staff.

23.6 Estimation

Estimation is to assess the magnitude of an already existing quantity. It is concerned with inference about the numerical value of unknown population values from incomplete data such as a sample. If single figure is calculated for each unknown parameter, the process is called point estimation. If an interval is calculated with which the parameter is likely in some sense, to lie, the process is called interval estimation.

23.7 Estimation Techniques

Following are the major estimation techniques:

23.7.1 Projection: Projection is an estimate of future values based on current trends. This term is used in two connected senses:

- In relation to a time series, it means the forecast value of the series; a value projected forward from current experience;
- More recently, it has been used in probability theory to denote the conditional expectation of a variate. Since a regression equation gives the expected value of the dependent variate based upon the values of the predicted (independent) variates, such equations are used for forecasting or prediction.

23.7.2 Prediction: Prediction is defined as 'to tell in advance; to foretell the future. It is referred to the process of forecasting the magnitude of statistical variate at some future point of time.

In statistical contexts, the word may also occur in slightly different meanings, e.g. in a regression equation expressing a dependent variate y in terms of dependent x 's; the value given for y by specified values of x 's is called the predicted value even when no temporal element is involved. Prediction in the educational context is defined as a probability statement of the degree of the scholastic success likely to be achieved by a student,

judgment being based on the case study method with particular emphasis on the result of the scholastic aptitude test scores.

23.7.3 Forecasting: Forecasting and Prediction are used synonymously in the customary sense of assessing the magnitude, which a quantity will assume at some future point of time, as distinct from estimation – which attempts to assess the magnitude of an already existing quantity. It is an estimate of a future trend, event or magnitude on the basis of previous experience.

23.8 Population

A population is a group of persons or items or pupils under consideration.

23.9 Sample

A sample is a part of the whole population drawn to get information to make an inference about the population.

23.10 Parameter

A parameter is a quantitative measure that describes some characters of the population.

23.11 Data

Data is the plural form of datum. A datum results from the reduction of information to a single recorded unit. For instance, 'Riaz is 16 years old' can be reduced to age, sex or both, depending on what is of interest to us. The only requirement is to classify into meaningful and mutually exclusive categories. Data collection is the process of allocating to categories and counting and data thus collected are presented as a data matrix. This matrix can have any number of dimensions. It is the information of some characteristics of either population or sample collected on scientific lines using census or sampling method.

23.11.1 Primary Data: Data collected by the researcher directly from the respondent through field work is known as primary data. For example data on number of students collected directly from schools etc.

23.11.2 Secondary Data: Data collected or obtained from the records, publications is known as secondary data. For example, number of schools noted from the District Education Officer or from any document.

23.11.3 Quantitative Data: These are the facts and figures related not only to the educational system but also other systems related to education.

23.11.4 Qualitative Data: It is information for which numerical measurement is not possible which include opinion and perception about policies, the content of education and rate of equality of opportunity to education etc.

23.11.5 Stock Data: Stock data represent to the situation as it is measured on one reference date. It gives the number of schools, class rooms, teachers, students, furniture and other related items in stock.

23.11.6 Flow Data: Flow data describes the movements such as movement of internal dynamics of pupils from grade to grade in education system. It provides information on enrolment, repetition and dropout of pupils.

23.12 Information

Information the act of informing; communication of knowledge or news of some fact or occurrence. Knowledge communicated concerning some particular fact, subject or event etc. "Information Science is sometimes equated with the study of information and communication systems of all types including mechanized data, computerized information and documentation of all types.

23.13 Variable

Generally, variable is any quantity which varies. A variable is a quantity, which is susceptible to continuous change while others remain constant. It is also defined as a quantity that may assume any one of a set of values. It is defined as the characteristics of pupils that vary from pupil to pupil or class to class and school to school.

23.13.1 Dependant Variable: A dependant variable is that which depends for its value on another variable.

23.13.2 Independent Variable: An independent variable is a variable arbitrarily assumed as one on which other related variables shall be regarded as dependant.

23.13.3 Exogenous Variable: Variables for which the values are determined outside the model but which influence the model.

23.13.4 Discrete Variable: It is defined as that variable which can not assume each and every value between the given ranges of values for example daily attendance of a particular class.

23.13.5 Continuous Variable: It is defined as that variable which can assume each value between the two known values. For example, weight of students and height of teachers etc.

23.13.6 Quantitative Variable: When the characteristic of interest is capable of measurement in any unit like weight of pupils in kg, height of pupils in feet, ages of pupils in years or months etc.

23.13.7 Qualitative Variable: A qualitative variable is that for which numerical measurement is not possible such as intelligence of pupils, smoking, beauty and satisfaction etc.

