
UNIT 1 DEVELOPMENT DYNAMICS: AN OVERVIEW

Structure

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1.1 INTRODUCTION

In course 1, you studied the concepts and types of development, and now you are aware that development is a dynamic concept. Therefore, it is very important to learn about the dynamics of development. As you know, there are many actors who are playing their roles in the process of development. Here, in this unit, you will get to know the main actors who play important roles in the development process: the government, the market, and the community. This unit will also cover dualism in development dynamics.

After studying this unit, you will be able to:

- explain about the market and state as institutions for economic development
- discuss the essence of a community as an institution that lubricates the functioning of markets and governments
- describe modernisation as a process that enhances the efficiency and effectiveness of traditional and customary institutions.

1.2 THE ROLE OF MARKET AND STATE IN DEVELOPMENT

You are familiar with the term, market, where there are two actors, one called the buyer, and the other, the seller. A market is an organisation which coordinates voluntary transactions between producers and consumers of goods and services. A simple example is the morning *bazaar* for vegetables where producers and consumers transact directly amongst themselves. It can acquire more complex forms where consumers' demand meets producers' supply, after passing through various stages of transportation and storage activities, across space, and over time. Transactions in a free market are voluntary by definition, and based upon the free will of buyers and sellers. However, a free market, to be perfectly competitive, also envisages that information is perfectly accessible to all participants. In such a situation, economic gains are distributed by coordinating the activities of self-interest seeking participants.

The state, in contrast, is an organisation that lays down the rules and regulations for coordinating economic activities. The state is bestowed with legitimate coercive power to enforce these rules and regulations. The state may also enforce conscription of certain resources, say by military draft, or through taxation, irrespective of an individual's will, and assume responsibility for the provisioning of public goods, such as defence and security, law and justice, and roads, that may not be supplied by a free market.

Despite the apparently opposing mechanisms in distributing economic gains that promote social welfare, both market and state are inseparable. Market transactions could be efficiently undertaken by establishing conflict resolution mechanisms to facilitate the execution of contractual obligations between transacting parties. An important pre-condition for the functioning of markets is a clear understanding and assignment of property rights on goods and services. On the other hand, police and judicial services are important functions of the state to uphold property rights, and, to enforce contracts according to laws stipulated by the state. The state draws, to varying degrees, upon its authority to conscript resources from transacting parties, or, transaction proceeds. This often has a profound influence on the outcomes relating to the distribution of economic gains for the parties.

Economies of any contemporary significance can hardly be visualised to exist without the essential elements of a state and markets. Although, their interdependence may vary widely, this may not be negligible, even in small subsistence economies. A nationwide market and a nation state are, thus, the core organisations in a modern world. Economic systems differ significantly in their combinations of the size and form of the state and markets. A pertinent question, then, is to ask what combination of these two organisations may promote development. A useful starting point may lie in our understanding of the relative merits and demerits of the market and the state.

Orthodox economics from Adam Smith onwards and, the neoclassical school postulate that competition in a free market induces an allocation of resources that achieves a social optimum. The building block of neoclassical theory is the market mechanism of adjustment in prices to equate demand and supply of a commodity (or service). To understand this mechanism of competition, assume that a commodity (that satisfies a particular need, or, want has a homogenous form, and is otherwise indistinguishable from products in the same category) is sold at different prices, by different sellers. All buyers would flock to the lowest priced product seller, thus, bidding up its price. There would be no buyer for higher priced products, forcing such sellers to bid down their prices. This mechanism continually operates to adjust the prevalent price, until demand equates supply of the commodity. If the price is too high, demand falls short of supply. As a result, unsold stocks pile up, forcing sellers to lower the price. On the other hand, if the price is too low and attracts too many buyers, the price would be bid up to induce more supply, or, to curtail demand. Total demand and supply are, thus, equated, and a free market establishes a single price.

The demand curve for a commodity in a competitive market, according to Alfred Marshall, is the schedule of decreasing marginal utility from additional units of consumption. Analogously, the supply curve is a schedule of rising marginal cost for additional units of production. Therefore, the point at which marginal utility and marginal costs intersect on the demand-supply curves represents an

equilibrium that optimises utility. This equilibrium, according to neoclassical economics, in a free and competitive market, also represents efficient resource allocation, and maximizes, as well, societal (economic) welfare.

