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ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD

Course: Economic Planning: Techniques and Applications (810) • Level: M.Sc

Semester: Autumn 2026

Assignment No. 1 (Units 1–5)

Total Marks: 100 • Pass Marks: 40

SOLVED ASSIGNMENT GUIDE

(For Study & Reference)

Note: This guide is prepared for study and reference purposes. Students are advised to read the relevant units of the course book, understand the concepts, and then write the assignment in their own words. Copying this guide word for word is not recommended.

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Question 1: The Meaning of Planning and Why Developing Countries Need It (20 Marks)

Explain the term planning. Why do developing countries need planning?

Introduction

Planning is one of the most widely used — and most frequently misunderstood — words in development economics. In ordinary language, to plan simply means to decide in advance what is to be done, how it is to be done, and within what period it is to be done, instead of leaving events to chance. Economic planning carries this everyday idea onto the scale of a whole society. It is the deliberate attempt by a public authority to look ahead, to choose national goals, and to organise the country's scarce resources so that those goals are reached in an orderly and reasonably quick manner. In developing countries such as Pakistan, where resources are limited, needs are unlimited, and the private market by itself has historically failed to deliver balanced growth, planning is not a luxury or an ideological preference; it is a practical necessity. This answer first explains the meaning and main features of planning, and then discusses, one by one, the reasons why developing countries need it.

Meaning and Definition of Planning

Different economists have defined planning in slightly different ways, but their definitions share a common core. The Planning Commission of India defined economic planning as the utilisation of a country's resources in different development activities in accordance with national priorities. H. D. Dickinson described it as the making of major economic decisions — what and how much is to be produced, and to whom it is to be allocated — by the conscious decision of a determinate authority, on the basis of a complete survey of the economic system as a whole. Lewis, writing on development planning, stressed that a plan must contain a set of targets, an account of the resources available, and a statement of the policies by which the targets will be achieved. Put together, these definitions show that planning is a conscious, centralised and forward-looking process in which ends are selected first and means are then arranged to serve those ends.

Three elements must be present before an activity can properly be called planning. First, there must be predetermined objectives, such as a target rate of growth, a reduction in unemployment, or an expansion of exports. Secondly, there must be a definite time horizon: a plan is always made for a stated period, whether one year, five years, or a longer perspective period. Thirdly, there must be a strategy and a set of instruments — taxation, public investment, credit policy, licensing, subsidies and so on — through which the authority proposes to move the economy from where it is to where it wants it to be. A mere list of wishes is not a plan; a plan links goals, resources and instruments together in a consistent way.

Main Features of Economic Planning

- Central direction with a survey of the whole economy: the planning authority studies the economy as an interconnected system, because a decision taken in one sector (for example, steel) affects many others (engineering, transport, energy), and these interconnections are invisible to any single private firm.
- Fixing of priorities: since resources never suffice for everything at once, a plan ranks uses — agriculture before luxury consumer goods, or basic industry before non-essential imports — and allocates funds according to that ranking rather than according to immediate profitability alone.
- Targets in physical and financial terms: plans state not only how much money will be spent but what physical results are expected — kilometres of road, megawatts of power, tonnes of fertiliser, numbers of school places — so that performance can later be checked against the promise.
- A balance between the public and private sectors: in a mixed economy like Pakistan's, planning does not replace private enterprise. The state takes up activities that private capital avoids or cannot finance, and guides, encourages and regulates private activity through incentives and controls so that it serves national priorities.
- Continuity and evaluation: a good plan is not a once-for-all document. Annual plans break a five-year plan into yearly steps, progress is reviewed, and targets, projects and policies are revised when conditions change, as with a sudden rise in oil prices or a flood that destroys crops.

Why Developing Countries Need Planning

The case for planning in a developed market economy can be debated, but in a developing country the weaknesses of the unassisted market are so serious that some form of planning becomes unavoidable. The main reasons are as follows.

- Scarcity of resources and the need for their optimum use: developing countries are poor precisely because capital, foreign exchange, skilled manpower and technical knowledge are scarce in relation to their needs. Left to itself, the market directs these scarce resources towards whatever is most profitable in the short run, which may be luxury housing, imported consumer goods or speculation, rather than towards irrigation, power, education and basic industry. Planning rations scarce resources deliberately and directs them to the uses with the highest social return.
- Vicious circle of poverty: a poor country saves little because incomes are low; low saving means low investment; low investment means low productivity and therefore low income again. Nurkse called this the vicious circle of poverty. Individual savers and investors, acting separately, cannot break it, because each waits for the others to move first. A plan can break the circle by mobilising saving through taxation and public borrowing and by undertaking a coordinated 'big push' of investment on many fronts at once.
- Market imperfections and structural rigidities: markets in developing countries are fragmented and imperfect. Prices often give wrong signals — labour is abundant yet urban wages are kept artificially high, while capital is scarce yet interest rates are subsidised for a few favoured borrowers. Land, credit and information are unequally distributed, monopolies are common, and factors of production move slowly between

occupations and regions. Planning corrects these distortions by direct allocation where prices mislead, and by reforms that make markets work better.