23.14 Questionnaire

Questionnaire is a group or sequence of questions designed to elicit information upon a subject or sequence of subjects from informants. The questionnaire acts as a backbone for the collection of data.

23.15 Distracters

A number of options are presented to a student/subject as the possible right answer to each item in a multiple-choice test. Only one is correct. The other options are called distracters, since they are intended to be plausible answers unless the person has confidence in his choice of the correct answer.

23.16 Schedule

A Schedule is a specialized series of a group or sequence of questions designed to elicit data/information upon a subject. Usually, it is completed by an investigator on the basis of data/information supplied by the particular member of the population chosen for inclusion in the sample

but sometimes it is completed by that member himself/herself as in postal enquiries.

23.17 Sampling

Sampling is a scientific method used to get maximum information about the whole population without examining each and every persons or items. In this process a part of fraction is taken out of the total population for investigation purposes.

23.17.1 Probability Sampling: It is a type of sampling in which every person or element of the population has an equal chance of being selected. Samples drawn using this approach are unbiased.

23.17.2 Non-Probability Sampling: It is a type of sampling in which samples are drawn based on personal judgment and purpose. These samples are normally treated as biased.

23.17.3 Random Sampling: A sampling technique in which each member of the population has an equal probability of being sampled and in which each item sampled is determined by chance.

23.17.4 Stratified Random Sampling

It is based on probability sampling. In this technique the population is divided into sub populations according to their characters each is referred to as strata. From each strata samples are drawn using simple random technique. This technique is used because when the population is large, simple random sampling method fails to provide a true representative of the population.

23.17.5 Systematic Sampling: It is also based on random sampling. In systematic sampling any item from the population is taken with random start. The items of the population must be arranged in order. It is employed in those situations where a complete list of items of the population is available from which the sample is to be drawn. These may be arranged either alphabetically or geographically or in some other order.

23.17.6 Quota Sampling: A quota sample is a type of non-probability or judgment sample in which the information is collected from the specific items i.e. the quota of old or young, urban or rural, upper, middle or lower income group etc.

23.17.7 Purposive Sampling: It is based on non-probability sampling. This type of sampling is based on personal judgment or purpose. Selection of the sample is left free on researcher's choice.

23.17.8 Opportunity Sampling: it is also non-probability sampling. Selection of sample is made as per opportunity or chance available

23.18 Census or Complete Enumeration

It is defined as that method in which every item or person is considered or enumerated. Such as number of students, teachers and schools collected from all the institutions of a district, province or country every year. It is termed as Annual Census of the educational institutions.

23.19 Sample Survey

In this method, a part of the items or some pupils out of the total population in question is taken. The required data is collected only from the part of the population.

23.20 Education Indicators

It is defined a statistical tool used to identify, analyses and evaluate performance with the ultimate aim of predicting and controlling the future. Indicators are considered of great importance since it paves the way for planners and decision-makers to diagnose for the future action plan.

23.21 Index Numbers

It is statistical measure which indicates the relative change of a phenomenon over a period of time with reference to a particular period called base year. It is used to examine the growth in education.

23.22 Pilot or Pre-Testing of Questionnaire

It is important to carry out a pilot testing of the questionnaire designed before conducting an actual inquiry in order to make sure that each question is worded properly and free from any ambiguity.

23.23 Direct Observation Method

It is a method through which data is collected by personnel observation even though it is an expensive method and the data collection

has to be restricted to a small sample. For example, if it is to be known that how much time a teacher spends in a week in different activities in school, in this case, the teacher may not be able to provide accurate or correct information whereas if an observer rates his activities during a week's time in a school, the information would be unbiased and reliable.

23.24 Rating Scales

In educational surveys, it often becomes necessary to make an evaluation or appraisal of the performance of schools or some traits of teacher or students on the basis of subjective judgment. A common and practical method of making such evaluation is done by rating scale method. In this method particular attribute or characteristics is rated on scale of values such as:

- Verbal descriptions (to indicate different levels of performance or capability).
- Qualitative terms (e.g. excellent, very good, good, fine, poor).

23.25 Checklist

A checklist is a list of items, things or points to be considered. In educational surveys it is used to make evaluation or appraisal in the context of yes or no but not scale.

23.26 Tabulation Plan:

It is the transference of raw data into tabular form.

24. INFORMATION & COMMUNICATION TECHNOLOGY

24.1 Education Management Information System (EMIS)

EMIS is a formal method of providing decision makers and educational managers with accurate and timely information so that decision making, planning, project development and implementation and other management functions and operations can be carried out effectively.

24.2 Management Information System for Education

MIS is a computerized school based system for collection, analysis and use of school-based data concerning education of districts covered under NEMIS, EMIS and DEMIS. It includes Data Capture Format and the computer software for processing the school data thus collected.

