



GRADE 11

ECONOMICS

UNIT MODULE 1

INTRODUCTION TO ECONOMICS AND THE ECONOMIC PROBLEM

TOPIC 1: INTRODUCTION TO ECONOMICS

TOPIC 2: RESOURCES

TOPIC 3: THE BASIC ECONOMIC PROBLEM

TOPIC 4: ECONOMIC DECISION MAKING

TOPIC 5: ECONOMIC SYSTEMS



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DIANA TEIT AKIS

PRINCIPAL



Flexible Open and Distance Education
Papua New Guinea

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SECRETARY'S MESSAGE

Achieving a better future by individual students and their families, communities or the nation as a whole, depends on the kind of curriculum and the way it is delivered.

This course is a part of the new Flexible, Open and Distance Education curriculum. The learning outcomes are student-centred and allows for them to be demonstrated and assessed.

It maintains the rationale, goals, aims and principles of the national curriculum and identifies the knowledge, skills, attitudes and values that students should achieve.

This is a provision by Flexible, Open and Distance Education as an alternative pathway of formal education.

The course promotes Papua New Guinea values and beliefs which are found in our Constitution, Government Policies and Reports. It is developed in line with the National Education Plan (2005 -2014) and addresses an increase in the number of school leavers affected by the lack of access into secondary and higher educational institutions.

Flexible, Open and Distance Education curriculum is guided by the Department of Education's Mission which is fivefold:

- To facilitate and promote the integral development of every individual
- To develop and encourage an education system satisfies the requirements of Papua New Guinea and its people
- To establish, preserve and improve standards of education throughout Papua New Guinea
- To make the benefits of such education available as widely as possible to all of the people
- To make the education accessible to the poor and physically, mentally and socially handicapped as well as to those who are educationally disadvantaged.

The college is enhanced to provide alternative and comparable pathways for students and adults to complete their education through a one system, many pathways and same outcomes.

It is our vision that Papua New Guineans' harness all appropriate and affordable technologies to pursue this program.

I commend all those teachers, curriculum writers, university lecturers and many others who have contributed in developing this course.

DR.UKE KOMBRA, EdD

Secretary for Education



COURSE INTRODUCTION

Economics is a specialised subject that requires a high level of English competency. Students need to be fluent in reading, writing and speaking English for research, report writing and oral and written presentations.

Economics is the study of the way we try to satisfy our material wants with the limited resources available to us. The subject covers earning and spending an income, and the production of goods and services. From these areas of study emerge topics such as saving and investment, inflation, unemployment, trading with other people and other nations, paying taxes and being governed.

People in all societies have recognised the need to obtain goods and services to satisfy their wants. They must choose which wants to satisfy, how to produce the goods and services to satisfy these wants and how to share (distribute) among the members of the community. Students will study these Economic problems, and develop the knowledge and skills about various systems that can enable them to solve or overcome them.

Grade 11 Economics course comprises of three modules. They include:

MODULE .1 : INTRODUCTION TO ECONOMICS AND THE ECONOMIC PROBLEM

MODULE .2 : GROWING THE ECONOMY

MODULE .3 : MANAGING THE ECONOMY; A MICRO – ECONOMIC FOCUS

MODULE 1: **Introduction to Economics and The Economic Problem** focuses on, what economics is, the basic economic problem, its causes and effects and the steps involved in trying to resolve the economic problem.

MODULE 2: **Growing the Economy** covers how best limited resources can be used to produce goods and services to satisfy Papua New Guineans' wants. Moreover, it discusses economic growth, improve quality and increase quantity of the factors of production which leads to increased efficiency, innovation, investment and the creation of wealth. In this unit students use and apply various economic skills to examine the issues surrounding production and the growth of the economy.

MODULE 3: **Managing the Economy: A Micro-Economic Focus.** This unit talks about the importance of the price mechanism in the allocation of resources. In a market economy, the prices are determined by the interaction of consumers and producers behaviours. This is represented on demand and supply curves. The curves are used to illustrate how prices are determined and explain price changes and the effect of price changes on quantity traded.

Students will study these economic problems and develop the knowledge and skills about various systems that can enable them to solve or overcome them. Economics builds on learning from the lower secondary business studies which focuses on developing and understanding the interaction between producers, consumers, government, financial institutions and other organisations as they conduct their business both locally and globally.



MODULE 1: INTRODUCTION TO ECONOMICS AND THE ECONOMIC PROBLEM

UNIT INTRODUCTION

Unit 11.1 focuses on what economic is, the basic economic problem, its causes and effects and the steps involved in trying to resolve the Economic Problem. You will learn that while everyone faces the economic problem, methods of solving it differ from individual to individual, group to group and society to society, depending on resource availability

The study of economics is important in modern society where resources are limited and needs and wants are unlimited. Therefore, this unit enables you to observe, identify and apply appropriate measures to make informed decisions on how best you use limited resources to sustain your living.

You will also demonstrate and apply the skills of constructing and interpreting graphs and diagrams to illustrate and represent economic ideas.



Broad Learning Outcomes

On successful completion of this module, students should be able to:

- investigate the complexity of the economic problem and apply economic decision-making tools and processes to deal with the problem
 - demonstrate an understanding of the role of economic systems in relation to economic problems in Papua New Guinea
 - distinguish between the approaches adopted by a range of economic systems to allocate resources
-



Time Frame

This unit should be completed within 10 weeks.

If you set an average of 3 hours per day, you should be able to complete the Unit comfortably by the end of the assigned week.

Try to do all the learning activities and compare your answers with the ones provided at the end of the Unit. If you do not get a particular exercise right in the first attempt, you should not get discouraged but instead, go back and attempt it again. If you still do not get it right after several attempts then you should seek help from your friend or even your tutor. Do not skip any question without solving it first.



TOPIC: 1 INTRODUCTION TO ECONOMICS

This topic introduces the study of economics and its major concerns. You will find out what is the study of economics is concerned with. You will also find out the different branches of economics and why economics is a social science subject.



Specific Learning Outcomes

On successful completion of this topic, you should be able to;

- define economics.
 - explain key terms like scarcity, choice and decision making.
 - explain, with examples, why the study of Economics is considered a social science subject.
 - identify and explain the different branches of economics and their specific fields in the study of economics.
-



11.1.1.1: Definition of Economics

Economists have tried to simplify the definition of economics for their students and readers to understand. Economics can be simply defined as 'the study of how societies are organised in using the scarce/limited resources available to satisfy their unlimited needs and wants'.
(Lionel Robins 1938)

Explanation to the definition

This definition tells us that there is a problem. What is that problem? If you say that there is a problem of scarcity, then you are absolutely correct. All societies have unlimited needs and wants but there is limited (scarce) resources available to satisfy all these needs and wants. So the scarcity of available resources and the unlimited needs and wants of the societies form the core basis of the study of economics.

But then you might wonder "where can we see and identify this problem?" A good question!

Let us look at some examples.

There are some countries with abundance of resources while other countries have them in scarcity or none at all. For example; PNG has an abundance of mineral and petroleum resources while Malaysia has them in scarcity or none at all.

On the other hand there are some countries with highly skilled workers and advance technology while other countries have them in scarcity or none at all.

For example; Singapore possesses plenty of highly skilled workers and advance technologies while PNG has them in scarcity or none at all.

A person might want more than one item in the store but he may be faced with a limited amount of money.

**Article #1:****ECONOMIC RELATIONS BETWEEN PNG AND SINGAPORE**

RELATIONS between Papua New Guinea and Singapore are set to take on a new phase with the expansion of cooperation in trade, investment, technical and development co-operation during a meeting recently.

The effort to strengthen the two countries' relations was made during a visit to Singapore by Foreign Affairs and Immigration Minister Rimbink Pato on September 16 to meet with his Singapore counterpart Kasiviswanathan Shanmugam.

Some of the issues specifically discussed were the sovereign wealth fund, water management, pension for the aged and physically challenged and foreign service training for PNG diplomats.

Mr Pato was impressed with the exchanges as both leaders were able to cover many areas of co-operation.

He said he was confident that respective government officials would pursue the initiatives and commitments made.

Both foreign ministers also noted that PNG has huge potential as well as great expectations of the LNG sector.

"I am pleased to note that we have already received strong indications of major Singapore companies willing to invest in the LNG sector, and I want to assure you that my Government is committed to ensuring a stable investment environment," Mr Pato said.

At a regional level, Mr Pato assured his Singapore counterpart that the Government would ensure the attendance and participation by relevant officers from key department and relevant government agencies in the major events including ASEAN, ARF and APEC where Singapore commands a strong influence.

Newspaper Clip source: The National Newspaper. 2014 (1)

These examples give us a clear picture of the problem of scarcity. Societies, organisations, countries and individuals all face the problem of scarcity. Article 1 shows us a real economic situation of scarcity between PNG and Singapore.

PNG has a large supply of natural resources but is faced with a problem of scarcity of financial capital (money), skills and technology to develop some of its basic wants and needs like schools, roads, hospitals, sanitation and water supply. As a result it has chosen to trade with other countries such as Singapore.

Singapore on the other hand has a lot of skilled workers; possess advanced technologies and is a wealthy country. But it also faces a problem of having scarce natural resources to fulfill some of its basic needs and wants mainly in manufacturing and production. Therefore, it has chosen to trade with other countries like Papua New Guinea.

Now you have learnt that the problem of scarcity causes societies, organisations and countries to make **choices**.

CHOICE IS TO CHOOSE BETWEEN ALTERNATIVES GIVEN.



Economics is about making such choices. Individuals, societies, organisations and countries all make choices about what is best for their economic benefit. Economics helps them to make choices about the challenges and opportunities they face.

What are some of the basic choice societies make? In order for societies to make good choices they must try to answer these important questions.

- What should we produce?
- How do we produce?
- How much should we produce?
- Who gets what we produce?

Making choices also comes with **decision making**. Economics is also about how to make good informed decisions whether as an individual or as a citizen of a community, state or country. Again you might ask “How can making a choice be accompanied by decision making?”

Let us look at some examples.

From article 1, PNG has made a choice to trade with other countries. But it must decide on which country to trade with in order to have a good opportunity so that the choices made are effectively beneficial to PNG. Therefore, PNG has made a decision to trade with Singapore. It is also the same with Singapore.

On the same example, we can see that if the government has chosen to trade with Singapore, it must decide whether it is going to be a free trade or taxes will also apply.

So now you see that making an economic choice also involves economics decision making.

In the next topics in this course we will explore more concepts of economic choices and economic decision making.



Terminology: Words which you have learnt in this topic.

Words	Meanings
Economics	The study of how societies are organised and how they use the scarce (limited) resources available to satisfy their unlimited needs and wants.
Scarce	Limited or in short supply.
Scarcity	A situation where there is limited amount of resources available to satisfy the unlimited needs and wants.
Ends	The needs and wants of the society.
Choice	A selection among alternative goods, services or actions.



11.1.1.2: Economics as a Social Science

Economics is seen as one of the group of subjects known as Social Science. Other social science subjects include anthropology, social psychology, sociology and political science. These subjects, including economics study how people behave in the society.

Why is Economics a Social Science?

It is true that the subject of economics uses scientific methods in trying to study the behavior of people in the society.