- Provision of infrastructure and social overhead capital: roads, railways, ports, dams, power stations, irrigation works, schools and hospitals require huge lump-sum investment, have long gestation periods, and yield returns that are largely social rather than privately appropriable. Private investors therefore under-invest in them, yet without them no other development is possible. Only the state, acting through a plan, can build this overhead capital in the right sequence and on the required scale.
- Balanced regional and sectoral development: market forces tend to concentrate industry and services in a few already-developed cities and regions, because that is where infrastructure, markets and skilled labour already exist. The result is growing regional inequality, migration into overcrowded cities, and political resentment in neglected areas. Planning can deliberately locate projects, build infrastructure and offer incentives in backward regions, and can keep agriculture, industry and services growing in step with one another so that no sector becomes a bottleneck for the rest.
- Employment generation and poverty reduction: in developing countries unemployment and underemployment are not temporary frictions but mass, chronic conditions, and a large part of the population lives below the poverty line. A plan can choose techniques and projects that use the abundant factor — labour — more fully, launch public works in the slack season, support small-scale and cottage industries, and direct expenditure on health, nutrition and basic education towards the poor, whose welfare the market, which responds to purchasing power rather than to need, largely ignores.
- Mobilisation of resources and reduction of dependence: planning provides the framework within which domestic saving is raised, tax revenue is expanded, and foreign

aid, loans and investment are negotiated and used for agreed priorities rather than for whatever a donor or lender happens to offer. In its absence, external assistance is fragmented into unrelated projects and the country drifts into dependence and debt without building the capacity to repay.

- Stability, self-reliance and long-term transformation: finally, developing economies are highly vulnerable to fluctuations in world prices of a few primary exports, to weather, and to imported inflation. Planning builds buffer stocks, diversifies exports, develops domestic sources of essential goods, and keeps a long-term perspective — twenty or twenty-five years — within which short-term decisions are judged. Structural transformation, the shift of an economy from subsistence agriculture towards modern industry and services, is a generation-long task that no sequence of unconnected annual budgets can accomplish.

Conclusion

To conclude, planning means the conscious, centralised and time-bound direction of an economy towards chosen objectives, using a survey of the whole system, a ranking of priorities, and definite instruments of policy. Developing countries need it because their resources are scarce, their markets imperfect, their poverty self-perpetuating, their infrastructure inadequate and their economies unbalanced and vulnerable. Planning is not a guarantee of success — badly made or badly implemented plans can waste resources, and Pakistan's own history contains both achievements, such as the Indus Basin works and periods of rapid industrial growth, and failures of implementation. But the answer to bad planning is better planning, not the abandonment of planning altogether, for no developing country has transformed itself by drift alone.

Question 2: Merits and Demerits of Macro Planning (20 Marks)

Enlist the merits and demerits of macro planning with examples.

Introduction

Planning can be carried out at different levels. Micro planning deals with a single project, firm, village or sector in detail, while macro planning deals with the economy as a whole. Macro planning sets economy-wide targets — for national income, saving, investment, employment, exports, imports and the general price level — and tries to make the behaviour of all the parts consistent with those totals. Most national five-year plans, including Pakistan's, are exercises in macro planning: they begin from aggregates, divide resources among broad sectors, and leave detailed project-level decisions to ministries, provinces and enterprises. Like every instrument, macro planning has real strengths and real weaknesses. This answer explains what macro planning is, then enlists its merits and demerits, illustrating each with examples.

What Is Macro Planning?

Macro planning is planning from above, in terms of aggregates. The planner first estimates the resources likely to be available over the plan period — domestic saving, tax revenue, foreign assistance and borrowing — and then decides how the total investment is to be divided among agriculture, industry, energy, transport, education, health and other sectors so that a chosen target, usually a rate of growth of national income, is achieved. Consistency is checked with the help of input-output tables, national accounts and macroeconomic models, which show, for example, how much steel, cement, energy and foreign exchange a given investment programme will require. Macro planning therefore answers questions of

the type: how fast should the whole economy grow, how much must be saved and invested to grow that fast, and how should investment be shared out so that the necessary goods are actually produced? It does not normally decide the design of an individual factory or the site of an individual school; that is the task of micro or project planning, which must fit inside the macro frame.