24.3 Information Technology (IT)

IT is another name for EDP (electronic data processing). As the range of computer-aided services has widened, especially since the computer-on a- chip, or microprocessor, so EDP has come to seem inadequate to describe all the wonders made manifest. Thus IT does embrace word processing and telecommunications, videotext and databases, microcomputers and mainframes, in a more satisfactory manner than EDP; though so wide a definition is too wide to have much meaning.

24.4 Backbone

A central high-speed network that connects smaller independent networks.

24.5 Backup

Something which duplicates the function of an active component and is kept as standby in case of disaster. It is also common to talk of 'backing up' disks or files on a computer, i.e., duplicating them.

24.6 Bandwidth

The range of frequencies, expressed in Hertz (Hz), that can pass over a given transmission channel. The bandwidth determines the rate at

which information can be transmitted through the circuit. The greater the bandwidth, the more information can be sent in a given amount of time.

24.7 Bar Code

A line of bars and spaces, which is read by an optical scanner. Bar codes are often used for indexing and product codes. Bar codes are also used for cataloguing library books.

24.8 Browser

A browser is an application program that provides a way to look at and interact with all the information on the World Wide Web. The word "browser" seems to have originated prior to the Web as a generic term for user interfaces that let you browse (navigate through and read) text files online. By the time the first Web browser with a graphical user interface was generally available, the term seemed to apply to Web content, too. Technically, a Web browser is a client program that uses the Hypertext Transfer Protocol (HTTP) to make requests of Web servers throughout the Internet on behalf of the browser user. A commercial version of the original browser, Mosaic, is in use. Many of the user interface features in Mosaic, however, went into the first widely-used browser, Netscape Navigator. Microsoft followed with its Microsoft Internet Explorer. Today, these two browsers are used by the vast majority of Internet users. Lynx is a text-only browser for UNIX shell and VMS users. Another recently offered and well-regarded browser is Opera.

24.9 Compact Disk

Compact disks are of two types, namely, multiple read and multiple write, and single write and multiple read. CD-RW (for compact disc, rewriteable) is a compact disc (CD) format that allows repeated recording on a disc. Prior to the release of the CD-RW, CDs were read-only audio (CD-Digital Audio, described fully in the Red Book), to be played in CD players, and multimedia (CD-ROM), to be played in computers' CD-ROM drives. After the Orange Book, any user with a CD Recorder drive could create his own CDs from his desktop computer. CD-RW drives can write both CD-R and CD-RW discs and can read any type of CD.

24.10 CPU

CPU (Central Processing Unit) is an older term for processor and microprocessor, and is the central unit in a computer containing the logic circuitry that performs the instructions of a computer's programs.

24.11 Download

To obtain computer information or programs from a source – usually another computer transmitting over a telephone line or a local area network.

24.12 - Drive

The mechanical part of the storage system is known as drive. The most commonly known is floppy disk drive, which is a flexible plastic disk with a magnetic coating encased in a protective jacket.

24.13 Driver

A program or routine which handles the computer relationship with a peripheral device.

24.14 Electronic Mail (Email)

One of the many services that can be provided to computer users hooked through a telecommunications network. Email is a system under which a computer handles the delivering and sending of messages to people over a phone line connected to a single computer or a network of computers.

24.15 File

The file is the entity in which an individually accessible body of information is stored and manipulated by the computer.

24.16 Flow Chart

It is a diagram representing the sequence of operations involved in a process. Lines connect symbolic shapes, which represent events or processes.

24.17 Hardware and Software

Software is a general term for the various kinds of programs used to operate computers and related devices. The term hardware describes the physical aspects of computers and related devices. Software can be thought of as the variable part of a computer and hardware the invariable part. Software is often divided into application software (programs that do work users are directly interested in) and system software (which includes

operating systems and any program that supports application software). The term middleware is sometimes used to describe programming that mediates between application and system software or between two different kinds of application software (for example, sending a remote work request from an application in a computer that has one kind of operating system to an application in a computer with a different operating system).

24.18 Icon

A graphical representation of various elements such as disk drives, applications, and documents.

24.19 Integrated Services Digital Network (ISDN)

A fully digital communications facility designed to provide transparent, end-to-end transmission of voice, data, video, and still image across the PSTN.

24.20 Internet

The Internet, sometimes called simply "the Net", is a worldwide system of computer networks – a network of networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers).

24.21 Intranet

An internal network that operates identically to, but is not necessarily connected to, the global Internet.

24.22 Local Area Network (LAN)

It is a system devised to allow a number of computers or computer terminals to exchange information and/or share a central storage device.

