

**ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD**  
**(Department of Educational Planning, Policy Studies and Leadership)**  
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**Level: MA-EPM**  
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**(Units: 1-5)**

**Q.1 Why situational analysis is so necessary in the development of population education program? Briefly discuss the planning process.**

**Situational analysis is so necessary in the development of population education program**

Situational analysis is the systematic process of analyzing the situation before the curriculum is developed effectively. However, Hilda Taba (1962) describes situational Analysis as a diagnosis of needs. In this simpler form, we can define situational Analysis as the process of examining factors that exist in the environment or society where the curriculum is going to be implemented. Situational analysis factors include knowledge about the environment in terms of mountains, rivers, flora and fauna including places where the programme or curriculum is going to be implemented, the social or power structure of that society, the traditions, norms, needs and aspirations of the community and the language of instruction.

Bishop (1985) argued that the situational Analysis must incorporate members of the general public and not only 'experts'. These members should be invited to play their part in situational Analysis. This is because Education itself is not a discipline like English and History but an area involving a wide variety of society with different backgrounds. Hence, Parents Teachers Association (P.T.A) and religious Organisations would feel to say something pertaining to the lives and future of their children. This simply means that there is a way parents and society at large would want the curriculum to shape their attitudes of their children.

Simpson Yinger (1958) argued that situational Analysis involve careful observation and an acute understanding of the variables influencing a given situation. The particular role of a researcher in situational Analysis is to contribute to our knowledge by isolating one by one each of the many variables that are involved in every situation and then studying the effects of their interaction. The scientists in this regard measures the influence of each factor alone and later how these variables interact with each other. In short, every stakeholder must be analysed in details. To ensure effective results curriculum developers need to undertake SWOT analysis of the stakeholders involved.

In situation analysis, you need to look at the Resources people possess. Rich people will contribute positively towards the education of a learner. Poor people are unable to contribute positively towards the development of the curriculum.

Kaufman (1982:75) defined Needs Assessment as "a formal analysis that documents gaps between current results and the desired results." He further defined a need as a gap between what is and what should be.

Need assessment involves arranging gaps (needs) in priority of order, selection of the needs to be resolved. Once analyzed, the information is then used to set appropriate aims, goals and objectives in curriculum Development.

The importance of situational analysis and needs assessments is that they provide us with up to date information which can be used to solve the problems, set providers, identify groups which require special need intervention and can create a basis or platform for discussion in as far as curriculum development is concerned.

Another importance of situational analysis and needs assessments is that Policy makers (Government officials) and decision makers (curriculum specialists) can make strong arguments in as far as allocation of resources is concerned.

A needs assessment can be a powerful tool used to develop strategies to address the curriculum needs.

Will provide the met and unmet needs within the targeted groups e.g. (i) met needs may be availability of teachers and pupils, supplementary readers (ii) unmet may be the distance between the school and the learners home.

The importance of situational analysis and needs assessments is that they will help in the formulation of curriculum intent, content, selection of learning and teaching activities. It help educationalists meet the needs and expectations of the society. Ordinarily, the content of subjects in curriculum intent is too formal and academic to meet the needs of the majority of the children who do not proceed on to higher studies especially if it was developed without situational analysis. What pupils do in schools neither satisfies the developing needs of the child nor prepares the child adequately for the world/environment he/she lives in (no wonder we have more street kids in Zambia). Practical and aesthetic subjects such as wood work and music are therefore not given enough time and attention. This is because curriculum is mainly designed to transmit factual knowledge rather than to provide learning experiences.

The importance of situational analysis and needs assessments is that they guide on what need to be done by attacking a real problem in the community which are issue based rather than assumptions.

### **Planning process of situational analysis**

A situation analysis or environmental analysis is the fundamental first step in the social and behavior change communication change (SBCC) process. It involves a systematic collection and study of health and demographic data, study findings and other contextual information in order to identify and understand the specific health issue to be addressed. It examines the current status of the health issue as well as the social, economic, political and health context in which the health issue exists and establishes the vision for the SBCC program. A complete situation analysis gathers information on four areas:

The problem, its severity and its causes.

The people affected by the problem (potential audiences).

The broad context in which the problem exists.

Factors inhibiting or facilitating behavior change.

A situation analysis guides the identification of priorities for an SBCC intervention and informs all the following steps in the SBCC process. It establishes a clear, detailed and realistic picture of the opportunities, resources, challenges and barriers regarding a particular health issue or behavior. The quality of the situation analysis will affect the success of the entire SBCC effort.