1.2.1 Market Failure

Left to itself, if markets could achieve a socially desirable allocation of resources, then there should be no need for coercive government intervention to nudge economic activities. However, markets by themselves are seldom able to achieve optimality in all economic activities. The divergence of market equilibrium from the point of Marshallian net utility maximization (or, Pareto optimality, where nobody can be made better off without making someone else worse off), is termed market failure. Government has a role to correct such failures. The market may, however, facilitate efficient allocation of resources only in private goods, that is, those for which individual property rights are well established. Those assigned such rights are entitled to use the goods (and services), while others are obliged to pay for their use. But, market failure is observed commonly in the supply of public goods. For example, the services provided by police and judicial courts to maintain law and order, could be utilised jointly (non-rivalry) by an unidentifiable number of people (potentially the entire population). But, it may be difficult to impose appropriate charges on actual users, only (non-excludability). There exists, then, an incentive for all to utilise such public goods, albeit without sharing the cost (free riders). Private entities, seeking profit, may not care to produce such goods (and services), and they would have to be provided by a government.

In reality, there are no pure public goods (completely non-rival and non-excludable), or, pure private goods. For example, automobiles that serve transportation needs are private goods, as only those who pay the costs can utilise them. But, exhaust from running automobiles also pollutes the air that we breathe, and these vehicles may also be dangerous when involved in accidents. In that sense, the use of automobiles may produce negative public goods (or, 'public bads'). The Market equilibrium level for automobile production, therefore, tends to be higher than the socially optimum level. To correct this market failure, a government could enforce measures that raise costs of automobile use, such as an anti-pollution tax, or an accident insurance charge.

Market failure may also occur with private goods without an accompanying public bad by-product (or joint product). For example, for a market mechanism to achieve social optimality, it must satisfy the conditions for perfect competition. Among others, such conditions include free and perfect information among all participants, especially on the price and quality dimensions of commodities. Further, no participant can be allowed to muster enough power to influence market prices. In reality, though, wide information asymmetries exist between buyers and sellers, especially on product or service quality. For example, it is often difficult for consumers to judge the quality of professional services, such as those of medical or legal practitioners. Similarly with certain financial services by banks or insurance companies, especially on safety of deposits, or, on risk coverage. If information asymmetry bestows special advantages to the sellers and suppliers, or, exposes buyers to disadvantages, then market transactions may likely be smaller than the socially optimum level. In certain cases, market transactions may even disappear completely. Such forms of market failure may need to be corrected by government intervention to limit permits for undertaking

business, government guarantees to eliminate disadvantages, subsidies to reduce private costs, etc.

In case market equilibrium diverges significantly from a socially optimal equilibrium, due to concentration of market power (say due to seller monopoly or buyer monopoly), then, correctives, such as anti-trust laws may be required. In contrast, in the case of industries that are characterised by network-based delivery systems and / or increasing returns to scale (such as electricity, drinking water, etc..) allowing for a regional monopoly may be socially desirable and efficient. However, the government may, then, regulate prices, or, undertake production in the public sector to circumscribe monopoly pricing.

Government activities that correct market failures acquire public good characteristics. An even more important role for the government relates to redistribution that promotes fairness. Equity is a social objective that is as important as efficiency in economic production. Often, equitable distribution of benefits may enhance economic efficiency by promoting social stability. Inequity often raises societal costs by fomenting crime and disrupting normal economic transactions. While a market mechanism may be desirable to promote economic efficiency, it is unlikely to achieve socially desirable income distribution. Governments then use their coercive power to promote redistribution. Among others, such redistributive measures include a progressive income tax system and social security provisions that enhance economic welfare.

1.2.2 Government Failure

Often, the supply of public goods is determined through a political process, and there is no guarantee that this supply will be socially optimal. It is a commonly held view that supply shortages in public goods present a major bottleneck for growth in developing economies. However, the dangers in oversupply of public good may hardly be overstated. It must be recognised that the supply of public goods entails costs that are ultimately financed through taxation. If a government activity designed to correct for market failure entails higher budgetary cost than social benefits from that corrective measure, it may likely result in oversupply. In addition, governments in developing economies are prone to oversupply public goods of relatively low social demand, often to the neglect of those vital for economic development.