24.23 Modem (Modulator – Demodulator)

A hardware device which converts digital information from a computer into modulations or on a carrier wave that can be sent down the telephone line by another modem and transferred to another piece of hardware at the other end.

24.24 Multi-tasking

The ability of a computer to run a number of tasks simultaneously.

24.25 Newsgroup

A conference area where one can post message on a specified topic. Newsgroups exist for a huge range of subjects.

24.26 Operating System

The program which goes between the application program and the computer. Example: MS Windows.

24.27 Peripherals

An input/output device which is connected to and controlled by a computer. A printer, disk drive, keyboard are all examples of peripherals.

24.28 Protocol

A set of rules that describes the method in which information may be transferred between two computer systems.

24.29 Source Code

Programming instructions written or entered by the user, prior to its being compiled or interpreted by the machine into object code.

24.30 Uploading

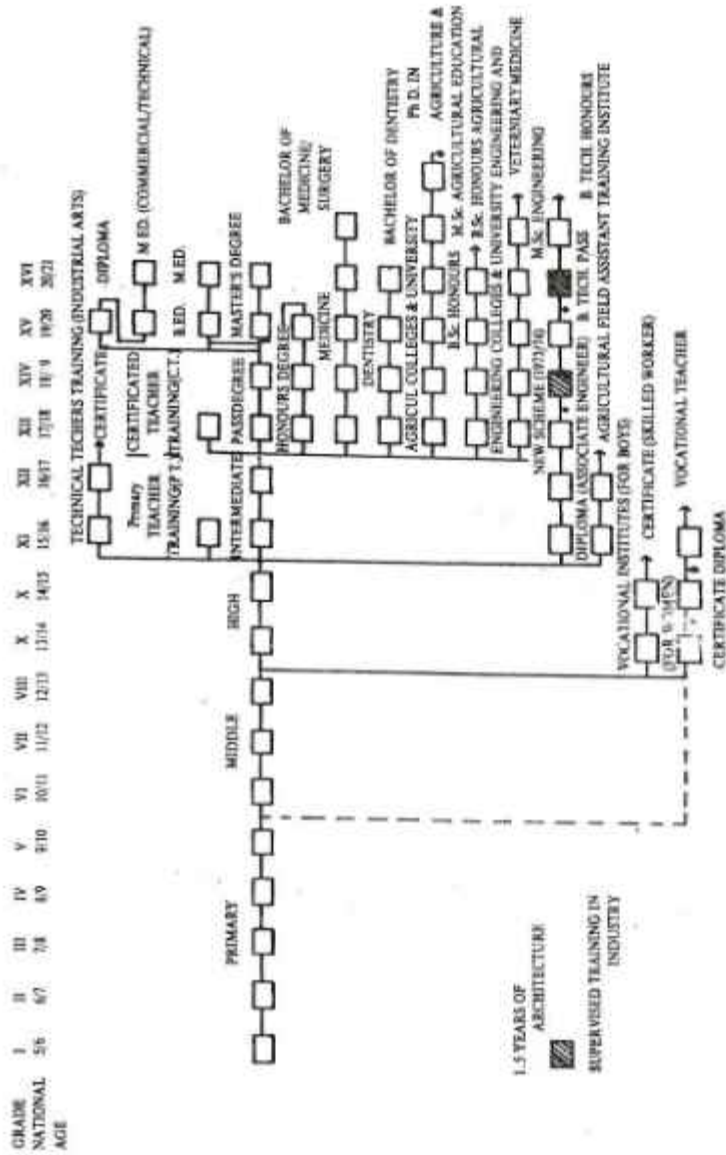
Uploading is the transmission of a file from one computer system to another, usually larger computer system. From a network user's point-of view, to upload a file is to send it to another computer that is set up to receive it.

24.31 Webmaster

Person designated to maintain a web site and to receive general queries by Email.

24.32 Website

A Website is a related collection of World Wide Web (WWW) files that includes a beginning file called a homepage. A company or an individual tells you how to get to their Website by giving you the address of their homepage. From the homepage, you can get to all the other pages on their site. For example, the Website for IBM has the homepage address of <http://www.ibm.com> (The home page address actually includes a specific file name like `index.html` but, as in IBM's case, when a standard default name is set up, users don't have to enter the file name.) IBM's homepage address leads to thousands of pages. (But a Website can also be of just a few pages).