Economics uses systematic and logical models controlled by factual evidence; it is seen as a scientific approach of studying. However, apart from science subjects like physics, economics studies human actions and tries to explain the reasons and motives of human agents as the cause of things and changes. It is therefore regarded as a Social Science.

Positive and Normative Economics

Apart from having economic models supported by facts and evidence, there is also a part of economics that accepts value judgments and statements.

1. Normative Economics

This is mainly about forming views, ideas and beliefs on economic choices or decisions (policies) and make recommendations (Agreement) about these policies. It is not supported by facts and evidence but it is accepted because of the value of its statement that contains your judgments of what should happen in the economy.

2. Positive Economics

It is mainly economic analysis that explains what happens in the economy by using economic models supported by facts and evidence.



The newspaper articles 2, 3 and 4 are real examples of Normative and Positive statements in economics.

Article #2:

REPORT: CHINA EXPORTING TORTURE TOOLS

BEIJING: The number of Chinese companies exporting “tools of torture” has surged over the past decade, human rights group Amnesty International says, with many devices falling into the hands of rights violators worldwide.

More than 130 Chinese firms now produce electric shock stun batons, spiked batons, weighted leg cuffs and other “potentially dangerous law enforcement equipment”, up from 28 in 2003, the UK-based campaign group said in a report co-authored with Omega Research Foundation.

One company – state-owned China Xinxing Import and Export Corporation, whose products include thumb cuffs, electric shock guns and restraint chairs – had more than US\$100 million (K247m) in trade with African countries as of 2012, the report said.

“China appears to be a leader in the less savoury side of the so-called ‘tools of torture’ – equipment that we at Amnesty believe is intrinsically cruel,” Pat-

rick Wilcken, Amnesty’s security trade and human rights researcher and lead author of the report, said.

China’s own justice system remains riddled with abuses, campaign groups have said, with confessions extracted through torture not uncommon.

While there are few legal prohibitions on the manufacture and trade of such equipment in China, it often ends up being sent to “very unsafe and risky situations” across the globe.

“What we’ve found is that it appears the Chinese authorities do not have a kind of rigorous vetting process in terms of where this equipment is exported to,” Wilcken said.

“They’re not doing risk assessments.”

Amnesty is “calling on not just China but every country to bolster their regulations on the trade in this equipment, so that licences for trade in situations where there’s a high risk for violation should not be issued,” he added. – ABC

Newspaper Clip source: The National Newspaper. 2014

**Article #3:****QUICK SALES A POLITICAL PLOY: POLYE**

KANDEP MP Don Polye claims that the Government is pushing for the quick sale of shares in some of its entities for the benefit of a few politicians.

He was responding to a statement by Public Enterprises and State Investments Minister Ben Micah that the Government would sell part of its shareholding in some entities.

“The Government has pushed for the quick sale of some shares in SOEs as a few politicians take significant interest in the SOEs,” Polye said.

“PNG citizens and local institutions should acquire shares in the SOEs.

“It would be appropriate to invite the private sector from the wider competitive markets to become partners with the SOEs to achieve full commercialisation.”

He said by using private sector participants, sourced externally through a competitive bidding process, only reliable partners with appropriate management skills, technological expertise and financial resources would enter into partnership with the Independent Public Business Corporation to reform the non-performing SOEs.

Newspaper Clip source: The National Newspaper. 2014

**Article #4:****WORKS EYE NEW BUILDING**

WORKS Minister Francis Awesa says the ministry will be building a new 14-storey office complex for the Works Department and provide accommodation for its female staff.

Awesa made the announcement during a gender equity and social inclusive (GESI) bus commissioning ceremony on Monday.

He said the Works Department had 78 hectares of land that could be used for the department's improvement projects.

"A certain piece of the land will be made available for the office complex and staff accommodation projects are were already in the department's pipeline," Awesa said.

"We have gained much support from various ministries and we are looking to invite private operators and investors to come and build these projects that will

change the face of the department.

"We cannot continue to work in ancient type buildings like we have here. We have to stick to our plan and work together so we can have modern-designed buildings to boost the morale of our staff," he said.

Awesa said the department was also looking at providing housing for women to ease violence-related problems experienced by female staff.

"Providing housing for women is another approach for the Works Department in addressing women issues in the country.

"We are paying K250 million each year for rental accommodation, especially for staff in Port Moresby which is a waste of a lot of money. This money could be saved up to K2 billion in 30 years.

Newspaper article: The National Newspaper 2014

From the examples on the newspaper clips given, which one do you think is a positive statement and which one is a negative statement?

Articles 2 and 4 are examples of a positive statement in economics because the statements are supported by data which have been collected and calculated to support these statements as facts.

Figure 3 is an example of a normative statement in economics because it is a claim made by an MP which is not supported by facts but contains value judgement because of the position of the MP and the knowledge the MP possesses in government policies.



11.1.1.3: The Branches of Economics

In the first topic you studied the definition of economics and you learned that the problem of scarcity affects all societies. As a result choices and decisions have to be made to implement these economic policies.

You are now going to explore and find out about the different branches of economics and how they contribute to assist societies in making economic choices and decisions.

The Branches of Economics

There are 3 major branches of economics.

1. Micro-economics
2. Macro-economics
3. International economics

1. Micro means small, therefore micro- economics looks at smaller economic activities between consumers and producers. Micro-economics is the study of consumer behavior. Consumers are individual economic decision makers such as firms and households. Micro-economics studies how individual consumers interact (relate) in the markets, industries and different sectors of the economy. It is the study of demand and supply of the households and firms and how they interact in the market.

For example, as the price of rice increases, consumers may turn to another alternative therefore causing the demand for rice to fall. The supplier will then react by putting the price of rice down to bring back the consumers to the market.

Micro-economics studies these specific areas;

- How consumers maximise satisfaction, given their income when selecting goods
- How firms choose production methods to minimise cost for a given level of output.
- How firms decide how much to produce to maximise profit.
- How the price of goods and services are determined.
- How resources are allocated.
- How the prices of factors of production are determined.

2. Macro-economic on the other hand looks at bigger economic activities. Macro-economics is the study of behavior of broader economic aggregates (total) demand and supply in the economy. That means that it studies economic factors like,

- Total National Output (GDP)
- Income
- Employment and Unemployment which affect the society as a whole.



For example, during the construction phase of the LNG project, the total demand for workers increased dramatically. As a result, employment increases causing the National income to increase as more people in the population are working and earning an income.

3. International economics is concerned with the study of international trade. It studies the imports and exports between countries and keeps an account of international transactions (payments) between countries. It also studies advantages and disadvantages of international trade and trade restrictions by developing trade policies.

Apart from these major branches of economics, there are specific fields of study in economics that are derived from a combination of these major branches of economics and other fields of study. For example, political and developmental economics.

Econometrics is the study of economic models and its mathematical reasoning to explain the causes of things and changes in micro, macro and international economics. That means it is widely used in the major three branches of economics. All these major branches of economics will be covered in detail as you continue the economics course through Grades 11 and 12.

**YOU HAVE COME TO THE END OF TOPIC 1. YOU MAY
NOW READ THE SUMMARY ON THE NEXT PAGE.**



Summary 11.1.1

- Economics is the study of how societies are organised in using the scarce resources available to satisfy their unlimited ends (needs and wants).
 - There are three major branches of economics.
 1. Micro-economics
 2. Macro-economics
 3. International economic
 - Econometrics can be seen as a branch of economics that is widely used within the three major branches of economics.
 - Normative economic statements are statement of values used in economics as recommendation. They are not supported by facts and evidence, but they are valued judgments.
 - Positive economic statements are statements supported by facts and evidence.
 - Micro-economics is the study on consumer behavior. Consumers are individual economic decision makers such as households and firms.
 - Macro-economics is the study of broader economic aggregate (total) demand and supply in the economy.
 - International economics is the study of international trade between countries.
 - The problem of scarcity causes societies, organisations and countries to make choices.
 - In order for societies to make good choices they must try to answer these important questions.
 1. What should we produce?
 2. How much should we produce?
 3. How should we produce it?
 4. Who gets what we produce?
 - Making choices also comes with decision making.
 - Economics uses scientific approach in studying the behavior of people in the society.
 - Economics is a social science because it tries to give a logical explanation to the behavior of people in the society.
 - Economics views humans as the main agents and cause of things and changes.
-

NOW DO STUDENT LEARNING ACTIVITY 11.1.1 ON THE NEXT PAGE.



Write your answers on the spaces provided after each question.

1. Describe the economic approach to studying human behavior in the society.

2. Explain why economics is viewed as a Social Science.

3. In your own view, explain how you see humans as agents or cause of change.
(i.e. state why humans are seen as the cause of things and changes).

4. Give a simple definition of economics.



5. Define each of these terms.

a. Scarcity

b. Ends

c. Choice

d. Scarce

6. Refer to article # 1 and identify and list down the problem of scarcity between each country by filling the table below.

Situation of scarcity in PNG	Situation of scarcity in Singapore

7. In relation to Q6, give a reason why both countries have chosen to trade.



8. Assume that you are trying to buy food for dinner this evening and you are willing to spend K20 for these items.

List of items	Prices
1. 1kg rice	K5
2. Kwik Kai Chicken pack	K13
3. Ox and Palm canned meat	K8
4. Cooking oil 200ml	K3
5. Green vegetables	K2
6. Instant Coffee packet 200g	K2
7. Sugar packet 500g	K3

- a. Describe the situation of scarcity you are now faced with.

- b. What is the next step you will take when faced with this kind of situation in (a) above?

- c. Describe the choices you have made.

- d. Explain your decision making for the choice you have made above?



9. Differentiate between Normative and Positive economics.

10. Study the four newspaper articles and state which one of them is positive and normative statement. Explain your answer why you think it is a positive or normative statement.

Article 1: _____

Article 2: _____

Article 3: _____

Article 4: _____

NOW CHECK YOUR ANSWERS AT THE END OF THE UNIT



TOPIC 2: RESOURCES

In this topic you are going to explore and learn about resources. You are also going to find out about stocks of resources available and resources that are actually used for production of goods and services.

It explains why resources are scarce by looking at different characteristics of resources. It also looks at the renewable and non-renewable resources, the economic resources and how resources are allocated in Papua New Guinea.



Specific Learning Outcomes

On the completion of this topic, you should be able to;

- identify and explain the characteristics of a resource with examples.
 - identify and list the different types of resources from land, labour, capital and enterprise.
 - distinguish between renewable and non-renewable resources.
 - find out how resources are allocated in PNG and explain with examples the government policies in allocating these resources.
-



11.1.2.1: Characteristics of Resources

What is a resource? A resource is a factor of production which is used to produce a good or a service. For example, land is a resource which is used to produce food crops for consumption. Land is also a resource where factories can be built on to manufacture other goods. A resource is mainly made up of Land, Labour, Capital and Enterprise.

Characteristics of Resources

You have learned earlier that resources are scarce. So with that in mind, let us look at some of its main characteristics.

(i) Resources are scarce (limited in quantity)

Resources are scarce in the sense that there are so many (unlimited) needs and wants but there are limited resources available to satisfy all these needs and wants.

For example, you are working, knowing that by the end of the fortnight you will receive an income. So you will now think about all the things that you would want to have. When you finally receive your wage you will see that your total disposable income is not enough to buy all the things that you have proposed to buy earlier.