A small, focused team should conduct the situation analysis. Members should include communication staff, health/social service staff and, if available, research staff.

Throughout the data collection process, team members should also consider how to engage [stakeholders](#) including opinion leaders, service providers, policy makers, partners, and potential beneficiaries. Ways to obtain [stakeholder](#) input include [in-depth interviews](#), [focus group discussions](#), community dialogue, small group meetings, taskforce engagement or participatory stakeholder workshops.

A situation analysis should be conducted at the beginning of a program or project, before developing an SBCC strategy. It is part of the inquiry phase of the [P-Process](#).

**Q.2 Define management. Is management and art or a science? Give arguments in support of your answer.**

### Management

[Management](#) is essential for an organized life and necessary to run all types of management. Good management is the backbone of successful organizations. Managing life means getting things done to achieve life's objectives and managing an organization means getting things done with and through other people to achieve its objectives.

Whether [management is an art or science](#), will continue to be a subject of debate. However, most management thinkers agree that some form of formal academic management background helps in managing successfully. Practically, all CEO's are university graduates. Hence, the reason for including business degree programs in all academic institutions.

[Management is a set of principles](#) relating to the functions of planning, organizing, directing and controlling, and the application of these principles in harnessing physical, financial, human and informational resources efficiently and effectively to achieve organizational goals.

#### Definition of Management

Many management thinkers have defined [management](#) in their own ways. For example, Van Fleet and Peterson define management, 'as a set of activities directed at the efficient and effective utilization of resources in the pursuit of one or more goals.'

Megginson, Mosley and Pietri define management as 'working with human, financial and physical resources to achieve organizational objectives by performing the planning, organizing, leading and [controlling functions](#)'.

Kreitner's definition of management:

'Management is a problem-solving process of effectively achieving organizational objectives through the efficient use of scarce resources in a changing environment.'

According to F.W. Taylor, '[Management is an art](#) of knowing what to do, when to do and see that it is done in the best and cheapest way'.

According to Harold Koontz, 'Management is an art of getting things done through and with the people in formally organized groups. It is an art of creating an environment in which people can perform and individuals and can co-operate towards attainment of group goals.'

A leader has certain inherent qualities and traits which assist him in playing a directing role and wielding commanding influence which others. [Leadership](#) is an integral part of management and plays a vital role in managerial operations, while management is an integral component of technical as well as social processes. The practice of [management](#) is as old as human civilization. However,

the study of management in a systematic and scientific way as a distinct body of knowledge is only of recent origin.

Management in some form or another is an integral part of living and is essential wherever human efforts are to be undertaken to achieve desired objectives. The basic ingredients of management are always at play, whether we manage our lives or our business.

For example, let us look at the managerial role of a simple housewife and how she uses the managerial ingredients in managing the home. First, she appraises her household and its needs. She forecasts the needs of the household for a period of a week or a month or longer. She takes stock of her resources and any constraints on these resources. She plans and organizes her resources to obtain the maximum benefits out of these resources. She monitors and controls the household budget and expenses and other activities. In a large household, she divides the work among other members and coordinates their activities. She encourages and motivates them to do their best in completing their activities. She is always in search of improving, mention goals, resources and in means to attain these goals. These ingredients, generally, are the basic functions of management.

Management can be defined in detail in the following categories :

Management as a Process

Management as an Activity

Management as a Discipline

Management as a Group

Management as a Science

Management as an Art

Management as a Profession

The concept of management is as old as the human race itself. The concept of 'family' itself required that life be organized and resources of food be apportioned in a manner so as to maximize the utility of such resources. Taking proper steps to safeguard the family from attacks by wild animals, planning on where to go fishing and hunting and whom to go with, organizing these groups into chiefs and hunting and fishing bands where chiefs gave directions, and so on, are all subtle ingredients of management and organization.

### **Is management and art or a science?**

*Management can be considered as both science as well as an art.*

Management is science because of several reasons like - it has universally accepted principles, it has cause and effect relationship etc, and at the same time it is art because it requires perfection through practice, practical knowledge, creativity, personal skills etc.

Management is both an art and a science. Management combines features of both science as well as art. It is considered as a science because it has an organized body of knowledge which contains certain universal truth. It is called an art because managing requires certain skills which are personal possessions of managers. Science provides the knowledge & art deals with the application of knowledge and skills.