Structure of Education

PC-1 FORM

**GOVERNMENT OF PAKISTAN
PLANNING COMMISSION**

**PROFORMA FOR DEVELOPMENT PROJECTS
(SOCIAL SECTORS)**

- Education, Training and Manpower
- Health, Nutrition, Family Planning & Social Welfare
- Science & Technology
- Water Supply & Sewerage
- Culture, Sports, Tourism & Youth
- Mass Media
- Governance
- Research

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

PC-1 FORM

(SOCIAL SECTORS)

1. Name of the Project
2. Location
3. Authority responsible for:
 - i. Sponsoring
 - ii. Execution
 - iii. Operation and maintenance
 - iv. Concerned federal ministry
4. Plan Provision
5. Project objectives and its relationship with Sectoral objectives
6. Description, justification and technical parameters
7. Capital cost estimates
8. Annual operating and maintenance cost after completion of the project
9. Demand and supply analysis
10. Financial Plan and mode of financing
11. Project benefits and analysis
 - i. Financial
 - ii. Social benefits with indicators
 - iii. Employment generation (direct and indirect)
 - iv. Environmental impact
 - v. Impact of delays on project cost and viability

12. Implementation schedule
13. Management structure and manpower requirements including Specialized skills during execution and operational phases
14. Additional projects/decisions required to maximize socio-economic benefits from the proposed project
15. Certified that the project proposal has been prepared on the basis of instructions provided by the Planning Commission for the preparation of PC-I for Social Sector projects.

Prepared by _____
Name, Designation & Phone#

Checked by _____
Name, Designation & Phone#

Approved by _____
Name, Designation & Phone#

GOVERNMENT OF PAKISTAN

PLANNING COMMISSION

Instructions to Fill-in PC-I Proforma(Social Sectors)

1. Name of the Project Indicate name of the project.
2. Location
 - Provide name of District/Province.
 - Attach a map of the area, clearly indicating the project location.
3. Authorities responsible for Indicate name of the agency responsible for sponsoring, execution, operation and maintenance. For provincial projects, name of the concerned federal ministry be provided.
4. (a) Plan provision
 - If the project is included in the medium term/five year plan, specify actual allocation.
 - If not included in the current plan, what warrants its inclusion and how is it now proposed to be accommodated.
 - If the project is proposed to be financed out of block provision, indicate:

Total block provision	Amount already committed	Amount proposed for this project	Balance available
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- (b) Provision in the current year PSDP/ADP

5 Project objectives

- The objectives of the sector/sub sector as indicated in the medium term/five year plan be reproduced. Indicate objectives of the project and develop a linkage between the proposed project and sectoral objectives.
 - In case of revised Projects, indicate objectives of the project, if different from original PC-I.

6. Description and justification of project

- Describe the project and indicate existing facilities in the area and justify the establishment of the Project.
- Provide technical parameters and discuss technology aspect of the Project.
- Provide details of civil works, equipment, machinery and other physical facilities required for the project.
- Indicate governance issues of the sector relevant to the project and strategy to resolve them.

In addition to above, the following sector specific information be provided

Education, training and manpower

- Give student-teacher ratio for the project and the national average for the proposed level of education.
- Year-wise proposed enrolment of the institution for 5 years.
- For scholarship projects, indicate number of scholarships to be awarded each year alongwith selection criteria .
- Provide faculty strength in relevant discipline, in case of expansion of facilities.
- Indicate the extent of library and laboratory facilities available in case of secondary, college and university education.
- Provide details of technical staff required for operation & maintenance of laboratories.

7. Capital cost estimates

- Indicate date of estimation of Project cost.
- Basis of determining the capital cost be provided. It includes market survey, schedule rates, estimation on the basis of previous work done etc.
- Provide year-wise estimates of Physical activities by main components as per following:

<i>Component-wise, year-wise physical activities</i>				
Items	Unit	Year-I	Year-II	Year-III
A.				
B.				
C.				

Phasing of Capital cost be worked out on the basis of each item of work as stated above and provide information as per following.

Year-wise/component-wise financial phasing

(Million Rs)

Item	Year I			Year II			Year III			Total		
	Total	Local	FEC	Total	Local	FEC	Total	Local	FEC	Total	Local	FEC
1												
2												
3												
Total												

In case of revised Projects, Provide

- Projects approval history, year wise PSDP allocations, releases and expenditure.
- Item-wise, year-wise actual expenditure and Physical progress.
- Justification for revision of PC-I and variation in scope of the project if applicable.
- Item-wise comparison of revised cost with the approved cost and give reasons for variation.
- Indicate exchange rate used to work out FEC in the original and revised PC-I.

8. Annual operating cost

- Item-wise annual operating cost for 5 years and sources of financing .