(ii) Not all places have the same type or amount of resources

Not all places have the same type or amount of resources. Japan has more factories and plants for production but does not have enough natural resources like oil and gas to feed its factories. While PNG has more natural resources such as, oil and gas, however, it does not have the factories and plants to produce goods.

(iii) Resources have alternative or competing uses

Resources have competing uses which means that there are alternative uses for a resource. For example, a timber can be used to make a chair or a table. The chair and the table are now the competing uses for that timber (resource). A 1kg flour packet can be used to bake scone or make pan cake. So the scone and pan cake are the competing uses for the 1kg flour packet. Which one gets produced using the flour is the choice of the baker.

(iv) A resource can be used to produce more than one goods and services

A resource can be used to produce one or more goods in the sense that a certain quantity of a resource can be allocated between two alternatives. For example, a piece of land can be allocated between growing corn and potato. A bale of flour can be divided between baking scones and cakes.

11.1.2.2: Types of Resources

Resources are mainly made up of Land, Labour, Capital and Enterprise.

Land

Resources from land are mainly natural resources which include the water and the sea. Minerals and petroleum (oil) and gas, timber and crop resources are extracted from the land. Fish and other marine resources are taken from the sea. The river also provides fish and other aquatic resources. The river also provides water for human consumption and for generation of electricity for households and industries.

Below are photographs of some land resources.



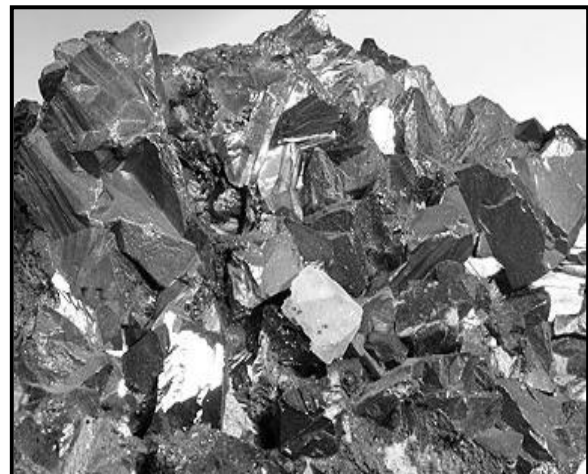
Forest Resources. (www.fiapng.com)



Hawksbill Turtle; (wwf.exposure.co)



Inter oil operations; (www.emtv.com.pg)



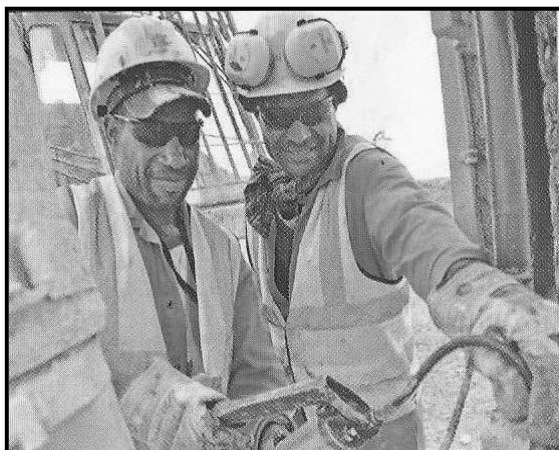
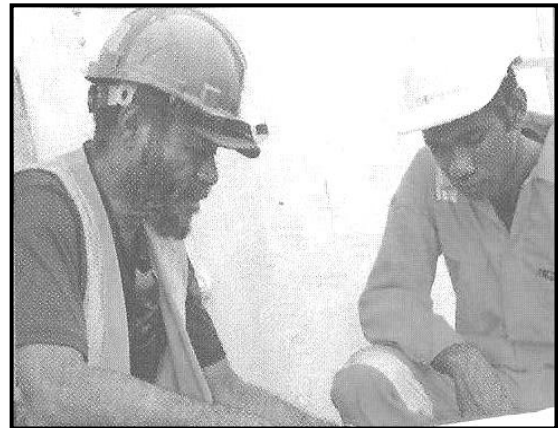
Gold & silver minerals,
(www.mining-technology.com)



Labour

Resources provided by labour includes all human effort whether it is physical or mental effort or whether it is skilled or unskilled effort put into production of a good or a service.

Below are examples of Labour Resources.



Picture source: 1.Paradise Magazine by TPA and Air Niugini.

Capital

Resources from capital are mainly man made. Capital refers to equipment made by labour mainly to use in production of other goods and service.

For example, fishing net is a capital resource used as an aid in fishing. A truck is a capital resource used for transportation of raw materials to the factories and finished goods from the factories to the stores.

We can also view very skilled labour as human capital. Money cannot be seen as a capital in economics because by itself it is not able to produce a good or a service. It can be used to purchase other capital equipment which then produces goods and services. Therefore money can be referred to as **financial capital** in economics.



These pictures are examples of capital resources.



Picture source: The National Newspaper 2014

Enterprise/ Entrepreneurship

Resources from enterprise can be seen as a human resource or human capital because it is made up of skilled labour that has the ability to organise and manage all other resources to produce a good or a service. They are also known as entrepreneurs.

Entrepreneurs are decision makers and risk takers. They organise and manage land, labour and capital to produce a good or a service.

For example, a shop owner organises land to build his shop (capital) and employs workers (labour) to work in the shop while also coordinating transportation (capital) to deliver the goods for the shop.

Land, labour, capital and enterprise are also known as the factors of production or economic resources in economics.

Below are examples of enterprise resources



Picture source: 1. Magazine from Chambers of Mine and Petroleum & the National Newspaper

Types of Natural Resources in Papua New Guinea

Papua New Guinea has an abundance of natural resources.

a. Mineral Resources

The discovery of mineral resources like gold, copper, zinc, nickel in PNG has resulted in a number of world class mines such as; Porgera, Lihir, Tolokuma, Misima, Wafi, Hidden Valley, which are mainly gold, copper and zinc mines. Ramu is mainly a nicle mine. Apart from these major mines there are small alluvial gold mines all across PNG.

b. Forest Resources

The forest industry in PNG is also a major importer of forest products. PNG imports sawn timber, logs and woodchips.



c. Marine Resources

The fishing industry in PNG imports tuna, lobsters and crayfish, prawns, barramundi. Most of the fish products are mainly exported to Europe. Foreign firms like RD Tuna, IFC, Frabelle are foreign fishing firms that set up their operations in PNG and supply local consumers and exports mainly to Europe.

d. Petroleum Resources

The gas and oil industry are the most recent resources to be developed and exported. The oil fields in Gobe and Kutubu have been exporting oil for the last ten years. The LNG (Liquefied Natural Gas) industry has been developed in the last five years and has begun exporting Liquefied Gas in (2014).

The Gas field in Tari (Hela province) is predicted to have a 30 year life span. Another LNG gas project is still under development in Gulf and Western province (the Elk- Antelope gas project) which is predicted to be bigger than the Hela gas field is also predicted to have a 30 years life span. Together the LNG gas industry will contribute to PNG's economic development for the next 60 years. The multinational firms like Exxon Mobil, Oil Search and InterOil are firms developing these resources.

e. The Cash Crop Resources

The Cash crop industry has been the traditional exporting industry in PNG long before the development of minerals, gas and oil industries. PNG has been exporting coffee and tea, cocoa and copra before independence by expatriate plantation owners. After independence, most expatriates sold off their plantations and the government took over. However larger plantations are still owned by expatriates. Recently the Palm Oil industry has developed rapidly across PNG having large estates in Oro, West New Britain, New Ireland and recently in Morobe and East Sepik. It is a major contributor to PNG's economy. Vanilla, spices and other minor cash crops also contribute to agriculture exports of PNG.

f. Fruits and Vegetables Resources

The fruits and vegetables market in PNG is another thriving sector mainly within the economy. Western Highlands province being the hub of farming in PNG has been the main supplier of fruits and vegetables to other major towns and cities in PNG. This industry mainly makes up the SME (Small Medium Enterprise) industry in PNG and contributes to the local economy.



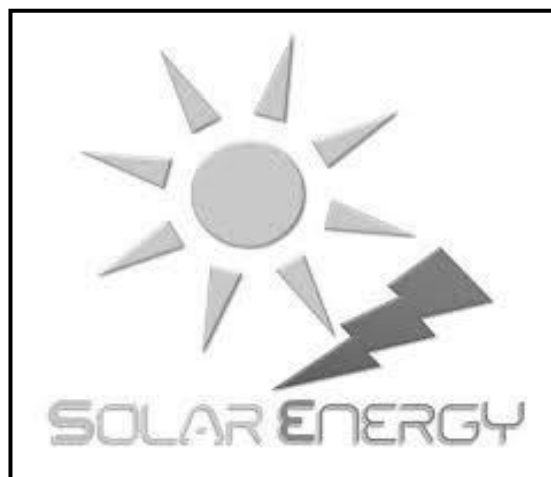
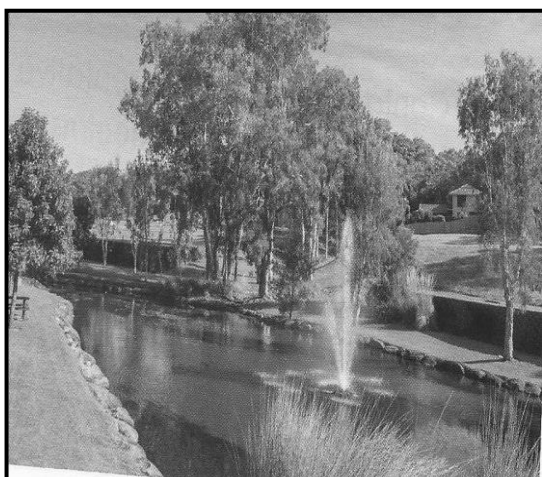
11.1.2.3: Renewable and Non-Renewable Resources

Natural resources can be divided into renewable and non-renewable resources.

1. Renewable Resources

They are mainly taken from the environment and made up of living things, which means most of them are organic materials. They include food, trees and natural fibers, food and plant extracts like oil and medicine. Solar, wind, tidal and hydro power are also renewable resources.

The pictures below are examples of renewable resources.



In order for renewable resources to regenerate for us to use again, it depends upon the effort of the society to protect the environment and the natural system that provides them.



WIND TURBINE GENERATOR IDEAL FOR RURAL SETTINGS

BY LUCAS KAWAGE

GENERATORS powered by wind turbines making ways into Papua New Guinea is ideal for remote locations where static electricity connectivity is not readily available due to rugged terrains.

Wind Turbines are used overseas to power electricity at different settings and locations.

“Installing wind turbines along the hiking track to provide lights for hikers climbing 4509m Mt Whilhem in Chimbu province above sea level is another excellent investment for PNG tourism industry, likewise for the track along Kokda Track,” said Mr

Ranu Ume of South Breeze PNG Ltd.

South Breeze PNG Ltd have been distributing this wind turbine generators throughout Papua New Guinea since early October 2014.

Some residents of Hagara village near Hanuabada village are installing the wind turbine generators to supply them with electricity needs.

Wind turbine generators generate electricity every seconds and minutes.

Even when the weather is cloudy or raining and the day is still, the wind turbine is still generating electricity.

Town urban local level governments can also use wind turbine power generator for street light.