A manager to be successful in his profession must acquire the knowledge of science & the art of applying it. Therefore management is a judicious blend of science as well as an art because it proves the principles and the way these principles are applied is a matter of art. Science teaches to 'know'

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and art teaches to 'do'. E.g. A person cannot become a good singer unless he has knowledge about various ragas & he also applies his personal skill in the art of singing. Same way it is not sufficient for manager to first know the principles but he must also apply them in solving various managerial problems that is why, science and art are not mutually exclusive but they are complementary to each other (like tea and biscuit, bread and butter etc.).

The old saying that "Manager are Born" has been rejected in favor of "Managers are Made". It has been aptly remarked that management is the oldest of art and youngest of science. To conclude, we can say that science is the root and art is the fruit.

### Management As Science

Yes, Science is a systematic body of knowledge pertaining to a specific field of study that contains general facts which explains a phenomenon. It establishes cause and effect relationship between two or more variables and underlines the principles governing their relationship. These principles are developed through scientific method of observation and verification through testing. Science is characterized by the following main features: 1. Universally acceptance principles – Scientific principles represents basic truth about a particular field of enquiry. These principles may be applied in all situations, at all time & at all places. E.g. – law of gravitation which can be applied in all countries irrespective of the time. Management also contains some fundamental principles which can be applied universally like the Principle of Unity of Command i.e. one man, one boss. This principle is applicable to all type of organization – business or non business. 2. Experimentation & Observation – Scientific principles are derived through scientific investigation & researching i.e. they are based on logic. E.g. the principle that earth goes round the sun has been scientifically proved. Management principles are also based on scientific enquiry & observation and not only on the opinion of Henry Fayol. They have been developed through experiments & practical experiences of large number of managers. E.g. it is observed that fair remuneration to personal helps in creating a satisfied work force. 3. Cause & Effect Relationship – Principles of science lay down cause and effect relationship between various variables. E.g. when metals are heated, they are expanded. The cause is heating & result is expansion. The same is true for management, therefore it also establishes cause and effect relationship. E.g. lack of parity (balance) between authority & responsibility will lead to ineffectiveness. If you know the cause i.e. lack of balance, the effect can be ascertained easily -in effectiveness. Similarly if workers are given bonuses, fair wages they will work hard but when not treated in fair and just manner, reduces productivity of organization. 4. Test of Validity & Predictability – Validity of scientific principles can be tested at any time or any number of times. They stand the test of time. Each time these tests will give same result. Moreover future events can be predicted with reasonable accuracy by using scientific principles. E.g. hydrogen & oxygen will always give water. Principles of management can also be tested for validity. E.g. principle of unity of command can be tested by comparing two persons – one having single boss and one having 2 bosses. The performance of 1st person will be better than 2nd. It cannot be denied that management has a systematic body of knowledge but it is not as exact as that of other physical sciences like biology, physics, and chemistry etc. The main reason for the inexactness of science of management is that it deals with human beings and it is very difficult to predict their behavior accurately. Since it is a social process, therefore it falls in the area of social sciences. It is a flexible science & that is why its theories and principles may produce different results at different times and therefore it is a behavioral science. Ernest Dale has called it as a Soft Science.

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## Management as Art

Art implies application of knowledge & skill to trying about desired results. An art may be defined as personalized application of general theoretical principles for achieving best possible results. Art has the following characters –

1. Practical Knowledge: Every art requires practical knowledge therefore learning of theory is not sufficient. It is very important to know practical application of theoretical principles. E.g. to become a good painter, the person may not only be knowing different colour and brushes but different designs, dimensions, situations etc to use them appropriately. A manager can never be successful just by obtaining degree or diploma in management; he must have also know how to apply various principles in real situations by functioning in capacity of manager.
2. Personal Skill: Although theoretical base may be same for every artist, but each one has his own style and approach towards his job. That is why the level of success and quality of performance differs from one person to another. E.g. there are several qualified painters but M.F. Hussain is recognized for his style. Similarly management as an art is also personalized. Every manager has his own way of managing things based on his knowledge, experience and personality, that is why some managers are known as good managers (like Aditya Birla, Rahul Bajaj) whereas others as bad.
3. Creativity: Every artist has an element of creativity in line. That is why he aims at producing something that has never existed before which requires combination of intelligence & imagination. Management is also creative in nature like any other art. It combines human and non-human resources in useful way so as to achieve desired results. It tries to produce sweet music by combining chords in an efficient manner.
4. Perfection through practice: Practice makes a man perfect. Every artist becomes more and more proficient through constant practice. Similarly managers learn through an art of trial and error initially but application of management principles over the years makes them perfect in the job of managing.
5. Goal-Oriented: Every art is result oriented as it seeks to achieve concrete results. In the same manner, management is also directed towards accomplishment of pre-determined goals. Managers use various resources like men, money, material, machinery & methods to promote growth of an organization. Thus, we can say that management is an art therefore it requires application of certain principles rather it is an art of highest order because it deals with moulding the attitude and behavior of people at work towards desired goals.
6. Work by effectively. manager manage all problem in every environment so this is not science, it is an art that how he manage every problem of organization in every environment.