Merits of Macro Planning

- A unified view of the whole economy: macro planning forces decision-makers to see interconnections. An expansion of textile exports, for instance, requires more raw cotton, more power, more port capacity and more foreign exchange for machinery. A macro plan brings all these requirements onto one table; unplanned departmental spending discovers them one crisis at a time.
- Optimum allocation of scarce national resources: because it starts from total resources and total needs, macro planning can rank competing claims and prevent duplication and waste. It would not, for example, sanction three under-used airports in one region while another region has no all-weather road; a purely local or departmental process might well do so.
- Setting and coordination of national priorities and targets: macro plans give the whole administration a common set of goals — say, 5 per cent annual growth, a rise in the investment ratio, and a reduction in the import dependence of energy. Ministries, provinces and public enterprises can then align their own programmes with those goals instead of pulling in different directions.
- Balanced growth between sectors and regions: only an economy-wide view can keep agriculture, industry and services in step. Pakistan's experience in the 1950s, when

industry was pushed while agriculture was neglected, ended in food shortages and costly food imports — a lesson that macro balancing is meant to prevent. Regional balance, too, requires a national frame within which backward areas receive a deliberate share of investment.

- Mobilisation of saving and control of inflation: a macro plan calculates the gap between the investment a country wants and the saving it expects, and then designs tax, borrowing and monetary policies to close that gap without printing money. Used properly, this is an anti-inflationary discipline: expenditure is matched in advance with real resources. Pakistan's better-managed plan periods were also, generally, its periods of greater price stability.
- Better use of foreign assistance and borrowing: donors and lenders deal with a country as a whole. A macro framework — today expressed in documents such as a medium-term development framework or an IMF-supported programme — shows them a coherent programme rather than a shopping list of unrelated projects, improves the country's negotiating position, and helps ensure that borrowed money builds the capacity to repay.
- Long-term perspective and stability of expectations: macro planning places annual budgets inside a five-year or longer perspective. Private investors benefit from this too: a businessman deciding whether to build a cement plant or a cold-storage chain can see the government's intended road, power and credit programmes and invest with greater confidence.
- A basis for measurement and accountability: because a macro plan states its targets numerically, performance can afterwards be compared with promise — growth achieved against growth targeted, saving raised against saving planned. This makes evaluation,

mid-course correction and public accountability possible in a way that unplanned drift never allows.

Demerits of Macro Planning

- Aggregates conceal detail and diversity: a national average can look satisfactory while particular regions, crops or groups are in distress. A plan may hit its overall food-grain target, for example, while a specific province faces shortage because transport and storage were not planned in detail. Macro success can therefore coexist with micro failure.
- Dependence on unreliable data: macro planning is only as good as the statistics fed into it. In developing countries large parts of the economy — informal trade, services, subsistence production — are imperfectly recorded, and estimates of saving, employment and output carry wide margins of error. Plans built on such data can be internally elegant and practically wrong.
- Rigidity and slow adjustment: a macro plan fixed for five years cannot easily absorb shocks such as an oil price rise, a drought, a flood, a war or a collapse in export demand. If targets and allocations are treated as rigid commands, resources remain locked in projects that events have made useless, while urgent new needs go unfunded — a weakness Pakistan experienced when external shocks repeatedly knocked its five-year plans off course.
- Implementation gap: macro plans are prepared by a central commission, but they are implemented by ministries, provincial governments, local bodies and private firms whose capacities and incentives differ. Weak administration, shortages of skilled staff, political interference and corruption can leave the plan as a document rather than a

reality; several of Pakistan's plans achieved their financial spending targets while missing their physical targets.

- Neglect of incentives and local knowledge: aggregate targets say nothing about whether the farmer, trader or industrialist finds it worthwhile to respond. A plan may target higher cotton output while the support price, credit supply and water availability give the farmer every reason to plant something else. Macro planning that ignores prices, incentives and the knowledge of people on the spot repeatedly produces such contradictions.
- Risk of over-centralisation and bureaucratic delay: because macro planning concentrates decisions at the top, it can swell bureaucracy, delay approvals, and stifle local initiative and experimentation. Enterprises wait for clearances; provincial and district priorities are overridden by uniform national formulas that may not fit local conditions at all.
- Political manipulation of targets: governments are tempted to announce impressive growth and investment targets for prestige, without providing the resources or reforms needed to reach them, and to direct plan funds towards politically favoured constituencies. Repeatedly missed targets then destroy the credibility of planning itself, so that even good plans cease to guide anyone's behaviour.
- Difficulty of fixing correct sectoral shares: the division of investment among sectors rests on assumed relationships — capital-output ratios, input-output coefficients, elasticities — that change with technology and prices. If these assumptions are wrong, the plan produces surpluses in one line and shortages in another; for example, generating capacity may be built faster than the transmission network, so power exists on paper but cannot reach consumers.