Source: 1The National Newspaper 214

2. Non-renewable resources

These are inorganic and include fossil fuels such as petroleum product like oil, gas and minerals like gold, copper, diamond. Metals and building materials like bricks and steel are also non-renewable. These resources are extracted from the earth's crust and are fixed in quantity. Most non-renewable resources are inorganic, they cannot regenerate. They are recycled by processing them to be used again. Bottle and glass, steel and aluminum, cardboards and papers and plastics are all recycled to be used again.

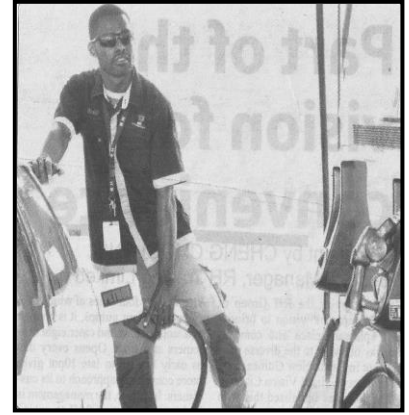
Below are examples of Non-renewable Resources



Oil Products



Mineral Ore



Petroleum Products

Picture source: Mining and Petroleum Magazine by PNG Chambers for Mines and Petroleum.

The world has become aware of the scarcity of both the renewable and non-renewable resources and the mounting pressure from the unlimited needs and wants of the world as advanced technologies and industries and the increased growth in population demand more use of these resources.

As a result, more industrialised countries in Europe and North America and Asia (USA, Canada, England, France, Germany, Japan, South Korea) are leading other emerging economies like (Brazil, Russia, India, China, Indonesia) and other developing countries from Asia, Pacific, Africa, Caribbean and South and Central America to develop strategies to sustain these resource and do research to find alternative source of fuels to power their industries.

More countries are now adapting sustainable practices such as reforestation programs, recycling, solar and wind energy harvesting, bio gas and bio fuel programs (such as ethanol and methane gas to power vehicle). Hybrid electrical cars have been developed in Europe, North America and Japan to reduce the world's dependence on oil.

Minimising the use of non-renewable resources

We know that the world depends on fossil fuels which are mainly non-renewable and to minimise the use of these non-renewable resources, governments and multi-national firms must;

- Fund research programs to develop alternative energy sources
- Recycle and re-use equipment and materials made from non-renewable resources.

There is already countless number of alternative energy sources being used to generate electricity and as fuel for machineries. This contributes to minimise the use of non-renewable resources.



Preservation and Conservation of Resources

There are also increasing number of NGOs being funded by multinational corporations to carry out conservation and preservation work on the natural environment and its ecosystem. In PNG there are many organizations like the World Wildlife Fund (WWF) working to preserve the environment and the endangered species of animals. There are so many programs run by NGOs and government agencies targeting the preservation and conservation of forests, mangroves, reefs, fish species, birds and the land itself.

Now you may ask what is the importance of these preservation and conservation work? We know that the basic things needed for survival and to make other goods and services that we need and want come directly from the environment around us. Therefore preservation and conservation of the environment is very important because;

- It sustains and maintains the environment to continue to produce the basic things needed by humans to survive. For example, the forest and its ecosystem produces oxygen for living things and are used by humans as a source of obtaining medicinal ingredients and food.



11.1.2.4: Allocation of Resources in Papua New Guinea

What does the concept of allocation of resources tell us?

We know that resources are scarce (limited in supply). That is why an economic system exists to distribute these scarce resources evenly or to where they are most needed so that resources are not wasted. That is the main idea behind the study of this concept of allocation of resources.

Allocation of Resources

An efficient economic system will be able to allocate scarce resources efficiently and effectively. That is, resources will be distributed to where they are put into use to produce goods and services that people really need the most and not producing things that people do not want. In trying to allocate resources, different economies will ask these questions;

1. What do we need to produce?
2. How do we produce what is needed?
3. How much to produce?
4. Who do we produce for?

That is why; we also study the different types of economic systems (theory) to understand how efficient they are in allocating resources.

Factors determining how resources are allocated in PNG

There are many factors that determine how allocation of resources is done in any economy. The main factors determining the allocation of resources in PNG are seen to be;

1. Government policies

This factor plays a major role in determining where resources should be distributed to.

For example, the government's free education policy has seen that the government makes sure more financial capital resources are allocated to this sector to allow classrooms to be built and more teachers to be trained and employed so that more children should have access to basic education.

You will have also read in newspaper and seen on TV or heard on the radio or even better witness it that another important government policy is to build road to give access to the rural population to travel to towns and cities and have access to markets to sell their cash crops and other produce.

Currently the *Trans Island Highway* connecting Port Moresby, Lae and the Highlands region via Gulf has already begun. The government is allocating more resources into building road which they see as a much needed necessity by the population.

Resource Allocation refers to the distribution of resources equally so that everyone benefits which satisfies their needs and wants.

2. Income

This factor is also very important in determining how resources are allocated. The demand for some goods and services are highly sensitive to increase in real income.

For example; when real income increases, demand for goods and services will also increase. This will then cause producers to allocate more resources into production of the goods and services which are high in demand.

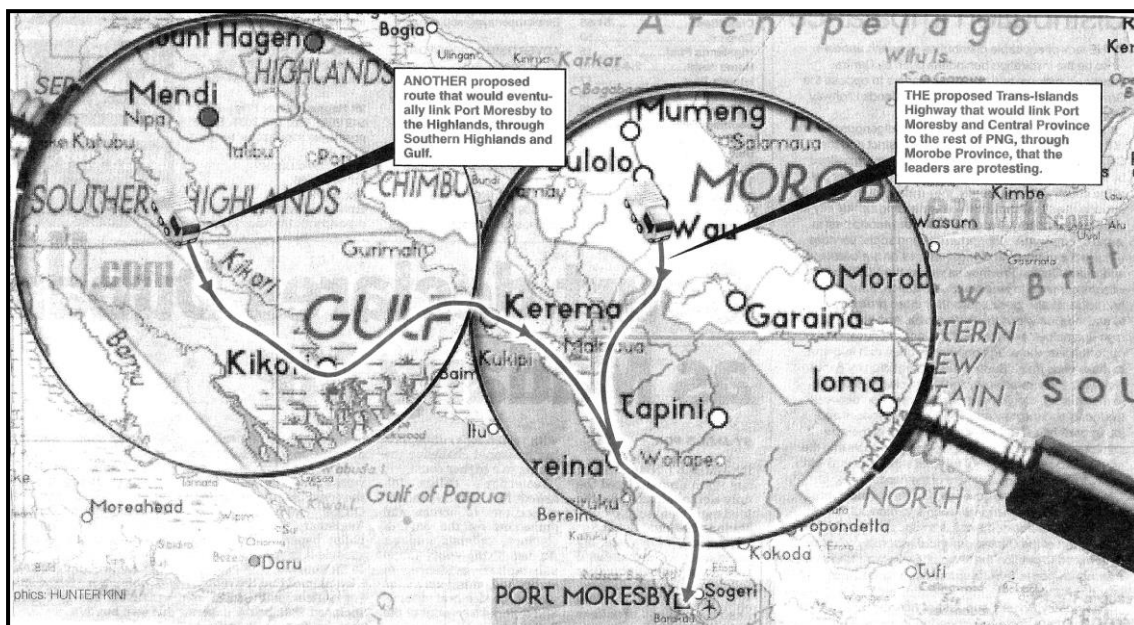
3. Increase in prices of goods and services (inflation)

This factor mainly causes uncertainty for businesses and may result in reduction of funds or withdrawal of funds into highly productive business venture that will benefit the society.

For example, it has been expressed openly that PNG is an expensive place to do business because of the inflated cost of organising resources like land and labor. Many business ventures by foreign investors have been withdrawn and funds reallocated to another area of interest because of high cost of doing business.

The Launakalana Cassava Project in Rigo in Central Province was a much publicised project for cassava bio fuel (ethanol) by a Korean firm. The firm has since abandoned the project and has reallocated its funds somewhere else. This is a highly productive business venture and could have benefited the Rigo society.

THE TRANS ISLANDS HIGHWAY





4. Population Growth

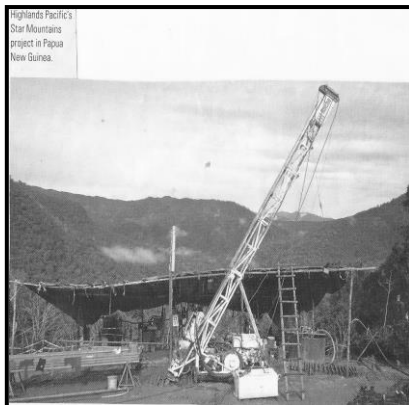
This is one of the most important factors in determining how resources are allocated in the economy. Growth in population will imply changes in consumer demand and changes in resource supplies.

For example, a larger percentage of the population in PNG is school age children between 5 to 20 years of age. As a result the demand for basic primary and secondary and tertiary education has increased dramatically. To address this demand the government has change the supply of its resources by allocating more of it to education by subsidising basic education and creating a free education policy.

5. Expansion and Growth of Industries

It is also true that in any modern economy there are industries which are expanding. The productive capacity of these industries expands rapidly causing economies to make adjustment in the allocation of its resources. When this happens, economic growth takes place.

For example, the LNG project is a highly productive industry. Its productive capacity extends to so many business fields therefore the PNG government has also allocated some of its financial resources into this project. By allocating more resources into this industry, the government is aiming to make money from the share of its investment from the export of liquefied natural gas to other countries. The revenue fall back to PNG and the economy will realise its capacity for growth.



Drilling for oil



LNG plant in Hela



Exporting PNG gas to the world

**Ways to minimise the use of Non-renewable Resources**

The modern approach to minimise the use of non-renewable resources by many multinational corporations and industrialised nations is by funding research studies into the development of alternative and environmentally friendly energy source. There are government programs designed to minimise the use of non-renewable resources by recycling (re-use) materials made from non-renewable resources. These methods are documented and are widely available online for general use. The most appropriate nation to study many different ways of minimising the use of non-renewable resources is Japan. Japan is a country that has developed many technology and methods in recycling non-renewable resources.

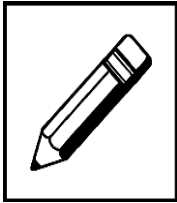
**YOU HAVE COME TO THE END OF TOPIC 2. YOU MAY
NOW READ THE SUMMARY ON THE NEXT PAGE.**



Summary 11.1.2

- A resource is a factor of production which is used to produce a good or a service.
- A resource is mainly made up of land, labour, capital and enterprise
- Resources are scarce (limited in quantity)
- Resources from land are mainly natural resources which include water and sea.
- Resources provided by labour include all human effort whether physical or mental or skilled or unskilled effort put into production of a good or a service.
- Resources from capital are mainly man made. Capital refers to equipment made by labour mainly to use in production of other goods and service.
- Resources from enterprise can be seen as a human resource or human capital because it is made up of skilled labour that has the ability to organise and manage all other resources to produce a good or a service. They are also known as entrepreneurs. Entrepreneurs are decision makers and risk takers.
- Natural resources can be divided into renewable and non-renewable resources.
- Non-renewable resources are inorganic and include fossil fuels such as petroleum product like oil, gas and minerals like gold, copper, diamond. Metals and building materials like bricks and steel are also non-renewable. These resources are extracted from the earth's crust and are fixed in quantity.
- Renewable resources are mainly taken from the environment. They are made up of living things, which means most of them are organic materials. They include food, trees and natural fibers, food and plant extracts like oil and medicine. Solar, wind, tidal and hydro power are also renewable.
- Most non-renewable resources are inorganic and cannot regenerate; they are recycled by processing them to be used again. Bottle and glass, steel and aluminum, cardboards and papers and plastics are all recycled to be used again.
- In order for renewable resources to regenerate for us to use, it requires the effort of the society to protect the environment and the natural system that provides them.
- An efficient economic system will be able to allocate scarce resources efficiently and effectively. That is, resources will be distributed to where they are put into use to produce goods and services that people really need most and not producing things that people do not want.