Advances in areas of political economy, public choice theory, theory of incentives, etc., throw some light on the behaviour of governments constituted of political leaders who would follow an objective to maximise their likelihood of continuing in office. In such a situation, budgetary allocations among various public goods may be based on considerations that are significantly different from what may contribute to maximise gains in social and economic welfare. In particular, issues that strengthen political support often hijack the economic welfare agenda. For example, a public good such as basic scientific research that benefits society as a whole is likely to be undersupplied. Benefits from such goods may likely be distributed widely among a large number of people in future. But, it is unlikely that a strong pressure group may emerge to press forth this demand. On the other hand, pressure groups may emerge easily for some infrastructure projects (that may could, also, result in oversupply) if there exists an opportunity for large private benefits to a few contractors and / or a relatively small number of residents in a community.

Governments, especially in developing economies, often acquire monopoly characteristics while drawing constitutionally determined legitimate coercive powers. There is, thus, a strong incentive for the size of governments to expand if only for the sake of greater power and position of bureaucrats. The government is a repository of a large body of information. Often, there lies an incentive to manipulate this information that ordinary citizens may find difficult to comprehend, in favour of certain goods. For example, national security issues may be exaggerated to increase the size of military, while fiscal profligacy concerns may be underplayed. Unlike in a private sector entity, the perception on bankruptcy of governments may be nuanced and difficult to visualise. In the absence of profit incentives and weak perception on bankruptcy, government organisations are susceptible to falter on efficiency issues. Further, bureaucrats and pressure groups with vested interests may resist expenditure reduction, or, budget re-allocations from one category of public goods to another. These conditions conspire to yield an oversupply of unnecessary public goods, often, in combination with undersupply of public goods that are critically needed for economic development. Such inefficient budget allocation is a typical case of government failure.

Government failure however, is not limited to misuse of budgetary allocation. It may also arise out of certain regulations that may bias resource allocations. Regulatory interventions contributed positively towards pollution control and vehicular safety. For example, the compulsory and regular checks on automobiles by authorised garages in Japan promoted safety of both drivers and pedestrians, as well as controlled emissions of noxious gas. These regulations made significant social contribution when automobiles made in Japan were, relatively speaking, of low quality, and prone to trouble. Over a period of time, while the quality of cars improved significantly, assuaging both safety and emission concerns, the garages organised themselves in a manner that protected only their vested interests, and, perhaps made for negative social contribution.

Regulatory interventions may become entrenched with vested interests seeking institutional rents, or, skimming excess profits. Firms protected by regulation may raise funds and ballots to support politicians in exchange for their support to continue with the regulation. Often firms are seen to reemploy officials retiring from regulating agencies. Several regulatory prescriptions survive long beyond their useful lives, negating most of the gains brought forth when first introduced. Quite often regulations and regulatory agencies morph into another avenue for corrupt practices. It is common to cite incidents of failure and, as the case may be, to deride governments or markets. In reality, however, it may be extremely difficult to exculpate any one. It is also common to pit the market against government, giving rise to a perception that these are substitutes, when indeed they play a complementary role. It is less often that we adequately appreciate the success of these respective institutions. Developing societies need to evolve sufficiently to transform their perception of markets and governments as being parasitically disposed, into one where they share a predominantly symbiotic disposition.

In this section you studied the role of market and state in development, and now, you should be able to answer the questions in Check Your Progress-1.

Check Your Progress 1

Note: a) Write your answer in about 50 words

b) Check your answer with possible answers given at the end of the unit

1) What is a market? Explain the role of the market in development.

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2) Does failure of government lead to the rise of the market? Illustrate.

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1.3 THE ROLE OF COMMUNITY IN DEVELOPMENT

In the continually evolving nature of societies, economic institutions, such as the market and the state, always face a distinct probability of failure on certain aspects. Such failures occur on account of the relative inertia of the institutions that prevents them from keeping pace with the ever-changing needs of a society. However, failures in these circumstances also provide the requisite incentive to look for tools and options to set them right.

Asymmetry in information across various agents such as NGOs (Non-Governmental Organizations), Civil Society groups, etc. is a typical reason for several lapses observed in markets or governments. There is growing consensus that democratic systems, are, perhaps best suited to acknowledge the lapses and facilitate appropriate triggers for correctives. Often, ideologies that have withstood the tests of time, and may come to be grounded in religious (customary) practices, also play a vital role.

Up till now, you have studied the role of the market in development and the success and failure to effectively deal with development. Besides, these two actors, today, community and community based organizations also play an important role. In your locality you might have seen that community organisations like youth clubs, *mahila mandals*, and *panchayats* collect fund for various welfare activities, such as education of the poor, healthcare of the poor, preparation of a common club house, etc. Thus, community organisations now play an important role in development.