## Management as both Science and Art

Management is both an art and a science. The above mentioned points clearly reveals that management combines features of both science as well as art. It is considered as a science because it has an organized body of knowledge which contains certain universal truth. It is called an art because managing requires certain skills which are personal possessions of managers. Science provides the knowledge & art deals with the application of knowledge and skills. A manager to be successful in his profession must acquire the knowledge of science & the art of applying it. Therefore management is a judicious blend of science as well as an art because it proves the principles and the way these principles are applied is a matter of art. Science teaches to 'know' and art teaches to 'do'. Example. a person cannot become a good singer unless he has knowledge about various ragas & he also applies his personal skill in the art of singing. Same way it is not sufficient for manager to first know the principles but he must also apply them in solving various managerial problems that is why, science and art are not mutually exclusive but they are complementary to each other (like tea and biscuit,

bread and butter etc.). The old saying that “Manager are Born” has been rejected in favor of “Managers are Made”. It has been aptly remarked that management is the oldest of art and youngest of science. To conclude, we can say that science is the root and art is the fruit

### Q.3 What is difference between in-service and distance training program and what is the use of distance education?

#### In-service training program

An **in-service program** is a professional training or staff development effort, where professionals are trained and discuss their work with others in their peer group.

It is a key component of [continuing medical education](#) for [physicians](#), [pharmacists](#), and other medical professionals. It is also common among public servants including educators<sup>[1]</sup> and public safety officials.

In-service program also refers to some programs offered to enlisted members of the [military](#) while they are in service.

In-service programs also refers to [educators](#), where they discuss methods and cases and work loads.

#### Distance training program

Distance education or distance learning is the education of students who may not always be physically present at a [school](#). Traditionally, this usually involved correspondence courses wherein the student corresponded with the school via [post](#). Today, it involves online education. A distance learning program can be completely distance learning, or a combination of distance learning and traditional classroom instruction (called hybrid or [blended Massive open online courses](#) (MOOCs), offering large-scale interactive participation and open access through the [World Wide Web](#) or other network technologies, are recent educational modes in distance education. A number of other terms (distributed learning, e-learning, m-learning, online learning, virtual classroom etc.) are used roughly synonymously with distance education.

#### Use of distance education

Distance education is less a philosophy and more a method of education. Students can study in their own time, at the place of their choice (home, work or learning centre), and without face-to-face contact with a teacher. Technology is a critical element of distance education.

However, distance education programs may not be open. That is certainly the case at the University of British Columbia (UBC). Students who wish to take distance courses and receive a UBC degree must meet UBC’s admission requirements (which are set very high), and take the necessary course pre-requisites. For undergraduate education, at least half the program must be done ‘in residence’, that is, by taking face-to-face classes on campus. Thus in practice students who live out of province or in foreign countries cannot obtain a UBC undergraduate degree wholly at a distance.

If an institution is deliberately selective in its students, it has more flexibility with regard to choice of technology for distance education. It can for instance require all students who wish to take a distance

education program to have their own computer. It cannot do that if its mandate is to be open to all students.

Distance is more likely to be psychological or social, rather than geographical, in most cases. For instance, the vast majority of UBC undergraduate distance education students are not truly distant. The majority (83 per cent) lives in the Greater Vancouver Region, and almost half within the City of Vancouver. Only six per cent of the undergraduate enrolments in 1999/2000 were from outside the province (because of the residential requirement). On the other hand, two thirds of UBC's distance students (67 per cent) were working. The main reason for most UBC students taking distance courses is the flexibility they provide, given the work and family commitments of students and the difficulty caused by timetable conflicts for face-to-face classes. Only 17 per cent gave reasons to do with distance or travel (UBC Distance Education and Technology, 2001).

**The main advantage of distance learning is that it allows you to fit your learning around your work and home life.**

- J You can usually also set your own pace of study.
- J It is your decision as to when and where you study.
- J It doesn't matter where you live – you can gain a degree from anywhere in the world.
- J As with a full-time degree, students may find that they gain useful, transferable skills, such as planning and research.
- J A distance learning course often costs less than a full-time degree.