NOW DO STUDENT LEARNING ACTIVITY 11.1.2 ON THE NEXT PAGE.



Student Learning Activity Topic 2

Student Learning Activity 11.1.1

Write your answers on the spaces provided after each question.

1. What is a resource?

2. Identify the 4 main factors that make up most of the resources.

- i.

- ii.

- iii.

- iv.

3. List the 3 main characteristics of a resource.

- i.

- ii.

- iii.

4. Give your own brief explanation of why a resource is said to be;

i. Scarce



ii. Not all places have the same type or amount of resources

iii. Resources have alternative or competing uses.

iv. A resource can be used to produce more than one good or service.

5. Give 5 examples of resources that come from Land, Labour, Capital and Enterprise by filling the table below.

Land	Labour	Capital	Enterprise

6. Describe the manufacturing process of a product in your local area and identify one major Land, Labour, Capital and Enterprise resources required to produce it and explain how it is organised.



7. Describe how an entrepreneur organises and manage land, labour and capital resources generally required to set up a shop.

8. There are organisations like MSF (Medicine Sans Frontier) known as doctors without borders who are also providing medical services to the rural population of PNG. In terms of allocation of resources why do you think organisations like MSF are also providing medical services to the rural population? (Think along the line of why are they providing these services in PNG? What are some of their interests in PNG?)

9. Explain why allocation of resources in any economic system is important?

10. Explain the main ideology of the concept of allocation of resources.

11. Describe how an efficient economy will allocate its resources.



12. Give an example of a government policy that determines the allocation of resources in PNG.

13. If inflation (rising prices of goods and services) has an effect in allocation of goods and services, give an example of this.

14. The rising needs and demand for basic education would result from which factor of allocation of resource?

NOW CHECK YOUR ANSWERS AT THE END OF THE UNIT



This topic identifies areas where the basic economic problem can be easily identified. It points out that resources are scarce, wants are unlimited, choices must be made and costs must be taken.



Specific Learning Outcomes

After completing this topic, you should be able to;

- define and explain what a wants is.
 - identify, describe and explain the characteristics of a want.
 - differentiate between wants and needs.
 - explain with example why making a choice involves an opportunity cost.
 - calculate opportunity cost using a PPC (Production Possibility Curve)
 - define and explain what the Economics method is
 - apply economic methods to solve economic problems. (Simulation game)
-



11.1.3.1: Wants

In the introduction to this Unit we learned that resources are scarce (limited) and wants and needs are unlimited. We also studied the different characteristics of a resource. In this topic we are going to learn about Wants and Needs.

What are wants?

A want can be defined as 'the desire to consume a good or service to get satisfaction.' Or if we look at it as a material resource than it can be defined as 'things that we would like to have but are not really necessary, we can live without.'

What are needs?

A need can be defined as 'things that we must have in order to survive, they are really necessary.'

Self-Assessment Questions:

1. Make a list of all the wants that you should have today that will contribute to achieving what you need to do today.

2. List them in order of importance.

3. Identify the wants that contribute directly to completing your task.

4. Identify the wants that are not necessarily needed to complete your task.



5. The wants in 3 will be your most essential wants for the day while the wants in 4 will be your non-essential wants.

Origins of Wants

In this part we will see that wants can be created by certain situations or conditions.

1. Biological Conditions

We see that males and females may have different contrasting wants.

2. Income

As your income raises your wants also increases. Example, a person on a higher income would want to buy another car for his wife. As your income decreases, you would tend to demand more inferior goods.

3. Peer Pressure

This condition is voluntary in nature. If you decided to follow your friends influence then you might also want to have what they all have. For example; if all your friends own a car then you might want to own a car to get into their circle of influence.

4. Advertising

The essence of advertising is to act as catch phrases and enticing campaign to attract consumers to want a product. This is mainly seen as creating demand for a product.

5. Climate and Geographical Location

People in Mt Hagen will want warmer clothes than people living in Port Moresby. This is because of the geographical location of both places and the difference in climate. People living in the North Pole (Alaska) will want warmer clothes than people living near the Equator.

Types of Wants

There are wants that are really essential and wants that are non-essential.

1. Primary wants are essential wants that directly contribute to your economical welfare.
2. Secondary wants are non-essential wants that may be generated by having the primary wants.



Characteristics of wants

Human wants are so many even though we already have what we want. But we still want to have other things that we do not currently have. We tend to think that if we have them the level of our well-being would be higher. Therefore, wants are said to have these main characteristics;

1. Satisfaction of one want generates a new want.

After having a creamy bun you will want a drink. When buying a new denim jean you will also want a shoe.

2. Wants vary between person, time and place.

Your favourite record cannot be my favourite too, isn't it? The type of high fashion people like in the 1980s will be seen as an amusement today. Most people in Mt Hagen would very much want more warm clothes than people in Port Moresby.

3. Some wants are recurring

Some wants such as food, drinks and newspapers occur again and again. If you eat something now after a little while you will want to eat and drink something again. If you read today's newspaper, you will want to buy another newspaper tomorrow to follow on the same news.

4. Some wants are complementary

Buying a car will satisfy your want to have a car but it will initiate the want to have petrol so that the car can function. Both the car and petrol are complements. They are needed together to function.

5. Wants vary with age gender and time

People have vastly different wants at different stages of life. A child may want a tricycle. A young person may want a sports car. A family man may want a station wagon or a family bus. Females have different wants than males.

6. Wants have opportunity costs

Making decisions to choose between two alternative wants, one must be left out for another.

7. Wants are habitual

Learned habits contribute to rise of habitual wants. For example addiction to smoking and drinking alcohol and even betel-nut chewing generates continuous wants to consume these items.



11.1.3.2: Wants versus Needs

Let's identify some of the basic wants and needs in the society.

Wants (can live without)	Needs (necessary for survival)
Snacks Soft drinks Beer Snickers (shoes) Car Mobile phones Laptop computers	Food Shelter Clothes Water Air Land Labour Capital Enterprise

Identifying wants and needs is important in an economy so that resources can be allocated to provide for these wants and needs. Wants are mostly used to increase the level of our welfare in the society. The more cars you have your social status in the society increases. However they are really unnecessary. We can live without them if we choose to.

Importance of Needs

On the other hand, when we look at societies' basic needs, they are made up of very important resources which are mainly scarce.

Food is taken from land, and land is a scarce resource in all societies over the world. Land must be carefully allocated to grow enough food to feed the world.

Shelter and clothes are also seen as basic needs because they provide cover and protection for humans who are the main agents of things and changes in every society in the world. Water and air are also defined as free goods in economics because they have no costs attached to it. However water in most societies is now becoming a commodity (sellable item).

Labour (humans) is the most important resources in all societies. Their physical and mental efforts make things and changes happen. But skilled labour is scarce in many developing societies of the world.

Capital (finance and machineries) are also needed by societies to produce other goods and services for human consumption.

Entrepreneurs are the main manufacturers and distributors of goods and services in the society. They organise all factors of production and allocate resources to produce and distribute goods and services that are needed (demanded) in the society.

Land, Labour, Capital and Enterprise are also known as economic resources. Economic resources are the main factors of production and they are also the main basic needs for societies to use in order to produce goods and services for their survival.



11.1.3.3: Choices versus Opportunity Cost

By now the full meaning of economic problem should be obvious to you as a student of economics. 'Resources are scarce (limited) relative to the unlimited wants of the society.' Decisions must be made about how to use or allocate those resources to achieve maximum **efficiency** because they are scarce and capable of alternative uses.

Efficiency means producing the maximum possible output of the range of goods and services most wanted by the society. It is achieved when all resources are fully employed (used) in a way that maximises output (benefits) and minimise the cost of production.

When we make an economic choice, we are also faced with a cost of making that choice. Every economic choice has a cost attached to it. Therefore the economic decision that you make to carry out the choice must make full and efficient use of the resources that is used to carry out the choice you made which is **maximum benefit** and **minimal cost**.

When a set of resources is used to produce a good or a service, alternative goods or services which can be produced with the same set of resources must be given up or sacrificed. The alternative goods which have been given up or sacrificed become the **Opportunity Cost** of the choices you have made.

The opportunity cost to the economist is 'the real cost for choosing a cause of action'.

For example; you have made a choice to spend K150 for an electronic gadget that can play movies, music and games. You went to a shop and you see that a smart phone and an MP4 player can perform these functions. The MP4 player cost K80 and the Smart phone cost K150. But you have decided to buy the smart phone because of its multiple functions. Now let us see if your economic decision will make efficient use of the resources you spent (K150) and have maximum benefit at a lower opportunity cost.

Benefits of the MP4 Player	Benefits of the Smart Phone
<ol style="list-style-type: none">1. Play music2. Play movies3. Take picture4. Take videos5. Play games	<ol style="list-style-type: none">1. Play music2. Play movies3. Take picture4. Take videos5. Play games6. Makes phone calls7. Send Text messages8. Email9. Internet access and downloads10. Store documents and files11. Record voice and songs12. Access radio and TV stations.

**Conclusions drawn from the preceding example.**

We can conclude from the economic choice you make that;

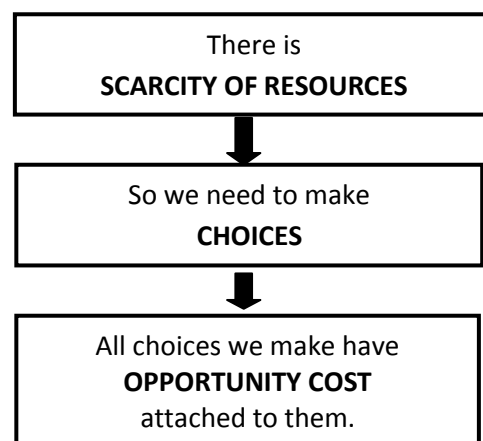
- The smart phone has more benefits than the MP4 player. So you used your resources (K150) to get more (*maximum*) benefits from the smart phone.
- Now let us look at the *real cost* or the *opportunity cost* of choosing to buy the smart phone. That means that we are going to look at all the benefits we have left out or given up or sacrificed in order to have the smart phone. These benefits we left out will become the opportunity cost of choosing to have the smart phone.
- What is the opportunity cost of choosing the smart phone? The opportunity cost of choosing the smart phone is giving up all the benefits from the MP4 player.
- But when you look at the opportunity cost in terms of the MP4 player, the cost is very minimal. You are only sacrificing a small amount of benefits. Whereas if you choose the MP4 player, your opportunity cost in terms of the smart phone will be more.
- So your economic choice of allocating your resources (K150) resulted in efficient use of your resources in gaining a maximum benefit at a lower opportunity cost.
- Why didn't we say that the opportunity cost of choosing the smart phone is K70 (K150 – K80)? It is because opportunity cost is not measured in monetary terms. It measures the real cost of choosing a cause of action, or we can say that it measures the real benefits you could have enjoyed from the other goods or service you have sacrificed.