Asymmetry in information presents a dichotomy in the incentives facing differing agents and may give rise to the problem of moral hazard. Simply stated, moral

hazard refers to a situation where an individual's rational actions to preserve her self interest conflicts with another agent's (rational) actions. The other agent is also acting in her own self-interest. Self interest, however, risks a connotation of selfishness, and may not be the best description of an individuals' disposition as an economic agent. The frequency of moral hazard situations, it is believed, may be reduced among people when they undergo intense personal interactions. Such interactions nurture mutual trust, thus, enhancing individual capacity to predict another's behaviour. Further, these may serve as useful and effective brakes in preventing a downward slide along the slippery path of moral hazard. Intense personal interactions bring forth issues of mutual interest that often result in the formation of *communities* held together by mutual trust.

Theoretically, community may have a wide domain ranging from the family to the national community. It is not uncommon to also hear about an international community. In developing economies, however, a community typically signifies a tribe or, a village with individuals bonded by blood and locational affinities. According to Populin, "a community is a unit of social and territorial organisation in which people live, work and attend school and carry on many other activities which are a part of daily living". In relatively urbanised developed economies, community relationships (or, interest groups) are formed through channels such as workplace, schools, colleges, church, sport, hobby clubs, etc. Communities often exhibit a significant influence on business transactions and political activities. Recent controversies relating to land acquisition for industrialisation have queered the pitch by portraying certain communities as fetters on modernisation. However, these communities are critical to avert failures in the market mechanism and in the role of the state to support development.

Three important reasons for which community participation in the development process become essential, are as follows

- i) at first, the market mechanism co-ordinates the actions of profit seeking individuals through competition, by signalling price changes
- ii) second, the state induces people to adjust resource allocation by using coercive powers at its command
- iii) last, a community, however, works differently from a market, or, a state, to guide members towards voluntary consensual cooperation.

Community participation is a process by which a community identifies its needs, or, objectives, gives priorities to them, develops the confidence and will to work at them, finds resources to deal with them, and, in doing so, extends and develops cooperative and collaborative attitudes and practices within the community.

In several subtle ways, the community and state may assume similar forms. For example, a village is a community where villagers cooperate voluntarily. However, villagers may chose to authorise particular individuals to exercise certain coercive powers in the administration of village affairs when it assumes the form of a small state. However, a community and a state are functionally separable. In what follows, we attempt to illustrate the role of community in development by: (a) fostering cooperative action; (b) promoting trust as social capital; and (c) supply of local public goods.

a) **Cooperation**

The importance of cooperation to improve efficiency in resource allocation and improve benefits (or minimise costs to individuals), may be illustrated by what is popularly known as the Prisoners' dilemma in game theory. The Prisoners' Dilemma (in this specific situation, highlighting benefits from cooperation) may be illustrated as follows. Assume that there are two suspects (*A* and *B*) who have been charged with committing a crime. They are taken into custody and confined in separate cells. In their cells, they are respectively interrogated by a prosecutor. The prosecutor threatens each suspect with a heavy penalty, should he continue to deny the charges, while the other suspect confesses. Alternatively, the interrogator tempts each suspect with a small reward, should he confess to the offence while the other party maintains denial. A typical pay-off matrix for such a game may be the following.

		<i>B</i> 's Strategy	
		Cooperation	Non-Cooperation
<i>A</i> 's Strategy	Cooperation	3, 3	-5, 1
	Non-Cooperation	1, -5	-3, -3

Both *A* and *B* are faced with two strategic choices, to either cooperate (with each other) or not. Note that cooperation here refers to cooperation between the suspects, not, cooperation of a suspect with the investigation agency. Non cooperation of a suspect with the other may be interpreted as defection from the community. If both *A* and *B* cooperate with each other and continue to deny, they may be set free and enjoy a positive pay off of 3 units each. Alternatively, if *A* decides to cooperate while *B* chooses to defect, then *A* ends with a penalty of 5 units while *B* gets a small reward of 1 unit. The situation gets reversed if *A* decides to defect while *B* chooses to cooperate. Note that the suspects are isolated and act simultaneously without any information on other's action. If both *A* and *B* choose to defect, they end up with a penalty of 3 units each.