**Q.4 What are the conditions for successful monitoring system? Discuss the monitoring mechanism in detail.**

**Conditions for successful monitoring system**

Learning about the [positive benefits of machine monitoring](#) is a catalyst for many manufacturers' digitalization efforts. This first step towards data-driven manufacturing is a significant stepping stone in a manufacturer's journey into Industry 4.0 and the Smart Factory. While the positive impacts of machine monitoring may be known, the reality is that the equipment on each manufacturer's plant floor differs as much as their data collection and infrastructure plans needs should.

For manufacturers considering or about to take their first steps towards machine monitoring, we've outlined 5 key steps to successful monitoring:

1) Define a Monitoring Project Plan

Implementing machine monitoring is not done overnight. It is important to plan your implementation carefully. Your plan should be realistic and based on clear objectives that define your vision and expectations amongst your team. Objectives should clearly outline the shop assets to be monitored and define KPIs. To increase the probability of successful adoption, make sure to avoid operator-



focused KPIs and outline a plan for implementation that includes communication throughout the organization, including IT and the shop floor.

#### 2) Review IT Capabilities & Requirements

To have a successful monitoring system, there is a need to define IT requirements upfront. Work with your IT team to identify how Ethernet will be provided to each device from which you wish to acquire data. Additionally, you will need to identify whether the server that will house your data should live in-house or in the cloud. Depending on your choice, there are other technical application requirements to be considered – such as network architecture, firewalls, isolating obsolete operating systems, internet access, data protection, etc.

#### 3) Create a Data Collection Plan

Defining the data items you wish to collect and how they will be analyzed allows your team to best understand how you will deploy your monitoring efforts. Your team should understand the minimum data needed to support your KPIs. You will need to complete an equipment inventory by identifying each CNC and/or other devices from which you need to acquire data and outline their associated technical attributes.

It is recommended to employ a non-proprietary standards-based data collection strategy that allows you to avoid subscription-based connectivity. Consider collaborating with an experienced provider to identify data collection solutions, Adapters and other data acquisition devices that use the MTConnect® standard. Together you and the right provider can identify a plan that is designed to fit your unique needs both today and tomorrow.

#### 4) Develop a Deployment Strategy

Before you begin, acceptance and buy-in from all areas of your organization is paramount. To make sure your team is aligned on clearly defined expectations, make sure everyone involved in the dialogue is clear on why you are taking steps to monitor machines. Your deployment strategy should be team-focused, encompassing an outline of IT requirements of the devices you wish to monitor, how the data will be collected, analyzed, and communicated. Be clear on how this data will influence internal relationships and make sure your deployment strategy is team-focused and driven by your goals.

#### 5) Go Live with Install & Evaluation

Depending on the devices and/or sensors and their associated ages, you will have data access in as little as a few hours to a few weeks after going “live.” After your initial launch, you will need to evaluate and tweak configurations. During this process, it is important to be prepared for questions from your team looking to better understand the data, its accuracy and how you will be forming conclusions from it. Don’t be disappointed in your team’s initial perceptions and the limited values of OEE and/or utilization data. Instead, focus on incremental improvements that are appropriately selected to fit your team. Your efforts are worth it, but this process will likely feel unfamiliar to your team at first. It’s important to maintain clear communication throughout.

The reality is that each manufacturer’s plant floor differs as much as their data collection and infrastructure plans should. Each manufacturer has a unique business need and subsequently one-size-fits-all data acquisition software may not work for everyone. However, you can identify what your plant floor needs and develop a machine monitoring system that works for you and your data collection goals. If you’re ready, consider the above basic steps towards successful machine monitoring to best prepare to reap the benefits of connected manufacturing into the future.

#### Monitoring mechanism

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Monitoring is the process of routinely gathering information with which to make informed decisions for project management. Monitoring provides project managers with the information needed to assess the current project situation and assess

Monitoring provides managers and other stakeholders with regular information on progress relative to targets and outcomes. It is descriptive and should identify actual or potential successes and problems as early as possible to inform management decisions. A reliable flow of relevant information during implementation enables managers to keep track of progress, to adjust operations to take account of experience and to formulate budgetary requests and justify any needed increase in expenditure. Indeed, an effective management information system that performs these functions is an essential part of good management practice.