Table 1: Macro Planning at a Glance

Aspect	Merit	Demerit
View of economy	Sees the whole system and its interconnections	Averages hide regional and group-level problems
Use of resources	Ranks national priorities, avoids duplication	Wrong assumptions produce sectoral imbalances
Targets	Clear, measurable, allow evaluation	May be inflated for political prestige
Flexibility	Gives a stable long-term perspective	Rigid under shocks such as floods or oil price rises
Implementation	Coordinates ministries, provinces and donors	Depends on weak administration; plan-practice gap

Conclusion

In conclusion, macro planning is a powerful instrument for giving an economy direction: it unifies the national picture, allocates scarce resources by priority, balances sectors and regions, mobilises saving, and makes performance measurable. Its demerits — aggregation that hides detail, dependence on weak data, rigidity in the face of shocks, neglect of incentives, and a wide gap between plan and implementation — are equally real, and Pakistan's planning history illustrates both columns. The practical lesson is not to abandon macro planning but to combine it with sound micro and project planning, reliable statistics, realistic targets, flexible annual reviews, and respect for prices and incentives, so that the strengths of the macro frame are retained while its weaknesses are corrected at the level where goods are actually produced.

Question 3: The Medium Term Development Framework of Pakistan (20 Marks)

Discuss the Medium Term Development Framework of Pakistan.

Introduction

Pakistan's planning system has passed through several forms: five-year plans in the early decades, annual plans and rolling plans in periods of political instability, and, from the early 2000s, a Medium Term Development Framework (MTDF). The MTDF was introduced with the preparation of the framework for 2005–10, when the Planning Commission sought a method that would combine the discipline of a plan with the flexibility demanded by a changing economy, a new system of devolved local government, and Pakistan's international commitments such as the Poverty Reduction Strategy Paper and the Millennium Development Goals. Instead of a rigid five-year command document, the MTDF sets out, for a rolling three-to-five year period, the government's development strategy, its sectoral priorities, its expected resources, and the results it intends to achieve, and it links those intentions directly to the annual budget through the Medium Term Budgetary Framework. This answer explains the background, meaning, main features, sectoral priorities, achievements and weaknesses of Pakistan's MTDF.

Background: From Five-Year Plans to the MTDF

Pakistan launched its First Five-Year Plan in 1955 and produced a succession of plans, of which the Second (1960–65) is generally regarded as the most successful in terms of growth. From the 1970s onwards, political changes repeatedly interrupted medium-term planning: plans were abandoned, replaced by annual plans, or announced and then overtaken by events. The Eighth Plan ended in 1998, after which the country worked mainly through annual development programmes and, under economic stabilisation programmes, through strategy papers prepared for poverty reduction. This experience taught two lessons. First, a detailed five-year plan that pretended to foresee everything became unrealistic in an

economy open to world shocks. Secondly, planning only from year to year produced drift, inconsistency and a bias towards starting new projects while old ones remained unfinished. The MTDF was designed as a middle path: a firm medium-term strategy and resource frame, revised and rolled forward each year, within which annual budgets are prepared.

Meaning and Main Features of the MTDF

The Medium Term Development Framework is a statement of the government's development policies, priorities and expenditure intentions over a medium-term horizon, normally three to five years, expressed in terms of objectives, programmes and expected outcomes rather than only in terms of money to be spent. Its preparation for 2005–10 was accompanied by working groups for the major sectors, consultation with provinces and stakeholders, and an explicit attempt to cost the programmes proposed and to fit them within a realistic estimate of resources.

- Rolling and revisable character: the framework is not frozen for its whole period. Each year it is reviewed, the first year becomes the basis of the annual budget, and a new year is added at the end, so the horizon keeps moving forward and the strategy can absorb shocks such as floods, commodity price changes or security emergencies.
- Link with the budget: the MTDF works together with the Medium Term Budgetary Framework (MTBF), under which ministries receive indicative expenditure ceilings for several years ahead. This connects planning with actual money: a priority that receives no budget provision is exposed as a slogan, and a budget line that serves no stated priority can be questioned.
- Emphasis on outcomes, not only inputs: traditional plans measured success by money spent and projects started. The MTDF asks what results are expected — children

enrolled and learning, infants immunised, households connected to water, kilometres of farm-to-market road in usable condition — and proposes indicators against which outcomes can be monitored.

- Pro-poor and human-development orientation: reflecting the poverty-reduction strategy of the period, the MTDF gave high priority to education, health, water supply and sanitation, rural development and social protection, on the argument that growth which bypasses human development neither reduces poverty quickly nor sustains itself.
- Provincial and local participation: after devolution, most social services are delivered by provinces and districts. The MTDF therefore presented itself as a national framework within which provincial governments prepare their own programmes, rather than as a set of orders issued from Islamabad for subjects the centre no longer administers.
- Private sector as the engine of growth: in keeping with Pakistan's market-oriented reforms, the framework assigned production mainly to private enterprise and reserved public investment for infrastructure, human development and areas of market failure, supporting the private sector through policy stability, energy, transport and access to finance.