9. Demand supply analysis (excluding science & technology, research, governance & culture, sports & tourism sectors)

- Existing capacity of services and its supply
- Projected demand for ten years
- Capacity of projects being implemented both in the public & private sector
- Supply – demand gap
- Designed capacity & output of the proposed project

10. Financial plan

Sources of financing

(a) Equity:

Indicate the amount of equity to be financed from each source

- Sponsors own resources
- Federal government
- Provincial government
- DFI's/banks
- General public
- Foreign equity (indicate partner agency)
- NGO's/beneficiaries
- Others

b) Debt

Indicate the local & foreign debt, interest rate, grace period and repayment period for each loan separately. The loan repayment schedule be also annexed.

c) Grants along with sources

d) Weighted cost of capital

11 (a) Project benefits and analysis

- Financial: Income to the project alongwith assumptions
- Social: Quantify benefit to the target group
- Environmental: Environmental impact assessment negative/positive

(b) Project analysis

- Quantifiable output of the project
- Unit cost analysis
- Employment generation (direct and indirect)
- Impact of delays on project cost and viability

12. Implementation of the project

- Indicate starting and completion date of the project

- Item-wise/year-wise implementation schedule in line chart correlated with the phasing of physical activities.
13. Management structure and manpower requirements
- Administrative arrangements for implementation of the project.
 - Manpower requirements during execution and operation of the project be provided by skills/profession.
 - Job description, qualification, experience, age and salary of each job be provided.
14. Additional projects/decisions required
- Indicate additional projects/decisions required to optimize the investment being undertaken on the project.
15. Certificate
- The name, designation and phone # of the officer responsible for, preparing and checking be provided. It may also be confirmed that PC-I has been prepared as per instructions for the preparation of PC-I for social sector projects.
 - The PC-I alongwith certificate must be signed by the Principal Accounting Officer to ensure its ownership.

PC-II FORM

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

PROFORMA FOR DEVELOPMENT PROJECTS
(SURVEY AND FEASIBILITY STUDIES)

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

PC-1/ FORM

PROFORMA FOR DEVELOPMENT PROJECTS
(SURVEY AND FEASIBILITY STUDIES)

- 1) Name by which survey/ feasibility will be identified
- 2) Administrative authorities responsible for
 - i) Sponsoring
 - ii) Execution
- 3) Details of survey/feasibility study
 - i. General description and justification
 - ii. Implementation period
 - iii. Year wise estimated cost
 - iv. Manpower requirements
 - v. Financial plan
- 4) Expected outcome of the survey feasibility study and details of projects likely to be submitted after the survey.

Prepared by _____
Name, Designation & Phone #

Checked by _____
Name, Designation & Phone #

Approved by _____
Name, Designation & Phone #

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

Instructions to fill in PC-II Proforma

1. Name of the Project

Please indicate the name by which survey/feasibility study will be undertaken.

2. Administrative authority

Indicate name of the agency responsible for sponsoring and execution of the project.

3. Details of survey/feasibility study

- Provide a general description of the aims, objectives and coverage of the survey/feasibility Study.
- Provide justification for undertaking the survey/feasibility Study. Indicate whether previous studies in the field have been undertaken. If so, provide details.
- Indicate duration of study and proposed months of commencement and completion of the study.
- Provide item-wise/year-wise capital cost estimate of the study broken down between local and foreign exchange.
- Indicate date on which cost estimates were prepared and the basis of these estimates.
- Sources of financing the capital cost be provided
- Indicate requirements separately for local and foreign personnel i.e. professional, technical, administrative, clerical, skilled, unskilled, others alongwith their terms of reference.
- Indicate the period of contract of both the local and foreign consultants alongwith qualifications, experience and the terms of their appointment

4. Expected outcome

Indicate the expected outcome of the survey/feasibility study in quantifiable terms. It may also be indicated whether any project will be prepared after the survey.

Annex-IV

Revised 2005

PC-III FORM

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

PROFORMA FOR DEVELOPMENT PROJECTS
(ANNUAL TARGETS AND PROGRESS REPORTING)

Government of Pakistan
Planning Commission
Implementation of Development Projects
(Physical Targets based on PSDP allocation)

To be furnished by 1st July of each year

1. Name of the Project:

2. Approved Capital Cost: (Million Rs)

3. Expenditure up to the end of last Financial Year: (Million Rs)

Actual	Accrued	Total
<input type="text"/>	<input type="text"/>	<input type="text"/>

4. PSDP allocations for the Current year: (Million Rs)

Total	Local	FEC
<input type="text"/>	<input type="text"/>	<input type="text"/>

5. Annual Work Plan:

<i>As per PC-I</i>			Achievements upto the end of last year	Target for current year
Item	Unit	Quantities		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

6. Quarterly work plan based on annual work plan:

Item	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter

7. Cash Plan:

(Rs Millions)

1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter

8. *Output indicators:*
To be determined by project director on the basis of indicators given in the PC-I.