## Steps

### Step 1: Identify Program Goals and Objectives

The first step to creating an M&E plan is to identify the program goals and objectives. If the program already has a [logic model](#) or theory of change, then the program goals are most likely already defined. However, if not, the M&E plan is a great place to start. Identify the program goals and objectives.

Defining program goals starts with answering three questions:

1. What problem is the program trying to solve?
2. What steps are being taken to solve that problem?
3. How will program staff know when the program has been successful in solving the problem?

Answering these questions will help identify what the program is expected to do, and how staff will know whether or not it worked. For example, if the program is starting a condom distribution program for adolescents, the answers might look like this:

<b>Problem</b>	High rates of unintended pregnancy and sexually transmitted infections (STIs) transmission among youth ages 15-19
<b>Solution</b>	Promote and distribute free condoms in the community at youth-friendly locations
<b>Success</b>	Lowered rates of unintended pregnancy and STI transmission among youth 15-19. Higher percentage of condom use among sexually active youth.

From these answers, it can be seen that the overall program goal is to reduce the rates of unintended pregnancy and STI transmission in the community.

It is also necessary to develop intermediate outputs and objectives for the program to help track successful steps on the way to the overall program goal. More information about identifying these objectives can be found in the [logic model guide](#).

### Step 2: Define Indicators

Once the program's goals and objectives are defined, it is time to define indicators for tracking progress towards achieving those goals. Program indicators should be a mix of those that measure process, or what is being done in the program, and those that measure outcomes.

[Process indicators](#) track the progress of the program. They help to answer the question, "Are activities being implemented as planned?" Some examples of process indicators are:

- ✓ Number of trainings held with health providers
- ✓ Number of outreach activities conducted at youth-friendly locations
- ✓ Number of condoms distributed at youth-friendly locations
- ✓ Percent of youth reached with condom use messages through the media

[Outcome indicators](#) track how successful program activities have been at achieving program objectives. They help to answer the question, "Have program activities made a difference?" Some examples of outcome indicators are:

- ✓ Percent of youth using condoms during first intercourse
- ✓ Number and percent of trained health providers offering family planning services to youth
- ✓ Number and percent of new STI infections among youth.

These are just a few examples of indicators that can be created to track a program's success. More information about creating indicators can be found in the [How to Develop Indicators guide](#).

### Step 3: Define Data Collection Methods and Timeline

After creating monitoring indicators, it is time to decide on *methods* for gathering data and *how often* various data will be recorded to track indicators. This should be a conversation between program staff, stakeholders, and donors. These methods will have important implications for what data collection methods will be used and how the results will be reported.

The source of monitoring data depends largely on what each indicator is trying to measure. The program will likely need multiple data sources to answer all of the programming questions. Below is a table that represents some examples of what data can be collected and how.

Information to be collected	Data source(s)
Implementation process and progress	Program-specific M&E tools
Service statistics	Facility logs, referral cards
Reach and success of the program intervention within audience subgroups or	Small surveys with primary audience(s), such as provider interviews or client exit interviews

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Information to be collected	Data source(s)
communities	
The reach of media interventions involved in the program	Media ratings data, broadcaster logs, Google analytics, omnibus surveys
Reach and success of the program intervention at the population level	Nationally-representative surveys, Omnibus surveys, DHS data
Qualitative data about the outcomes of the intervention	Focus groups, in-depth interviews, listener/viewer group discussions, individual media diaries, case studies

Once it is determined *how* data will be collected, it is also necessary to decide *how often* it will be collected. This will be affected by donor requirements, available resources, and the timeline of the intervention. Some data will be continuously gathered by the program (such as the number of trainings), but these will be recorded every six months or once a year, depending on the M&E plan. Other types of data depend on outside sources, such as clinic and DHS data.

After all of these questions have been answered, a table like the one below can be made to include in the M&E plan. This table can be printed out and all staff working on the program can refer to it so that everyone knows what data is needed and when.

Indicator	Data source(s)	Timing
Number of trainings held with health providers	Training attendance sheets	Every 6 months
Number of outreach activities conducted at youth-friendly locations	Activity sheet	Every 6 months
Number of condoms distributed at youth-friendly locations	Condom distribution sheet	Every 6 months
Percent of youth receiving condom use messages through the media	Population-based surveys	Annually
Percent of adolescents reporting condom use	DHS or other	Annually

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Indicator	Data source(s)	Timing
during first intercourse	population-based survey	
Number and percent of trained health providers offering family planning services to adolescents	Facility logs	Every 6 months
Number and percent of new STI infections among adolescents	DHS or other population-based survey	Annually

#### Step 4: Identify M&E Roles and Responsibilities

The next element of the M&E plan is a section on roles and responsibilities. It is important to decide from the early planning stages who is responsible for collecting the data for each indicator. This will probably be a mix of M&E staff, research staff, and program staff. Everyone will need to work together to get data collected accurately and in a timely fashion.