Sectoral Priorities of the Framework

In its sectoral content, the MTDF for 2005–10 sought an annual growth rate of around 7 per cent, a sharp reduction in poverty, and major expansions of infrastructure and social services. Agriculture was to grow through better water management, seed, credit and livestock development rather than through area expansion. Industry and exports were to be supported by competitiveness, energy supply and trade facilitation. Energy and infrastructure received large allocations because shortages of power and poor logistics were

identified as binding constraints on growth. Education and health targets were linked to the Millennium Development Goals, including higher primary enrolment, reduced infant and maternal mortality, and wider access to clean drinking water. Governance, justice and public-sector reform were treated as development subjects in their own right, since weak administration had undermined earlier plans. Later medium-term documents, including Vision 2025 with its seven pillars — putting people first, achieving inclusive growth, democratic governance, security, entrepreneurship and private-sector-led growth, developing a competitive knowledge economy, and modernising infrastructure and regional connectivity — carried forward the same medium-term, pillar-based approach, and the practice of presenting three-year rolling frameworks and budgetary ceilings has continued in Pakistan's planning and finance processes.

Table 1: Five-Year Plan and MTDF Compared

Feature	Traditional Five-Year Plan	Medium Term Development Framework
Horizon	Fixed five years	Rolling three to five years, revised annually
Detail	Detailed physical and financial targets	Strategy, priorities, programmes and outcomes
Budget link	Often weak; plan and budget prepared separately	Linked to medium-term budgetary ceilings
Flexibility	Difficult to revise mid-period	Designed for revision as conditions change
Measurement	Money spent and projects started	Outcomes and indicators emphasised
Role of provinces	Largely centralised	Framework for provincial programmes after devolution

Achievements and Weaknesses

The MTDF approach brought genuine improvements. It restored medium-term thinking after years of purely annual budgeting; it forced ministries to state objectives and indicators;

it improved the conversation between the Planning Commission and the Ministry of Finance; and its early years coincided with strong growth, rising investment and falling poverty in the mid-2000s. It also provided donors and lenders with a coherent national framework, improving the coordination of external assistance.

Its weaknesses were also significant. Implementation capacity in line ministries and provinces remained weak, monitoring indicators were collected irregularly, and political instability after 2007, the energy crisis, security expenditure and the 2010 floods overwhelmed the framework's assumptions. Public development spending stayed well below what the strategy required, many projects were started for political reasons outside the framework's priorities, and the throw-forward of incomplete projects grew. In short, the MTDF improved the design of planning more than it improved the discipline of execution — a familiar pattern in Pakistan, where documents are usually stronger than the administrative and political systems that must carry them.

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Conclusion

To conclude, the Medium Term Development Framework represents Pakistan's attempt to modernise planning: a rolling, revisable, outcome-oriented strategy of three to five years, linked to the budget, giving priority to human development, infrastructure and private-sector-led growth, and accommodating provincial autonomy after devolution. It corrected real defects of the rigid five-year plan and of purely annual budgeting alike. Its record shows, however, that a framework succeeds only when political stability, adequate resources, honest monitoring and administrative capacity support it. The lesson for Pakistan is to preserve the MTDF method — medium-term, flexible and budget-linked — while

strengthening the implementation, evaluation and discipline without which any framework remains an aspiration rather than a plan.

Question 4: Why Consistency in Plans Is Needed in Developing Countries (20 Marks)

Why is consistency in plans needed in developing countries like Pakistan?

Introduction

A plan is not a bundle of independent projects; it is a system of interlocking decisions. Consistency means that the parts of the plan fit together: the targets agree with the resources available, the output of one sector matches the input needs of the others, the financial side matches the physical side, and this year's decisions do not contradict the objectives set for the coming years. In a developed economy with deep markets, inconsistencies are partly corrected by prices and by the cushion of surplus resources. In a developing country like Pakistan, resources are so scarce, bottlenecks so many, and margins for error so thin that inconsistency is not a minor technical blemish — it is one of the main reasons plans fail, projects remain unfinished, inflation rises and scarce foreign exchange is wasted. This answer explains the meaning and types of consistency, and then shows why developing countries need it so particularly.