Typically, in such a situation, suspects would adopt a *maximin* approach whereby they adopt a strategy that maximises their pay-off from among the minimum pay-offs for their alternative strategies. The minimum expected pay off if *A* chooses to cooperate is -5, while the minimum pay off if he chooses to defect is -3. The maximum between these two pay-off (that is -5 and -3), is -3 and, therefore, *A* chooses to exercise the strategy which assures this, and he defects. A similar approach is adopted by *B*. As a result both end up defecting and with a penalty of 3 units each. Thus, while it is possible for the two suspects to gain 3 units each, in the absence of cooperation (alternatively interpreted as presence of moral hazard) they end up with penalties.

This example of Prisoner's Dilemma illustrates how inability to establish cooperative relationships, due to the absence of communication and trust, may push society to a worse outcome than hitherto possible.

b) **Trust as Social Capital**

The example cited above pertains to an undesirable activity, or, a public bad, but, contrary to what one may like to believe, such situations occur with greater frequency in the context of public goods. Situation analogous to Prisoners'

Dilemma are faced commonly by various transacting agents in a society. Is it then possible to improve the outcome of economic transactions say, by use of the legal apparatus provided by the state? In theory, the dilemma can be prevented, if contractual terms and penal clauses against possible violation (non cooperation) could be detailed in a written agreement. This further envisages that a mechanism to appeal for mediation by a third party, such as a court, is possible should a conflict arise. In practice, however, it is difficult to lay down a complete contract detailing all possible situations of conflict, say about product quality, delivery time, etc. with all considerations for future contingencies. The problem is especially confounding for new products that may be technologically complicated and where it is difficult to predict beforehand the contingencies that may arise in development and production stages. In hiring labour, it may be difficult to express clearly, and, in detail, the specific skills and knowledge that a prospective employee may be required to possess. Contingencies that may possibly influence such a transaction are theoretically infinite. Thus, it may not be possible to stipulate, in advance, all appropriate counter measures for all contingencies under the 'bounded rationality' of human beings.

Next, third party mediation, especially formal court procedures may entail significant costs. This could often be inhibiting for arbitration on conflicts involving small sums of money. The scale of production and transactions may be typically small in developing economies. Thus, in developing economies, legal means may have only limited utility in solving a typical problem of prisoners' dilemma. The difficulty may be compounded in economies where formal laws and judicial system are less than adequately evolved.

The basic tenet of prisoners' dilemma is lack of communication and mutual trust between transacting parties. It is possible to prevent such situations by developing trust through formation of community relationships. One possible mechanism for such relationships involves a move away from spot and isolated transactions (between anonymous agents based solely on the price parameter) to long term continuous transactions (repeated games). Mutual trust, created from long term continuous transactions, could be further reinforced by multiple interlinked transactions. For example, a trader may not only purchase a commodity from a particular producer continuously, year after year, but supply him with materials and credits, too. Mutual trust, enhanced by intensified interactions and communication, along with the threat of losing a multifaceted cooperative relationship, may be a strong force to curb moral hazard for both parties. The psychological basis of mutual trust could be strengthened by incorporating personal elements in business transactions, such as exchanges of gifts and attendance at weddings and funerals, etc. Such mutual trust facilitates other collaborative relationships promoting the scope for widening of a community. Mutual trust between transacting individuals when elevated to a moral code in society, induces large reductions in transaction costs. Transaction costs typically include the cost of contract negotiation and enforcement. If one could trust the other party in a contract, the potential for worries from possible default may be commensurately reduced. Thus, trust accumulated through personal interactions in a community, increases efficiency and reduces costs associated with the division of labour. In this regard, trust is a kind of social capital similar to physical capital, such as roads and harbours.

c) Supply of Local Public Goods

Mutual trust gained from personal interaction comprises social capital for the community. Such trust is a form of local public good that benefits a limited group. In this sense, a community possess a comparative advantage, over markets, or, even a state, in supply of local public goods. This supplements the comparative advantage of a market mechanism to supply private goods, and, of a state to supply national public goods. Indeed, a community may be most effective in discouraging free riding (or identifying and excluding potential free riders).

While there is always some opportunity for free riding (that is, enjoying the benefits of say a village road, but not contributing to its costs, say voluntary labour), trust forged amongst members of a community often works towards raising the supply of local public goods to a social optimum. Efficiency in this supply depends on the effectiveness of the likely social sanctions facing those who violate the community’s implicit agreement. Any social formation lacking the requisite, or critical, level of trust capital would fail to provision adequately for local public goods. A higher level of government, like the state, then has to intervene to bridge this deficiency. In most cases this inevitably leads to undersupply of local public goods or high cost, inefficient provisioning.