Data management roles should be decided with input from all team members so everyone is on the same page and knows which indicators they are assigned. This way when it is time for reporting there are no surprises.

An easy way to put this into the M&E plan is to expand the indicators table with additional columns for who is responsible for each indicator, as shown below.

Indicator	Data source(s)	Timing	Data manager
Number of trainings held with health providers	Training attendance sheets	Every 6 months	Activity manager
Number of outreach activities conducted at youth-friendly locations	Activity sheet	Every 6 months	Activity manager
Number of condoms distributed at youth-friendly locations	Condom distribution sheet	Every 6 months	Activity manager
Percent of youth receiving condom use	Population-based	Annually	Research

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Indicator	Data source(s)	Timing	Data manager
messages through the media	survey		assistant
Percent of adolescents reporting condom use during first intercourse	DHS or other population-based survey	Annually	Research assistant
Number and percent of trained health providers offering family planning services to adolescents	Facility logs	Every 6 months	Field M&E officer
Number and percent of new STI infections among adolescents	DHS or other population-based survey	Annually	Research assistant

### Step 5: Create an Analysis Plan and Reporting Templates

Once all of the data have been collected, someone will need to compile and analyze it to fill in a results table for internal review and external reporting. This is likely to be an in-house M&E manager or research assistant for the program.

The M&E plan should include a section with details about what data will be analyzed and how the results will be presented. Do research staff need to perform any statistical tests to get the needed answers? If so, what tests are they and what data will be used in them? What software program will be used to analyze data and make reporting tables? Excel? SPSS? These are important considerations.

Another good thing to include in the plan is a blank table for indicator reporting. These tables should outline the indicators, data, and time period of reporting. They can also include things like the indicator target, and how far the program has progressed towards that target. An example of a reporting table is below.

Indicator	Baseline	Year 1	Lifetime target	% of target achieved
Number of trainings held with health providers	0	5	10	50%
Number of outreach activities	0	2	6	33%

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Indicator	Baseline	Year 1	Lifetime target	% of target achieved
conducted at youth-friendly locations				
Number of condoms distributed at youth-friendly locations	0	25,000	50,000	50%
Percent of youth receiving condom use messages through the media.	5%	35%	75%	47%
Percent of adolescents reporting condom use during first intercourse	20%	30%	80%	38%
Number and percent of trained health providers offering family planning services to adolescents	20	106	250	80%
Number and percent of new STI infections among adolescents	11,000 22%	10,000 20%	10% reduction 5 years	20%

### Step 6: Plan for Dissemination and Donor Reporting

The last element of the M&E plan describes how and to whom data will be disseminated. Data for data's sake should not be the ultimate goal of M&E efforts. Data should always be collected for particular purposes.

Consider the following:

- )] How will M&E data be used to inform staff and stakeholders about the success and progress of the program?
- )] How will it be used to help staff make modifications and course corrections, as necessary?
- )] How will the data be used to move the field forward and make program practices more effective?

The M&E plan should include plans for internal dissemination among the program team, as well as wider dissemination among stakeholders and donors. For example, a program team may want to review data on a monthly basis to make programmatic decisions and develop future workplans, while meetings with the donor to review data and program progress might occur quarterly or annually. Dissemination of printed or digital materials might occur at more frequent intervals. These options should be discussed with stakeholders and your team to determine reasonable expectations for data