**GOVERNMENT OF PAKISTAN
PLANNING COMMISSION**

Instructions to fill-in PC-III (a) Proforma

1. Name of the Project:
Indicate name of the project.
2. Approved capital cost:
Provide approved capital cost by the competent forum.
3. Expenditure upto the end of last financial year:
Provide the actual and accrued expenditure upto end of last financial year.
4. PSDP allocations for the current year:
Provide allocations for the project as shown in the PSDP/ADP.
5. Annual Work Plan:
 - Provide scope of work as indicated in the PC-I by major items of work.
 - Actual physical achievements upto the end of last financial year against the scope of work indicated in PC-I.
 - Physical targets for the year be determined on the basis of activity chart/work plan to be prepared each year on the basis of PSDP allocations. (Blank activity chart/work plan for major items of works enclosed).
6. Quarterly Work Plan:
The quarterly work plan be prepared on the basis of annual work plan.
7. Cash Plan:
Indicate the finances required to achieve the quarterly work plan targets as indicated at 6 above.
8. Output indicators:
A number of projects start yielding results during its implementation. In such projects the recurring cost is capitalized and the project start yielding results during its implementation. Indicate quantifiable outcome of the projects for the current year.

The Proforma alongwith activity chart/work plan has to be furnished by 1st July of each financial year.

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

Implementation of Development Projects
To be furnished by 5th day of each month

1. Name of project:

2. Financial Status
(Million Rs.)

(Million Rs)
• PSDP allocations for the Current year

• Current quarter requirements as per cash plan
(Million Rs)

• Releases during the month

(Million Rs)
• Expenditure during the month

3. Physical Status
Physical achievements during the month under report

Item	Unit	Quantities

4. Output Indicators
5. Issues/Bottlenecks in Projects Implementation

(Revised 2005)

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

Instructions to fill-in PC-III(B) Proforma

1. Name of the Project:
Indicate name of the project.
2. Financial status:
 - Indicate PSDP allocations for the current year and quarter.
 - According to latest instructions of ministry of finance, AGPR has been directed to release PSDP allocations in the 1st week of each quarter. However in practice, variations in releases are expected. The executing agency may therefore provide released amount during the month under report.
 - Provide actual expenditure incurred on the project during the month under report.
3. Physical status:
 - Provide actual physical achievements during the month against targets for the quarter.
4. Output indicators:
 - Provide the output of the project during the month under report against the output targets.
5. Issues/Bottlenecks:
 - Indicate the major issues responsible for delay in implementation of Project at policy and operational level.

The PC-III (B) be furnished by 5th day of each month reflecting the progress of the project during the last reporting month..

Revised 2005

PC-IV FORM

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

PROFORMA FOR DEVELOPMENT PROJECTS

(PROJECT COMPLETION REPORT)

From PC-IV

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

To be furnished immediately after completion of Project regardless of whether or not the accounts of the Project have been closed.

1. Name of the Project:

2. Implementation period:
Commencement Completion

a) As per PC-I:

As per actual:

3. Capital cost:

Planned	Actual
----------------	---------------

(Million Rs)

4. PC-I phasing/allocations, releases & expenditure:
(Million Rs)

Year	Phasing as per PC-I	PSDP allocations	Releases	Expenditure
1.				
2.				
3.				
4.				

5. Item-wise physical targets and achievements:

Item	Unit	PC-I estimates	Actual achievements

6. Item-wise planned & actual expenditure:

(Million Rs)

Item	PC-I estimates			Actual expenditure		
	Total	Local	FEC	Total	Local	FEC

7. Quantifiable benefits of the Project:

- a) Financial
- b) Economic
- c) Social
- d) Employment generated

8. Financial/Economic results based on actual cost:

a) Financial

- Net present worth
- Benefit cost ratio
- Internal financial rate of return
- Unit cost analysis

b) Economic

- Net present worth
- Benefit cost ratio
- Internal economic rate of return

For Social Sectors: Provide only unit cost analysis

9. Whether the Project has been implemented as per approved scope of the project. If not provide details justification of variation.