In this section, you read about the importance of community in development dynamics. Now you should be able to answer the questions given in Check Your Progress-2.

Check Your Progress 2

Note: a) Write your answer in about 50 words

b) Check your answer with possible answers given at the end of the unit

1) What is meant by community?

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2) How is the role of community different from that of a market or a state?

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1.4 DUALISM IN DEVELOPMENT DYNAMICS

In the previous section you studied the role of various actors such as the market, state, and community in development dynamics. Another important aspect of

development dynamics is dualism, where two opposite system coexist. The two types of dualism discussed in this section of development dynamics are

- i) traditional versus modern sector
- ii) the one sector model versus the dual sector model of growth

i) The Traditional versus the Modern Sector

The process of transforming an economy to portray development involves significantly more than a mere increase in incomes and subsequently, consumption levels. It includes certain aspects that make for a living standard, or, quality of life. This constitutes, among others, changes in the way people conduct their life and social relations, manage their wants by commercialisation and urbanisation, organise their political roles, etc. This process of change in the form of institutions and customs embodies modernisation.

Economic change and modernisation are often viewed as autonomous processes that interact in a myriad ways. These interactions, under various conditions either synergise, or, negate the march towards development.

Consider an economy consisting of two sectors that are distinguished in two ways: technological and institutional. One sector has a modern technology, and is assumed to be relatively more productive. People engaged in this sector are geographically scattered, function anonymously, and possess poor information about each other. In contrast, the other sector is traditional, and uses less productive technology. However, people engaged in this sector are relatively less dispersed geographically, and have relatively good information on their neighbours.

Now, consider a situation when some people in the economy seek loans (either to augment current consumption, or, to enhance capital infusion in their activity). Loan transactions, in any situation, run some risk of default by some borrowers. As a result, lenders may be reluctant to lend to those unable to furnish sufficient collateral. In such a situation, superior information in the traditional sector that enables lenders to monitor borrowers better, extends worthy borrowers as good, or better access to credit than they may hope for in the modern sector.

The quality of credit may, thus, be better in the traditional sector. In contrast, credit in the modern sector would be more productive, albeit associated with higher risk. There appears to be a trade off in the traditional sector and the modern sector, between relatively better quality of credit, and the relative potential to raise productivity. Now, consider the possibility of migration, which is arguably a one way flow from the traditional to the modern sector. Only those facing strong incentives would move out of the traditional sector. Two groups, at the extreme ends on an income (or wealth) scale are likely to make this transition.

First, the wealthy, also assumed to be more productive, may be motivated to exercise the option to migrate, and further raise their productivity. On the contrary, the poorest may also migrate as they have nothing to lose from the transition. This, however, assumes that transition is costless. In reality, though, there are likely to be some transition costs that may inhibit migration. Second, more people transit to the modern sector if the interest rate is either very low, or, very high. At low interest rates, the temptation to default is weak and, therefore, the advantage in the traditional sector from better monitoring is small. In contrast, when interest

rates are very high, consumption loans may be unaffordable. In the absence of any uptake, such loans may be rendered redundant. As long as there are a sufficiently large number of people in the traditional sector, high quality information may exist for most of the people, and on average the economy-wide market for consumption loans may work well. This allows lenders to charge a higher rate of interest than otherwise. If the rate of interest in the modern sector is higher, people may then be reluctant to transit from the traditional sector. This may consist of equilibrium with a lower than desirable socially optimal rate of transition out of the traditional sector.

Now, suppose everyone in the traditional sector was forced to move to the modern sector. From the lenders point of view, because of lower quality of information, there may be fewer credit-worthy people, that is, those who present lower credit risks. But, competition among lenders to patronise these (more reliable / less risky) people may drive down interest rates. Then, more people may access consumption loans, even in the modern sector. The number of people working in more productive sectors may rise, and social surplus could be larger.