Meaning and Types of Consistency

Consistency in planning has several dimensions. Financial consistency requires that the money demanded by the plan equals the money that can realistically be raised from taxation, saving, borrowing and foreign assistance; a plan that spends beyond this must

resort to printing money and inflation. Physical or material consistency requires that the supplies of key goods — food, steel, cement, fertiliser, energy, transport capacity — equal the demands that the plan itself creates; these balances are checked with material balances and input-output tables. Sectoral consistency means that related sectors grow in step: textile exports cannot expand if cotton output, ginning capacity, power supply and port facilities do not expand with them. Temporal consistency means that short-run measures serve, or at least do not sabotage, long-run goals, and that projects with long gestation periods are started early enough to be ready when needed. Finally, consistency between objectives requires that the plan's goals — growth, employment, price stability, regional balance, a manageable balance of payments — are pursued by policies that do not cancel one another out, for example subsidising the consumption of a good whose production the plan is simultaneously trying to discourage imports of.

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Why Developing Countries Especially Need Consistency

- Extreme scarcity leaves no room for waste: in a rich country an inconsistent decision wastes a small fraction of abundant resources; in Pakistan the same waste may consume a noticeable share of the year's development budget or of its foreign exchange earnings. When resources are this scarce, every project that cannot be completed because a complementary input was forgotten is a school, dam or factory the country simply loses.
- Bottlenecks and interdependence are severe: developing economies work with thin markets and rigid structures. A power project delayed by two years holds up every factory planned to use its electricity; a fertiliser plant built without gas allocation or port capacity stands idle. Because each sector depends on a few critical inputs supplied by

others, the planner must check the whole chain in advance — precisely what consistency analysis does.

- The foreign exchange constraint: Pakistan must import machinery, fuel, edible oil, and many industrial raw materials, but earns limited foreign exchange from exports, remittances and borrowing. An inconsistent plan that sanctions import-intensive projects beyond export capacity produces a balance-of-payments crisis, emergency borrowing and the stop-go cycle that has repeatedly interrupted Pakistan's growth. Consistency between the investment programme and the foreign exchange budget is therefore a condition of uninterrupted development.
- Avoiding inflationary financing: if the financial size of the plan exceeds real resources, governments are tempted to fill the gap by borrowing from the central bank. The result is inflation, which falls hardest on the poor, distorts prices, discourages saving and destroys the very calculations on which the plan was based. A financially consistent plan — expenditure matched with genuine resources — is the first defence against this spiral.
- Completing projects instead of multiplying starts: political pressure in developing countries rewards announcing new schemes, not finishing old ones. Without consistency between the number of projects started and the funds available to complete them, the development programme spreads money thinly over hundreds of schemes, costs escalate, and the 'throw-forward' of incomplete projects grows year after year — a well-documented disease of Pakistan's Public Sector Development Programme, in which projects sanctioned for three years take ten. Consistency disciplines the project portfolio to what can actually be finished.
- Food, employment and social stability: inconsistent planning that neglects agriculture while industry and urban population grow produces food shortages, imports and price

rises that can destabilise governments. Similarly, a plan whose growth strategy creates few jobs while the labour force grows rapidly manufactures unemployment and social unrest. Consistency between output targets, food balances and employment targets is thus a matter of political as well as economic survival.

- Credibility with citizens, investors and donors: a consistent plan is a believable plan. When targets, resources and policies visibly agree, private investors trust the framework and invest alongside the state, and donors and lenders commit assistance with confidence. When plans contradict themselves — promising subsidies the budget cannot carry, or power projects without fuel — credibility collapses, and each new plan is discounted before it begins
- Coordinating a federal and devolved state: in Pakistan the federation, four provinces and local governments all spend on development, and subjects such as agriculture, education and health are mainly provincial. Without consistency between federal and provincial programmes, the same road is planned twice, a hospital is built where another level of government is already building one, and water and energy projects that cross provincial boundaries stall in dispute. A consistent national framework is the mechanism that prevents this duplication and conflict.

How Consistency Is Achieved

Planners use definite techniques to secure consistency. National accounts and macroeconomic models relate saving, investment, output and the external balance. Material balances compare the supply and demand of critical commodities. Input-output tables trace how each sector's output serves as other sectors' inputs, revealing gaps before they occur. Project appraisal checks that each large project has its land, water, power, raw

materials, staff and counterpart funds identified. Annual reviews and rolling frameworks then correct the inconsistencies that events inevitably create, because consistency is not achieved once at the drafting table; it must be maintained as prices, weather, world markets and politics change.

Conclusion

In conclusion, consistency is needed because a plan is a system, and in a developing country the system has no slack. Financial consistency prevents inflation, material consistency prevents bottlenecks and idle capacity, sectoral consistency prevents food and foreign-exchange crises, temporal consistency ensures projects are finished and long-run goals are served, and institutional consistency keeps a federal state working as one economy. Pakistan's stop-go history — ambitious plans interrupted by payments crises, unfinished projects and inflationary financing — is in large part a history of inconsistency. The practical moral for planners is simple: a modest plan whose parts fit together will outperform a grand plan whose parts contradict one another, every time.