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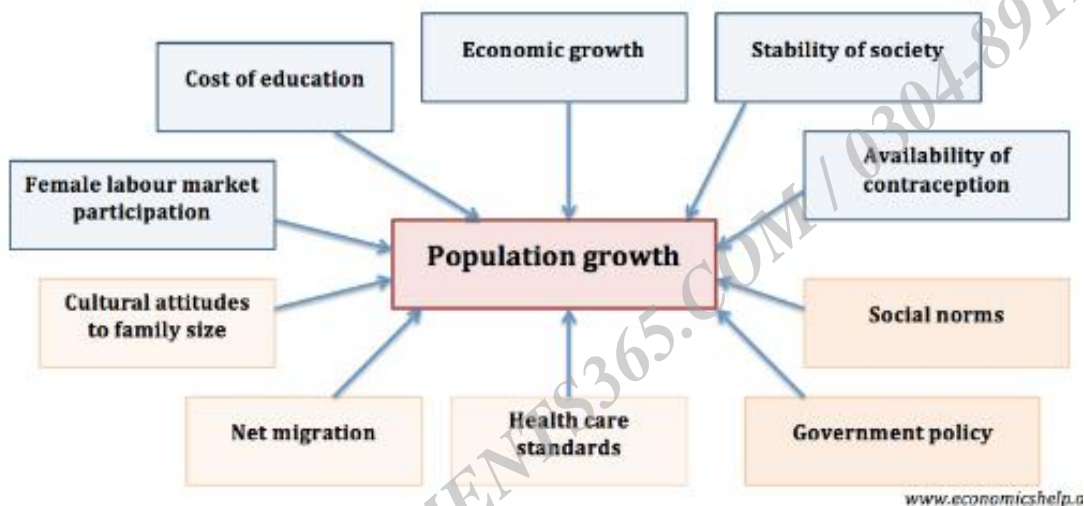
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review and to develop plans for dissemination early in the program. If these plans are in place from the beginning and become routine for the project, meetings and other kinds of periodic review have a much better chance of being productive ones that everyone looks forward to.

### Q.5 Discuss the impact of components of social system on population.

#### Impact of components of social system on population

Population growth is determined by fertility rates (the number of children per adult) – fatality rates. Birth rates and mortality rates are, in turn, determined by a combination of factors. Often economic growth and economic development have led to a decline in population growth, but there are no hard and fast rules and other factors, such as availability of family planning, social expectations and government intervention can play an important role.



#### Factors influencing population growth

**Economic development.** Countries who are in the early stages of economic development tend to have higher rates of population growth. In agriculturally based societies, children are seen as potential income earners. From an early age, they can help with household tasks and collecting the harvest. Also, in societies without state pensions, parents often want more children to act as an insurance for their old age. It is expected children will look after parents in old age. Because child mortality rates are often higher, therefore there is a need to have more children to ensure the parents have sufficient children to look after them in old age.

**Education.** In developed countries, education is usually compulsory until the age of 16. As education becomes compulsory, children are no longer economic assets – but economic costs. In the US, it is estimated a child can cost approx \$230,000 by the time they leave college. Therefore, the cost of bringing up children provides an incentive to reduce family size.

**Quality of children.** Gary Becker produced a paper in 1973 with H.Gregg Lewis which stated that parents choose the number of children based on a marginal cost and marginal benefit analysis. In developed countries with high rates of return from education, parents have an incentive to have a lower number of children and spend more on their education – to give their children not just standard

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education but a relatively better education than others. To be able to give children the best start in life, it necessitates smaller families. Becker noted rising real GDP per capita was generally consistent with smaller families.

Welfare payments/State pensions. A generous state pension scheme means couples don't need to have children to provide an effective retirement support when they are old. Family sizes in developing countries are higher because children are viewed as 'insurance' to look after them in old age. In modern societies, this is not necessary and birth rates fall as a result.

Social and cultural factors. India and China (before one family policy) had strong social attachments to having large families. In the developed world, smaller families are the norm.

Availability of family planning. Increased availability of contraception can enable women to limit family size closer to the desired level. In the developing world, the availability of contraception is more limited, and this can lead to unplanned pregnancies and more rapid population growth. In Africa in 2015, it was estimated that only 33% of women had access to contraception. Increasing rates would play a role in limiting population growth.

Female labour market participation. In developing economies, female education and social mobility are often lower. In societies where women gain a better education, there is a greater desire to put work over starting a family. In the developed world, women have often chosen to get married later and delay having children (or not at all) because they prefer to work and concentrate on their career.

Death rates – Level of medical provision. Often death rates are reduced before a slowdown in birth rates, causing a boom in the population size at a certain point in a country's economic development. In the nineteenth and early twentieth century, there was a rapid improvement in medical treatments which helped to deal with many fatal diseases. Death rates fell and life expectancy increased.

Immigration levels. Some countries biggest drivers of population growth come from net migration. In the UK from 2000 to 2013, around 50% of net population growth came from net international migration. Countries like Japan with very strict immigration laws have seen a stagnation in the population.

Historical factors/war. In the post-war period, western countries saw a 'boom' in population, as couples reunited at the end of the Second World War began having families. The 'baby-boomer' period indicates population growth can be influenced by historical events and a combination of factors which caused a delay in having children until the war ended.