The dynamics of development in this model is a two-way interaction between the process of growth and the process of institutional change. On one hand, the rate of growth of the economy depends on the number of people who take advantage of new technology. Growth, then, may be constrained by the institutional difference between traditional and modern sectors. On the other hand, long term survival of traditional institutions depends on the rate of growth. As the economy grows, capital becomes abundant and the price of loans in both sectors falls. Declining interest rates reduce agency costs in modern sector, and comparative advantage of the traditional sector in provision of loans also diminishes. People may be further encouraged to migrate to the modern sector. Therefore, in development dynamics, both the traditional and modern sector co-exist and complement and supplement each other. For faster development, the growth rate of both the sectors is essential.

ii) One Sector Versus Two Sector Models

The Ramsey-Cass-Koopmans (RCK) model, sometimes referred to as the one sector model of growth, is a simple, flexible model amenable to a wide range of assumptions. The RCK model continues to be popular in modern economics with its representation of the economy as an optimal control problem. It is utilised to analyse the performance of an economy with rational and utility maximising individuals. It constitutes a representative household, or, individual, who has time for labour, and an endowment of capital from a previous period. Such a household or, person may choose between labour and leisure, and between consuming, or, saving current output. Labour produces output and saving this output generates wealth.

Attributes of the representative household, or individual are inherent throughout the economic system. Individuals have endowments of labour (l) and capital (k). Let, labour earn a wage, w , and capital commands an interest rate, r . The income (y) of the individual is then $y = wl + rk$. However, capital also depreciates at a rate \bar{a} . It is further assumed that $r > \bar{a}$, or else there would be little incentive to hold capital. All income that is not immediately consumed is saved, and invested in the form of k .

Now, rational individuals value future consumption less than present consumption. This is referred to as time discounting. Assume that the representative household discounts future consumption at the rate, \tilde{n} . It, then, follows that r must equal $\tilde{n} + \tilde{a}$. Suppose, r exceeds $\tilde{n} + \tilde{a}$, then this may lead to excessive saving by postponing current consumption. On the contrary, if r is less than $\tilde{n} + \tilde{a}$, then people may consume excessively leaving very little savings. Every individual is intuitively driven to maximise utility (U_t) over time (t). Utility is derived out of current consumption and leisure. Growth in this model is essentially determined by savings that are ploughed back into the economy.

On the contrary, the Dual Sector model, developed by Lewis, is a model framed to explain the growth of a developing economy. The two sectors in such an economy are: (i) a traditional agricultural sector; and (ii) a modern industrial sector. The traditional agricultural sector is characterised by surplus labour that transits to the modern industrial sector. Over time, growth of the industrial sector absorbs surplus labour from the traditional agricultural sector, fostering further industrialisation and stimulating sustained development.

Apart from abundant labour, the traditional agricultural sector is also characterised by relatively low wages and low productivity, although it utilises a labour intensive production process. In contrast, the modern industrial sector is characterised by a relatively higher wage rate, and rising productivity. Initially, there exists a demand for more workers in the industrial sector, though, it is assumed to be utilising a relatively capital intensive production process. Profits made by capitalists are reinvested as capital stock in the modern industrial sector. However, the traditional agricultural sector is less amenable to investment and capital formation, and a low priority is accorded to improving the marginal productivity of labour in this sector. Thus, the hypothetical developing nation's investment goes towards physical capital stock in the industrial sector.

The traditional agricultural sector which is traditional in nature is constrained by the availability of cultivable land. Further, the marginal product of labour in the traditional agricultural sector (that is, the increase in farm output from employing an additional farm labourer) is assumed to be zero. This follows from the law of diminishing marginal returns that runs out its full course on the fixed land input. With marginal productivity set at zero, there exist a number of farm workers who do not contribute to agricultural output. This group is denoted as surplus labour and this cohort could move to another sector without any decline in agricultural output.

To take advantage of higher wages from the industrial sectors, over time, workers may tend to transition from the agricultural to industrial sector. Total agricultural product would remain unchanged, while total industrial product would rise due to the additional labour force. But, additional labour may also drive down marginal productivity and wages in the industrial sector. Over time, the marginal productivity of workers in the industrial sector would be determined by two factors: (a) an increase due to investment fostering capital formation; and (b) a decline, due to more workers transiting from the traditional agricultural sector. Eventually, the wage rate in the agricultural and industrial sectors would equalise, as workers leaving the agricultural sector would drive down productivity and wages in the industrial sector, while raising marginal productivity and wages in the agricultural sector. The end result of this transition process is that, agricultural

wage equals industrial wage, and the marginal product of labour equates across agricultural and industrial sectors.

Growth in this model is, therefore, driven by a continuous supply of labour from the traditional agricultural sector. As long as the number of workers transiting to the industrial sector equals the number of surplus labourers in the agricultural sector, then, regardless of who actually transits, general welfare and productivity continue to rise.