Question 5: Determining Rates of Growth: Economy, Per Capita Economy, Agricultural Demand and Per Capita Income (20 Marks)

Define and determine the rate of growth of the following: - (a) Economy of the country (b) Economy per capita (c) Gross demand for agricultural products (d) Per capita income

Introduction

Targets in a development plan are usually expressed as rates of growth: the economy is to grow at so many per cent per year, per capita income at so many per cent, and so on. A rate

of growth is simply the percentage increase in a magnitude over a period, normally one year, and it is 'determined' — that is, calculated as a planned target — by relating the magnitude to the other magnitudes on which it depends. Planners in Pakistan and elsewhere constantly move between four related rates: the growth of the whole economy, the growth of the economy per head of population, the growth of the total (gross) demand for agricultural products, and the growth of per capita income. The four are connected by simple arithmetic, chiefly by the rate of population growth, and confusing them leads to serious errors — an economy can grow respectably while its people, on average, stand still, if population grows as fast as output. This answer defines each magnitude, gives the formula by which its growth rate is determined, and works through one consistent numerical example.

(a) Rate of Growth of the Economy of the Country

The economy of a country, for this purpose, means its total output or income, measured by Gross Domestic Product (GDP) or Gross National Product at constant prices, so that changes in prices do not masquerade as growth. The rate of growth of the economy is the percentage increase in real GDP between one year and the next:

Rate of growth of the economy (g) = [(GDP in year t − GDP in year t−1) ÷ GDP in year t−1] × 100.

As a planned target, this rate is determined through the relation between investment and output expressed in the Harrod–Domar framework: g = s ÷ v, where s is the proportion of income saved and invested and v is the incremental capital-output ratio (ICOR), the units of additional capital needed to produce one unit of additional output. If a country saves and invests 20 per cent of its income and its ICOR is 4, the attainable growth rate is 20 ÷ 4 = 5

per cent per year. This is why plans concentrate so heavily on raising the saving and investment ratio and on using capital efficiently: given technology, those two magnitudes determine how fast the whole economy can grow.

(b) Rate of Growth of the Economy Per Capita

The economy per capita means total output divided by total population — GDP per head. It measures the average volume of goods and services available per person and is therefore a better indicator of material living standards than total GDP alone. Its growth rate is determined by combining the growth of output with the growth of population. Approximately, the growth rate of output per capita equals the growth rate of output minus the growth rate of population. Exactly, it is:

Growth of GDP per capita = [(1 + g) ÷ (1 + p) − 1] × 100, where g is the growth rate of GDP and p is the growth rate of population (expressed as decimals).

The logic is plain: output per head can rise only to the extent that output grows faster than the number of heads among whom it is shared. A country growing at 5 per cent with population growing at 2 per cent enjoys roughly 3 per cent growth per head; the same 5 per cent growth with population growing at 5 per cent leaves the average person exactly where he was. This single subtraction explains much of the difference in living-standard performance between countries with similar GDP growth.

(c) Rate of Growth of the Gross Demand for Agricultural Products

Gross (total) demand for agricultural products is the total quantity of farm products — food grains, milk, meat, vegetables, cotton and other crops — that the population will wish to buy at prevailing prices and incomes. Planners must determine its growth rate in advance,

because agricultural supply must be planned — seed, water, fertiliser, credit — seasons ahead of the demand it has to meet, and because failure appears as food imports and inflation. Total demand grows for two reasons: there are more mouths to feed, and each person, as his income rises, buys more (and better) farm products. Its growth rate is therefore determined by the formula:

Growth of gross demand for agricultural products = rate of population growth + (income elasticity of demand for agricultural products × rate of growth of per capita income).

The income elasticity of demand for agricultural products measures the percentage increase in demand for farm products when per capita income rises by 1 per cent. For food as a whole in a developing country this elasticity is positive but less than one — commonly around 0.5 to 0.7 — because, by Engel's law, richer consumers spend a declining share of extra income on food, though they shift towards higher-value items such as milk, meat and fruit, whose individual elasticities are higher. The formula tells the planner, for example, that with population growing at 2 per cent, per capita income at about 3 per cent, and an elasticity of 0.6, gross demand for agricultural products will grow at 2 + (0.6 × 3) = 3.8 per cent per year, so agricultural production must be planned to grow at not less than about 3.8 per cent if imports and price rises are to be avoided — a target Pakistan's agriculture, growing historically at around 3 to 4 per cent with wide fluctuations, has often struggled to meet steadily.