Sometimes buying one item requires missing out on buying and enjoying the benefits of another item. Vagi has enough money to buy 1 dress and 2 blouses. If she decides to buy 1 dress, her opportunity cost would be 2 blouses. If she decides to buy 1 blouse her opportunity cost would be half of the dress. How?

1 Dress = 2 Blouse.

1 Blouse = $\frac{1}{2}$ Dress

Therefore, the basic concept of economics that we have studied so far is;





The Production Possibility Curve

The concept of choices and economic costs can be easily illustrated using the model of the Production Possibility Curve.

A production possibility curve is an economic model which tries to simplify the real world situation by making the following assumptions.

1. The economy produces only two goods.
2. All resources are fully employed and none is wasted.
3. The state of technology is fixed and is producing at its maximum capacity.
4. The supply of available resources is fixed.

Let us try to make this simpler:

What is a Production Possibility Curve? We know that it is an economic model but it can be simply defined as 'A graph that shows the production ability of a firm in producing two alternative goods with an amount of resources it has in a given market at a particular time'.

Why do we make assumptions in economic models? To study a real world situation is so complex because there are so many major and minor factors involved in causing an economic situation. To understand these complex situations we must make them become simple for us to understand them. By making assumptions we tend to state that some of the factors are not important now so we tend to look at the major factors only. This makes it easy to understand these situations by using economic models.

Let us look at an hypothetical case study to make this concept clearer.

Case study

Assuming that Papua New Guinea has the available resources to produce two different types of goods. It is able to allocate its resources to produce 200 units of rice and 80 units of coffee.

(You can see that we have assumed that this country can produce only rice and coffee. But in fact all countries can produce more goods at one time with their resources.)

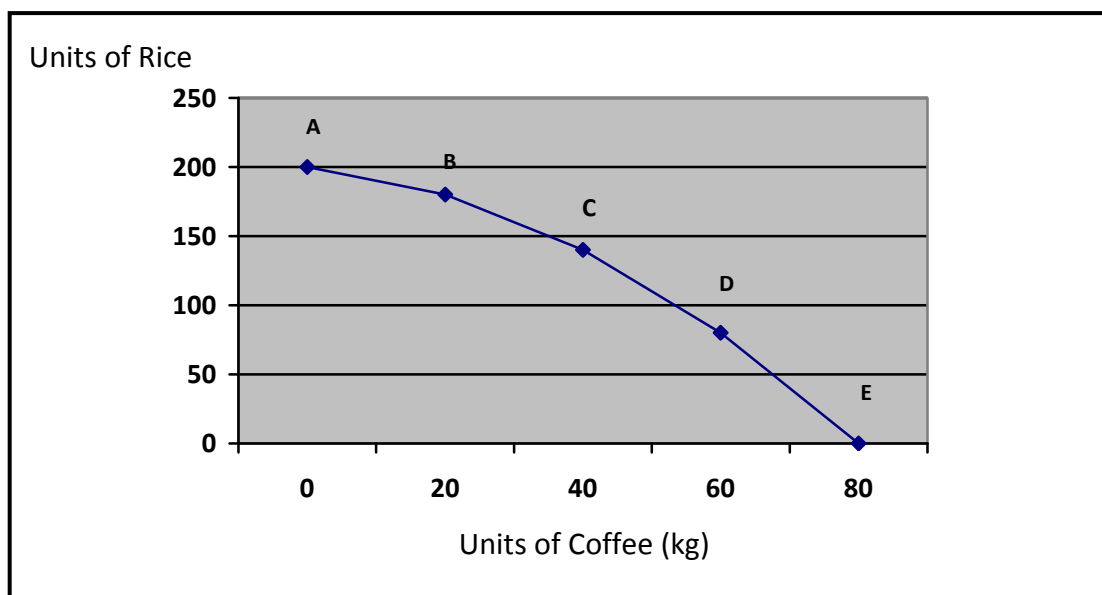
This information can be shown on a production possibility schedule.

**PRODUCTION POSSIBILITY SCHEDULE FOR RICE AND COFFEE**

Production Possibility Points	Units of Rice	Units of Coffee
A	200	0
B	180	20
C	140	40
D	80	60
E	0	80

A Production Possibility Schedule is a table that shows the combination of units of goods produced by a firm or country with the amount of resources it has in a given market at a particular time.

Now, let us show this information on a Production Possibility Curve.

PPC FOR RICE AND COFFEE**Explanation of the PPC**

1. Only two goods are being produced. In this case this firm or country is only producing rice and coffee.
2. All the resources are fully used and none is wasted. That means all resources whether used in production at points A, B, C, D or E are all used up.
3. The state of technology is fixed and is producing at its maximum capacity. That means the maximum ability of the technology used by this firm or country can produce only up to 200 units of rice and 80 units of coffee. It cannot produce beyond that capacity.
4. The supply of available resources is fixed. That means that there are resources available which are enough to produce 200 units of rice and 80 units of coffee. The firm cannot get more because it will not be used.

**What is the main purpose of the PPC model?**

The main application of the PPC model is to highlight some of the basic economic concerns of;

1. Choices and opportunity cost
2. The effects of unemployed and employed resources on potential output (production)
3. The effect of improved technology on output (production)

Now, let us apply the techniques of using the PPC model to address the economic concerns mentioned above by looking at the case study and its PPC model above.

Choices and Opportunity Cost

If a firm chooses to allocate its resources to produce 200 units of rice at point A, what would be the opportunity cost?

At point 'A', this firm can produce 200 units of rice and 0 units of coffee. This means that this firm chooses to produce 200 units of rice so it will have to sacrifice the alternative combination which is 80 units of coffee. The opportunity cost for producing 200 units of rice is 80 units of coffee.

How? Well, the maximum units of rice this firm can produce are 200 units, and it can also produce 80 units of coffee at maximum. Now the firm has chosen to produce 200 units of rice at point A which has a combination of 0 units of coffee. That means it produces 200 units of rice and no coffee at all. That is $(80 - 0 = 80)$. So the opportunity cost is 80 units of coffee being sacrificed.

This is also the same when we use the formula below.

Opportunity cost = Loss ÷ Gain

To produce rice at point A, we lost 80 units of coffee and we gained 200 units of rice. Therefore, $80 \div 200 = 1/2.5$ or 0.4 which means for every 1 unit of rice that is produced, we sacrifice 2.5 units of coffee or 0.4 units of coffee.



If this firm chooses to allocate its resources to produce rice, what are the opportunity costs of producing rice at all these points?

Points of Production	Opportunity cost using the PPC	Opportunity cost using (Loss ÷ Gain)
A	80 units of coffee (80 – 0 = 80)	0.4 (80/200)
B	60 units of coffee (80 – 20 = 60)	0.33 (60/180)
C	40 units of coffee (80 – 40 = 40)	0.29 (40/140)
D	20 units of coffee (80 – 60 = 20)	0.25 (20/80)
E	-	-

Explanation of the example above

In this table we can see that the firm has allocated its resources into production of rice therefore its opportunity cost will be the units of coffee sacrificed.

- At point A it produces 200 units of rice and its opportunity cost is 80 units of coffee or at point A, every 1 units of rice produced has an opportunity cost of 0.4 units of coffee.
- At point B it produces 180 units of rice with an opportunity cost of 60 units of coffee or 1unit of rice produced at point B has an opportunity cost of 0.33 units of coffee.
- At point C it produces 140 units of rice with an opportunity cost of 40 units of coffee or every 1 unit of rice produced at this point has an opportunity cost of 0.29 units of coffee.
- At point D it produces 80 units of rice with an opportunity cost of 20 units of coffee or every 1 unit of coffee produced at this point has an opportunity cost of 0.25 units of coffee.
- At point E there is no production of rice. Only coffee is being produced at this point.



If this firm chose to allocate its resources to produce coffee, what are the opportunity costs of producing coffee at all these points?

Points of Production	Opportunity cost using the PPC	Opportunity cost using (Loss ÷ Gain)
A	-	-
B	20 units of rice (200 – 180 = 20)	1
C	60 units of rice (200 – 140 = 60)	1.5 (60/40)
D	120 units of rice (200 – 80 = 120)	2 (120/60)
E	200 units of rice (200 – 0 = 200)	2.5 (200/80)

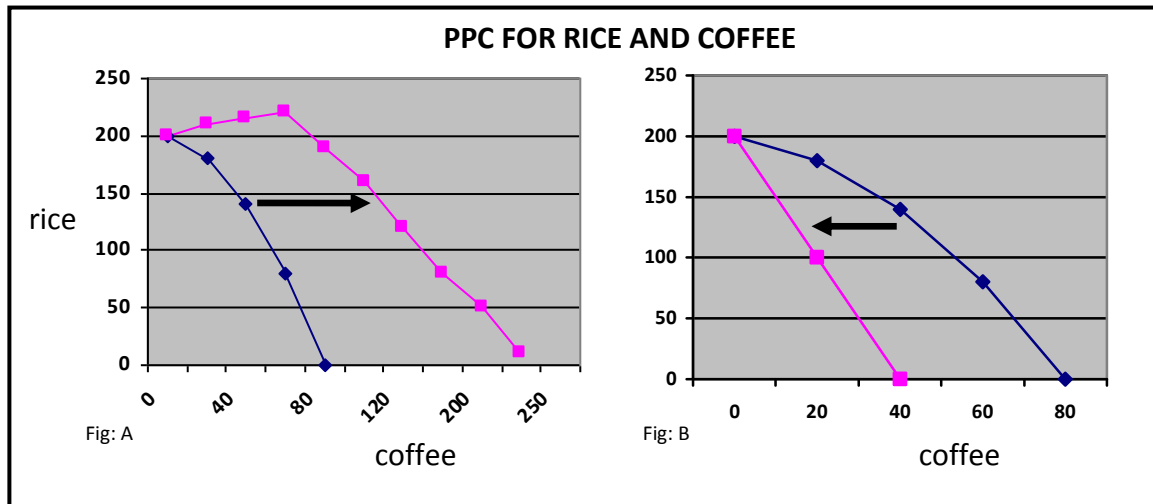
Explanation of the graph above

In this table we can see that the firm has allocated its resources into production of coffee therefore its opportunity cost will be the units of rice sacrificed.

- At point A there is no production of coffee.
- At point B it produces 20 units of coffee with an opportunity cost of 20 units of rice or 1 unit of coffee produced at point B has an opportunity cost of 1 unit of rice.
- At point C it produces 40 units of coffee with an opportunity cost of 60 units of rice or every 1 unit of coffee produced at this point has an opportunity cost of 1.5 units of rice.
- At point D it produces 60 units of coffee with an opportunity cost of 120 units of rice or every 1 unit of coffee produced at this point has an opportunity cost of 2 units of rice.
- At point E it produces 80 units of coffee with an opportunity cost of 200 units of rice or every 1 unit of coffee produced at this point has an opportunity cost of 2.5 units of rice.



Effects of unemployed and employed resources and improvement in technology on potential output.