Reality, however, is more complicated than what the theory may predict. The introduction of new productivity enhancing technologies in agriculture, and, intensive (as opposed to extensive) use of labour render more of them as surplus. The differential between agricultural and industrial wages should be sufficient to incentivise transition between the sectors. Industrial sector expansion comes to a halt when this monetary incentive is not strong enough for labour to transit. In other words, transition may not be costless. The relative bargaining power of workers also influences the cost of labour. In practice again, some relatively strong assumptions on individual rationality, perfect information, and almost limitless capital formation potential in industry, may not be realised. However, the model presents a general theory of labour transiting to modern sector in developing economies.

In this section, you have studied dualism in development dynamics. Now you should be able to answer the questions in Check Your Progress-3.

Check Your Progress 3

Note: a) Write your answer in about 50 words

b) Check your answer with possible answers given at the end of the unit

1) What are the two essential differences between the traditional and modern sectors?

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2) What are the differences between the one sector growth model and the dual sector growth model?

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1.5 LET US SUM UP

This unit began by defining the specific domains of the essential institutions of development, namely, markets and governments. This was followed by examples highlighting the common causes of failures, or, of limitations in effectiveness of these institutions, especially in less developed countries. The role of community-based interactions to lubricate the functioning of markets and governments was discussed. Special emphasis was laid on the mechanism to build trust that can ultimately lead to realising certain goals of development by fostering growth by reducing the costs of transactions. A common economic activity that relies significantly on trust, apart from other observable attributes, or, quantifiable inputs, concerns the market for credit and debt. Access to, or, availability of credit is often seen as an important factor to facilitate resource allocation. Efficiency in resource allocation, in turn, is the principal ingredient of development. Further, the process of modernisation is vacuous if it fails to reduce the cost of credit, or, to motivate improved productivity of labour. Finally, simple models were described, where growth is led by ploughing back savings as investments, or, by labour transiting to more productive sectors of the economy.

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1.7 CHECK YOUR PROGRESS-POSSIBLE ANSWERS

Check Your Progress 1

1) What is a market? Explain the role of market in development?

Answer. Market is a place where the buyers and sellers meet and buying and selling activities takes place. Market plays an important role in development. As the prices of goods are determined as per their demand in the market, therefore, the sellers those who are largely the private actors emphasise on the quality of goods and services in order to fetch a competitive price in the market. Thus market many a time fulfils the qualitative dimension of development.

2) Does failure of government lead to the rise of the market? Illustrate?

Answer. The monopoly in the market sometimes hampers the wellbeing of the disadvantaged. Therefore, the intervention of state has become imminent. The state interventions in public health, health and education has helped the development of the socio-economically disadvantaged section of the society.

Check Your Progress 2

1) What do you mean by community?

Answer. Customarily, community means a tribe or a village with individuals bonded by blood or locational affinities. In Indian context, the community can also be defined in terms of religion and location such as Muslim community, Hindu community, Tribal community, etc. Each community tries to develop their own community when they perceive it in the prism of parochialism.

2) How is the role of community different from that of a market or a state?

Answer. The role of community is different from those of the market and government, in the following ways:

- i) At the outset, they initiate co-operative action through consultation and mutual understanding; and
- ii) Secondly, they generate social capital through collection for public good; and
- iii) Thirdly, they made available local public goods which are cost effective.

1) What are the two essential differences between a traditional and a modern sector?

Answer. The one sector model is characterised by a sector which is governed by mainly the traditional economy, where labour is the fundamental factor of production. While in the dualistic model both labour and capital play important role. There are different types of dualism such as socio-cultural dualism, ecological dualism, technological dualism, enclave dualism, financial dualism, etc.

2) What are the differences between one sector and dual sector growth model?

Answer. The Ramsey-Cass-Koopmans (RCK) model, sometimes referred as one sector model of growth. It is utilised to analyse the performance of an economy with rational and utility maximising individuals. It constitutes of a representative household / individual, who has time (for labour) and an endowment of capital from previous period. On the contrary, the Dual Sector model comprising of traditional and industrial, developed by Lewis, is a model framed to explain growth of a developing economy. The traditional agricultural sector is characterised by surplus labour that transits to the modern industrial sector. Over time, growth of the industrial sector absorbs surplus labour from the traditional agricultural sector, fostering further industrialisation and stimulating sustained development.