10. Impact of the Project on target group:

11. Lessons learned in:

- a) Project identification
- b) Project preparation
- c) Project approval
- d) Project financing
- e) Project implementation

12. Suggestions for planning & implementation of similar projects:

(Revised 2005)

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

Instructions to fill in PC-IV Proforma

1. Name of the project:
Indicate name of the project.
2. Implementation period:
Indicate planned , commencement and completion date alongwith actual ones.
3. Capital cost:
Provide capital cost of the project as approved by the competent forum and actual expenditure incurred on the project till preparation of PC-IV.
4. PC-I phasing, allocations, releases & expenditure:
 - a. Provide PC-I phasing as per approved PC-I.
 - b. PSDP allocations as reflected in PSDP/ADP.
 - c. Year-wise releases made to the project.
 - d. Year-wise actual expenditure incurred on the project.
5. Item-wise physical targets and achievements:
 - a) Provide item-wise quantifiable physical targets as given in the approved PC-I.
 - b) Actual physical achievements against physical targets be provided.
6. Item-wise planned and actual expenditure:
 - a) Provide item-wise allocations as per approved PC-I.
 - b) Item-wise actual expenditure incurred on the project be provided.
7. Quantifiable benefits of the project:
 - a. Provide quantifiable financial benefits of the project alongwith assumptions/parameters.
 - b. Quantifiable benefits to the economy alongwith assumptions/ parameters.

- c. Social benefits to target group alongwith indicators.
 - d. Planned and actual employment generated by category
8. Financial/Economic results based on actual cost:
- a) Undertake financial, unit cost and economic analysis based on actual capital and recurring cost. The benefits of the project may also be calculated on prevailing prices and output.
 - b) In case of social sector projects, unit cost analysis may only be provided.
9. Project implementation:
- a) Indicate whether project has been implemented as per approved cost, scope and time. In case of variation, reasons be provided.
10. Project impact:
- a) Provide impact of the project on the target group/area.
11. Lessons learned:
- a) Provide lesson's learned during identification, preparation, approval, financing and implementation of the project.
12. Suggestions:

Suggestions for planning & implementation of similar nature of projects, keeping in view the lessons learned in project implementation.

Annex-VI

Revised 2005

PC-V FORM

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

PROFORMA FOR DEVELOPMENT PROJECTS

(ANNUAL PERFORMANCE REPORT AFTER
COMPLETION OF PROJECT)

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

To be furnished by 31st July of each years for 5 years after completion of Project indicating Projects operational results during the last financial year.

1. Name of the Project:
2. Objectives & scope of project as per approved PC-I and state as to what extent the objectives have been met:
3. Planned and actual recurring cost of the project, with details:
4. Planned & actual manpower employed:
5. Planned and actual physical output of the project:
6. Planned and actual income of the project:
7. Planned and actual benefits to the economy:
8. Planned and actual social benefits:
9. Planned and actual cost per unit produced/sold:
10. Marketing mechanism:
11. Arrangement for maintenance of building & equipment.
12. Whether output targets as envisaged in the PC-I have been achieved. If not, provide reasons:
13. Lessons learned during the year in:
 - o Operation
 - o Maintenance
 - o Marketing
 - o Management
14. Any change in project management during the year.
15. Suggestions to improve projects performance:

(Revised 2005)

GOVERNMENT OF PAKISTAN
PLANNING COMMISSION

Instructions to fill in PC-V Proforma

1. Name of the Project:

Indicate name of the project.

2. Objective & scope of the project:

Indicate objectives and scope of the project as stated in the approved PC-I. It may also be indicated that upto what extent the objectives of the project have been met.

3. Planned & actual recurring cost:

Provide planned (as per PC-I) and actual recurring cost of the project alongwith details for the financial year under report.

4. Planned & actual manpower employed:

Provide category-wise details of manpower actually employed for the operation of the project as compared to proposed in the PC-I.

5. Planned & actual physical output:

Provide output of the project as given in the PC-I for the year under report and compare it with actual output of the project.

6. Planned & actual income of the project:

Provide income of the project as indicated in the PC-I for the year under report alongwith assumptions and compare it with the actual for the year.

7. Benefits to the economy:

Provide quantifiable planned & actual benefits to the economy for the year under report.

8. Planned & actual social benefits:

Provide social benefits to the target group as given in the PC-I, compare with the year under report and state to what extent the social benefits have been achieved.

9. Planned & actual cost per unit produced/sold:

Provide cost per unit produced and sold at the weighted cost of capital of the project.

10. Market mechanism:

Indicate how the output of the project is being marketed. In case it differs from the PC-I, the details may be provided.

11. Maintenance of building & equipment:

Provide arrangements made for the maintenance of building & equipment during the last financial year. It may also be indicated whether annual maintenance of building & equipment was carried out in the last financial year.

12. Output targets:

Indicate whether output targets as given in the PC-I for the year under report have been met. In case of variation, give reasons.

13. Lessons learned:

Provide lessons learned during the year under report

- i. Operation
- ii. Marketing
- iii. Management.

14. Change in project management:

In case of any change in the senior management of the project, the details alongwith justification be provided.

15. Suggestions to improve project performance:

Based on the experience gained during last financial year, suggest measures to improve the projects performance.