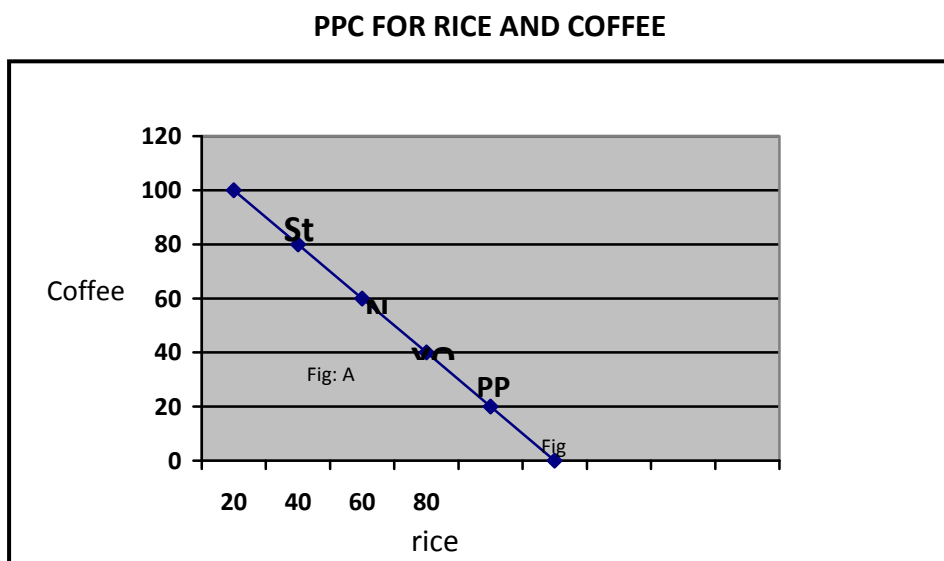


Explanation of the above example

The graph in Figure: A. shows the effect of availability of new resources and improvement in technology for coffee. The original PPC has the ability to produce 200 units of rice and 90 units of coffee. As new resources become available and technology for coffee improved, the production for coffee increased from 90 units to 250 units.

The graph in Figure: B. shows the effect of unemployed resources and deterioration in technology in production of coffee. The original PPC has the ability to produce 200 units of rice and 80 units of coffee. Because the available resources have not been used effectively, and there is fault in the technology for production, the production for coffee decreased from 80 units to 40 units.

These effects can also happen to rice production or it can happen to production of both goods.





From the PPC above you can see that this firm is currently producing rice and coffee at points A, B, C, D, E and F. These points are the production frontier of this firm and at these points we assume that;

- all resources are fully used
- the state of technology is fixed
- only two goods are being produced
- the supply of available resources is fixed

If the firm shifts its production to point H, than there is something wrong. This point shows that the firm is producing below its production ability.

There are two main reasons for that;

1. The available resources have been underutilized (not been fully used). That means some resources have been left idle, not put in use that is why productions have dropped. It can be raw materials, labour or capital resources.
2. If the technology used has a mechanical or technical problem than it may not produce at its full capacity. As a result production decreases to point H.

Production at point G cannot be achieved now. Why? Because point G is a level higher than the level at which the firm is now producing at (A, B, C, and D).

In order for this firm to produce at point G, it must acquire;

1. New additional resources to increase its production to a higher level at point G.
2. New technology which can increase its capacity and efficiency to produce at a higher level.

The optimum point of production

What is the optimum point of production?

We can define it as 'the point of production where resources are not seen to be under used or wasted.

From the PPC for rice and coffee above, which commodity gives the optimum point of production? If you say 'point B in coffee production' than you are absolutely correct. Why? Because in coffee production at point B, the firm allocates its resources to produce 20 units of coffee and has an opportunity cost of 20 units of rice. So the benefit is the same as its cost.



Costs and Benefits

We now know that any economic choice we make comes with a cost. There are different types of cost attached to choices made by individuals, societies, organisations and countries.

1. Private Cost

Costs that are accrued (added) to and paid by the individual economic decision maker. e.g; missing the exam because you decide to attend a funeral service.

2. Private Benefits

Benefits that are accrued to and enjoyed by the individual economic decision maker. eg; enjoying the features from your own lap top computer.

3. Social Cost

Costs that are accrued to and paid by the society as a whole. eg; water pollution will contaminate the fish stocks and the society may suffer as a result.

4. Social Benefits

Benefits that are accrued to and enjoyed by the society as a whole. eg; free education for all school aged children will see more children going to school.

Self –Assessment Questions

Study these different situations given and state whether they are private costs or benefits or social costs or benefits.

Situations:

1. You win K500 from pokies _____
2. Your Governor gives scholarship to all Grade 12 students in your province _____
3. Your parents spend K250 for your school accessories (bags, shoes, books etc.) _____
4. You graduate with a Law degree _____
5. The government spent K50 million in training new police recruits _____



11.1.3.4: The Economic Method

In this sub-topic you will learn to use the economic method in trying to solve economic problems. In the beginning of this unit, we studied how the economic problem evolved around unlimited end (needs and wants) and scarce (limited) resources. As a result choices had to be made on which alternatives to choose and decisions made on how best to use the scarce resources. But with all the economic choices we make there are costs and benefits attached to it. Now we still have a problem here.

With all the economic decisions we make, the resources must be efficiently used to gain maximum benefit at a lower opportunity cost. How do we do that?

The economic rule in the economic method states that;

1. If the cost is greater than the benefit, don't do it
2. If the benefit is greater than the cost, do it.

Let us look at an hypothetical case study to try to really understand the economic method of solving economic problem.

Case Study

The A1 Paint Company is a British company that specialises in manufacturing paint. The firm has acquired 50 hectares of land at Vanapa at Brown River and has already started building its factory. According to the General Manager, Mr. Bruce Collingwood, the factory is a state of the art modern factory with computerised operation system. The factory was expected to be completed in November 2014 and the production starts in February 2015. Mr. Collingwood said that the state of the art factory cost the firm K25 million to build. Most of the technology used is sourced from England but all building materials were bought in PNG which see about K10 million put into the local economy.

The firm aims to produce 20 million liters of paint in the first year. Five million liters will be sold in the local markets at a rate of K15 per liter. The other 15 million liters will be exported to the Australasian market at a rate of US\$25 per liter.

The firm aims to employ around 50 local people at a cost of K3 million per year. It is also estimated that spin-off benefits from the factory will see another K5 million paid to local contractors. The estimated tax payment to the government is about K10 million per year.

However, an environmental lobby group has been mounting campaign against the firm, citing their environmental damage and poor waste management system from their operation in Eastern Europe. They complained that the firm will pollute the Brown River as it did in Eastern Europe. They said the natural habitat, wildlife and human population that depend on the Brown River ecosystem will suffer from pollution and contamination.

The group estimated that on average a Brown River fisherman get K80 per day from selling fish from the river. The river is also used for watering vegetable gardens near the river and farmers get K120 per day from selling their vegetables at Gordon market.



If the river is polluted, all this income will be lost. The group also stated that it costs a local from Brown River K25 to travel to and from Port Moresby per day to seek medical attention. Brown River has a population of 700 people. Imagine how much they will spend per year for medical attention.

It will also cost the government an estimated K25 million to clean up the pollution and K50 million to cover health cost for the locals per year. The group is putting pressure on the government to stop this project.

We have an economic problem now. Will this project bring more cost or more benefit to the society? On the other hand, will this problem bring more benefit or most cost to the firm? We will now apply the Economic Method to try to solve this economic problem.

The Economic Method

Step 1: Identify and list down all the private and social cost and benefits for the society and the firm for a year.

(i) The Firm

Private Costs	Private Benefit
<ul style="list-style-type: none">• K25 million for construction of factory• K10 million purchase of local materials• K3 million per year for wages/salaries• K5 million payment for local contractors• K10 million government tax per year	<ul style="list-style-type: none">• 5 million litres x K15 = K75 million• 15 million litres x U\$ 25 = U\$375 million converted to PNGK = K900 million
Total cost = K53 million	Total benefits = K 975 million



(ii) The Society

Social Costs	Social Benefits
<ul style="list-style-type: none">• $K80 \times 365 = K29\,200$ lost revenue from fish per year• $K120 \times 365 = K43\,800$ lost revenue from market• $K25 \times 365 \times 700 = K6,387\,500$ total cost for medical attention• K25 million pollution clean-up by state• K50 million health cover by state	<ul style="list-style-type: none">• K10 million spent on local materials• K3 million for wages and salaries• K5 million spent on local contractors• K10 million payment for government Tax
Total cost = K81.5 million	Total benefits = K28 million

Step 2: Identify if the costs are greater than the benefits or benefits greater than the cost.

- For the firm the private benefits are greater than the private costs.
- For the society the social costs are greater than the social benefits.

Step 3: Identify and see;

- If the costs are greater than the benefits, do not attempt to do it.
- If the benefits are greater than the cost, do it.

Here you have now identified that the firm will be more determined to do that project because it has calculated that its private benefits will be greater than its private costs. That is, it has seen that this project is more economical and profitable for the firm to continue.

On the other hand you have identified that the society will be reluctant to pursue this project because it has identified that there are more costs and less benefits from the project. That is, it has seen that this project is uneconomical (not beneficial) for the society.

Step 4: Economic Decision Making

Economics is also about how to make good collective decision whether as an individual or as a citizen of a community, state or country. This step is the most crucial step of the economic method because the decisions you make must efficiently make use of the scarce resources and gain maximum benefit at a lower opportunity cost.

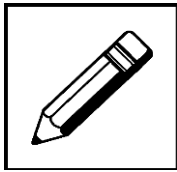
YOU HAVE COME TO THE END OF TOPIC 3. YOU MAY NOW READ THE SUMMARY ON THE NEXT PAGE.



Summary 11.1.3

- A want is the desire to consume a good or service to get satisfaction or things that we would like to have but are not really necessary. We can live without them.
 - Needs are things that we must have in order to survive, they are really necessary.
 - When we make an economic choice or decision we are also faced with a cost of making that choice. Therefore, the economic decision that you make to carry out the choice must make full and efficient use of the resources which gives maximum benefit and minimal cost.
 - When a set of resources is used to produce a good or a service, alternative goods or services which can be produced with the same set of resources must be given up or sacrificed. The alternative goods which have been given up or sacrificed become the Opportunity Cost of the choices you have made.
 - The opportunity cost to the economist is the real cost for choosing a cause of action.
 - A production possibility curve is an economic model which tries to simplify the real world situation by making the following assumptions.
 1. The economy produces only two goods.
 2. All resources are fully employed and none is wasted.
 3. The state of technology is fixed and is producing at its maximum capacity.
 4. The supply of available resources is fixed.
 - A Production Possibility curve is an economic model but it can be simply defined as a graph that shows the production ability of a firm in producing a combination of two alternative goods with an amount of resources it has at a particular time’.
 - A production possibility schedule is a table that shows the combination of units of goods produced by a firm or country with the amount of resources it has at a particular time.
 - The main application of the PPC model is to highlight some of the basic economic concerns of;
 1. Choice and opportunity costs
 2. The effects of unemployed and employed resources on potential output (production)
 3. The effect of improved technology on output (production)
 - The optimum point of production is the point of production where resources are not seen to be under used or wasted.
 - The economic method is mainly used to solve the economic problem.
-

NOW DO STUDENT LEARNING ACTIVITY 11.1.3 ON THE NEXT PAGE.
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Student Learning Activity 11.1.3

For Questions 1 to 14, circle the correct answer.