(d) Rate of Growth of Per Capita Income

Per capita income is the national income (or GDP) divided by the population: the average income per person per year. It differs from part (b) mainly in wording and in the aggregate

used — income rather than output — but its growth rate is determined in exactly the same way, by setting the growth of total income against the growth of population:

Growth of per capita income ≈ growth rate of national income − growth rate of population; exactly, [(1 + growth of income) ÷ (1 + growth of population) − 1] × 100.

Per capita income growth is the figure that ultimately matters for welfare and for international comparison, and it is the figure by which governments are judged by their citizens, who feel averages, not totals. It can also be raised in two distinct ways, which good policy combines: by accelerating the numerator (higher investment, better technology, more exports) and by slowing the growth of the denominator through voluntary family planning, female education and child health, which reduce desired family size. Pakistan's long-run experience — respectable total growth repeatedly diluted by one of the region's faster population growth rates — is the standing illustration of why the second route cannot be neglected.

A Consistent Worked Example

The four determinations fit together in one set of numbers. Suppose the plan fixes investment at 20 per cent of income with an ICOR of 4, population growth at 2 per cent, and an income elasticity of demand for agricultural products of 0.6. Then, as Table 1 shows: the economy grows at 5.0 per cent; output and income per head grow at (1.05 ÷ 1.02) − 1 = 2.94 per cent, approximately 2.9 per cent (the simple subtraction gives 3.0 per cent); and gross demand for agricultural products grows at 2 + (0.6 × 2.94) = 3.76, approximately 3.8 per cent per year. Note how the figure from each step feeds the next — this internal consistency is exactly what Question 4 of this assignment shows to be indispensable in a plan.

Table 1: Worked Example — Determining the Four Growth Rates (illustrative figures)

Magnitude	Formula used	Determination
(a) Growth of the economy	g = s ÷ v (saving ratio ÷ ICOR)	20% ÷ 4 = 5.0% per year
(b) Growth of economy per capita	[(1+g) ÷ (1+p)] − 1	(1.05 ÷ 1.02) − 1 = 2.94% per year
(c) Growth of gross demand for agricultural products	p + (elasticity × per capita income growth)	2% + (0.6 × 2.94%) = 3.8% per year (approx.)
(d) Growth of per capita income	[(1+ income growth) ÷ (1+p)] − 1	(1.05 ÷ 1.02) − 1 = 2.94% per year

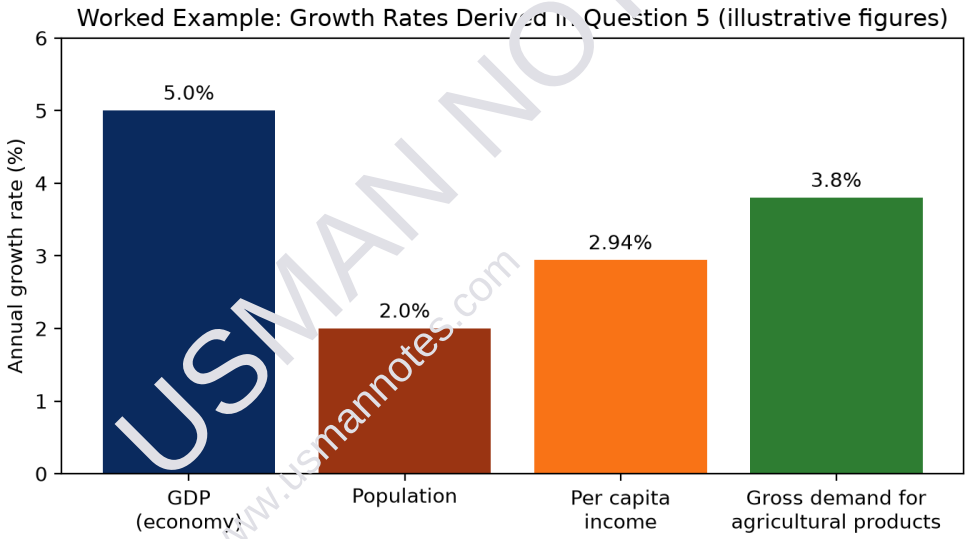


Figure 1: The four growth rates in the worked example (illustrative figures).

Conclusion

To conclude: the growth rate of the economy is the percentage increase in real GDP, determined for planning purposes by the saving-investment ratio divided by the capital-output ratio. The growth rates of the economy per capita and of per capita income are the same idea applied per head — total growth corrected for population growth, approximately by subtraction and exactly by dividing (1 + g) by (1 + p). The growth of gross demand for agricultural products is determined by population growth plus the income-elasticity-weighted growth of per capita income. Mastering these four relationships allows a student

of planning to move correctly between totals and averages, and to see why output growth, population policy and agricultural planning must be decided together, not separately.

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