1. Which of the following can be classified as wants?

- A. sandwich, shirt, house
 - B. shoe, car, food
 - C. fridge, washing machine, water
 - D. laptop, camera, mobile
-

2. Which of the followings can be classified as needs?

- A. clothes, food, house
 - B. shoe, car, food
 - C. fridge, washing machine, water
 - D. laptop, camera, mobile
-

3. After having your dinner you would like to have a coke. Which characteristic of wants does this falls under?

- A. some wants are complementary
 - B. some wants are recurring
 - C. satisfaction of one want generates a new want
 - D. wants vary between person, time and place.
-



4. You bought a motorcycle and you want to fill it up with fuel to go for a ride. What characteristic of want is that?

- A. some wants are complementary
 - B. some wants are recurring
 - C. satisfaction of one want generates a new want
 - D. wants vary between person, time and place
-

5. People in Port Moresby are always out during the day with a T-Shirt or a Singlet while in Enga most people would prefer to go out-door with a jacket. What characteristic of wants is that?

- A. some wants are complementary
 - B. some wants are recurring
 - C. satisfaction of one want generates a new want
 - D. wants vary between person, time and place
-

6. A young man would prefer to drive a sports car while a family man would like to have a station wagon. What characteristic of want is that?

- A. some wants are complementary
 - B. some wants are recurring
 - C. satisfaction of one want generates a new want
 - D. wants vary with age
-

7. If the society benefits from the government's funding, then it is viewed as a

- A. social cost
 - B. private cost
 - C. private benefit
 - D. social benefit
-



8. If you enjoy watching TV with your new Samsung Galaxy S5 smart phone, it is viewed as a;

- A. social cost
 - B. private cost
 - C. private benefit
 - D. social benefit
-

9. If you lose K500 on pokies, how do you view this loss?

- A. social cost
 - B. private cost
 - C. private benefit
 - D. social benefit
-

10. The recent killing which resulted in the blocking of the Highlands Highway is viewed as;

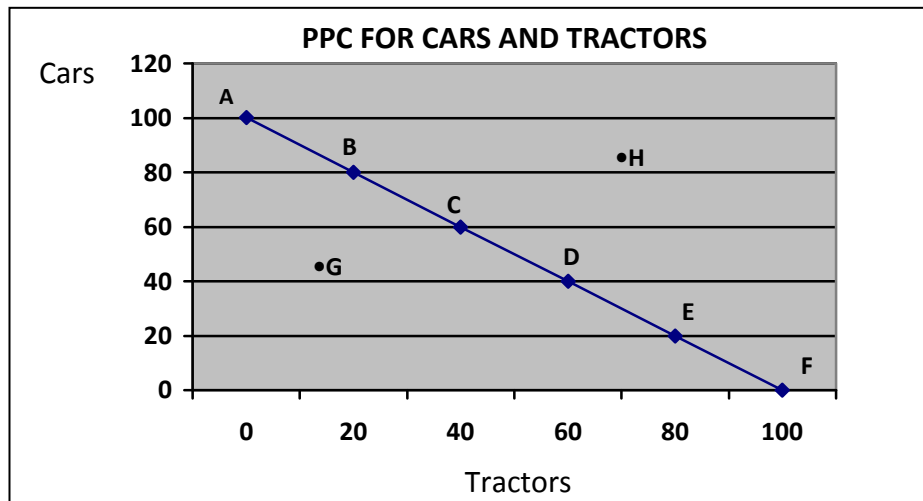
- A. social cost
 - B. private cost
 - C. private benefit
 - D. social benefit
-

11. Opportunity cost is defined as the;

- A. cost in terms of the alternative you have sacrificed
 - B. monetary cost of the alternative you have sacrificed
 - C. value of the alternative you have sacrificed
 - D. cost in terms of the alternative you have chosen
-



12. Study this PPC below and answer the questions that follow.



- i. How many tractors are produced at point A?
 - A. 100 tractors
 - B. 0 tractors
 - C. 20 tractors
 - D. 80 tractors
- ii. How many cars are produced at point A?
 - A. 100 cars
 - B. 0 cars
 - C. 20 cars
 - D. 80 cars
- iii. What is the opportunity cost of producing cars at point A?
 - A. 0 units of tractor
 - B. 80 units of tractor
 - C. 100 units of tractor
 - D. 40 units of tractor
- iv. If tractors are now produced at point F, what would be the opportunity cost?
 - A. 120 units of cars
 - B. 100 units of cars
 - C. 0 units of cars
 - D. 80 units of cars



13. John receives K20 a week as his pocket money for doing household chores. He also works as a packer at stop N shop supermarket at weekends and earn K100 per week. He is saving his income to buy either a BMX bike or a Nike sneaker.

Tick the boxes beside two direct factors that will influence John to buy the Nike sneaker.

(i) John's income	
(ii) The price of the Nike sneaker	
(iii) The cost of producing the Nike sneaker	
(iv) The development of design and manufacture of Nike sneakers	
(v) The price of the BMX bike	

14. Using the formula $\text{Opportunity Cost} = \text{Loss} \div \text{Gain}$, calculate the opportunity cost for producing one unit of each good at each point of production.

Do your calculation and fill in the table below.

Point of Production	Producing Cars	Producing Tractors
A		
B		
C		
D		
E		
F		

15. Explain why air and water (rain or rivers) are considered as free goods?



16. The factors of production (Land, Labour, Capital and Enterprise) are also defined as economic resources. Explain why.

NOW CHECK YOUR ANSWERS AT THE END OF THE UNIT



TOPIC 4: ECONOMIC DECISION MAKING

This topic introduces you to the importance of economic decision making and explains why economic decision making is a very important process in all economic system. You will study the steps in making economics decisions and use them to make economic decisions on case studies presented.



Specific Learning Outcomes

Upon completion of this topic, students should be able to;

- define and explain what is economic decision making.
 - identify and explain the steps of making economic decision.
 - identify and explain how decisions are made in allocation of resources in India and PNG
 - identify and explain the importance and potential of tourism in PNG
-



11.1.4.1: Importance of Economic Decision Making

Economic Decision Making in any economic system is very important because;

- It assists in allocation of resources to where it is most needed.
- Prevents wastage of resources.
- Assists in making efficient use of resources.
- Assists in bringing maximum benefit from the resources.
- Assists in minimising cost from using a resource.

Economic decision making aims to maximise benefits and minimise cost.

Effective Economic Decision Making Steps

These steps in economic decision making are important in helping economies answer the basic questions on allocation of resource;

- What do we need to produce?
- How much to produce?
- How do we produce it?
- Who do we produce it for?

Step 1: Identify the problem.

Find out what is the problem. For example, Find out what is the problem affecting the community, society and individuals.

Step 2: Define and describe the problem.

Make the problem known. For example, define the problem and describe it by giving it a name so that it can be known. For instance “Not enough classrooms for all preschool students in the local village school.”

Step 3: Identify what is the cause of the problem.

Investigate and find out what is the main cause of the problem.

For example, “no funding from the government to build more classrooms”

Step 4: Research and identify alternative methods of solving the problem.

Look for methods which can contribute to solving the problem?

For example, the villagers can ask their member of parliament, seek assistance from NGO groups, and also contribute their own resources to build classrooms.

Step 5: List down all these methods and rank them from the most desired to the least desired method.

For example; from all the methods identified in step above, list them in order of the most appropriate and desired method to the least appropriate and desired method.



Step 6: Select the best two alternative methods and do a cost and benefit analysis on them.

That is, find out which method if we use will cost us less but contributes more in solving the problem. Example, which method has more social benefits and less social cost or more private benefit and less private cost.

Step 7: Make a final decision on how best to implement this method.

For Examples, once the appropriate method is identified, choose an effective means of applying that method to solve the economic problem.

Step 8: Apply the method to solve the problem.

Once all the 7 steps have been satisfied, the method can now be applied to solve the economic problem being identified.



11.1.4.2: Case study: India and Its Economic System

Among countries with at least 10 million people in 2003, China and India have been growing rapidly since 1980. The Indian economy is the world's 12th largest according to market exchange rate. It is also the 4th largest economy by purchasing power parity (PPP) basis.

The Economic System in India

From 1947 to 1991 the Indian economic system was based on Social Democratic Policies. This means that the economic policies have these features;

- It was a protectionist system. (Protecting Indian industries from foreign trade)
- Extensive regulations. (Many regulations and business laws restricting foreign business)
- There was a higher public ownership of assets. (The government owns more resources and basic infrastructures)

These policies within that period led to more official corruption and slow economic growth. But the economy has now moved to a market based system (capitalist/free market economy) with more economic liberalisation (*more economic freedom*) starting in 1991.

This gives the Indian economy these features;

- Individuals and businesses have more freedom to trade
- Ownership of economic resources by individuals and businesses.
- There is freedom of entry into businesses, however, smaller percentage of wealthy families own most of the businesses in India including foreign businesses.

However, India is mainly a mixed economic system because both free market and other system of economics co-exist. There are 90 per cent of poor farmers who depend on traditional agricultural practices. The government still has nationalised firms and banking business operations in India. The growth rate of the economy increased in 2000 with healthier economic reforms and policies. India became the second fastest growing economy in the world by 2008.

Resources Allocation in India

Which sector produces more goods and services in India?

Economic Sectors	Percentage of GDP allocated
Service industry	54%
Manufacturing industry	29%
Agriculture industry	17%



Which sector in India employs more people?

Economic Sectors	Percentage of people employed
Service industry	28%
Manufacturing industry	12%
Agriculture industry	60%

The total workforce is 500 million people (half a billion).

Main Agricultural Products

India's main agricultural products are;

Rice	Cotton
Wheat	Oil seed
Jute	Poultry
Tea	Fish
Sugar cane	

Main Industries in India

Textile	Petroleum
Steel	Machinery
Chemical	Cement
Food processing	ICT (Information Communication & Tech

**Basic Features of the Indian Economy**

Income per capita = US\$1016	GDP growth rate 6.7%
Ranked 142 in the world (IMF 2008 est)	Inflation (CPI = 7.8%)
GDP US\$ = 1.209 trillion	Pop below poverty line 22%
Labour force = 523.5 million (2008 est)	
Unemployment rate 6.8%	
Public debt US\$ 163.8 billion	

Main Issues in India

India is one of the fastest and largest growing economies in the world; unfortunately it is also one of the poorest countries in the world. The main reason is that the country's population growth rate is larger than the GDP growth rate.

The economic improvement in India has been uneven. As a result there is a high technology sector enjoyed by a small percentage of the population while at the same time a larger percentage of the population are still engaged in traditional small scale farming.

India has a very good education system and has become a major player in high technology fields because of its highly educated workers. Unfortunately it is also unevenly distributed. A small percentage of the population receives good education while the larger percentage of the population receives little or no education at all. As a result there is a high rate of unemployment.

- There is lack of resources especially in the energy sector.
- India is heavily dependent on imports.



11.1.4.3: Case Study: Papua New Guinea and Its Economic System

Papua New Guinea's economy includes a formal sector based on exports of natural resources and a large informal sector that relies heavily on subsistence farming and other economic activities.

PNG is a free market economy but with a larger portion of its population still reliant on subsistence farming. The government owns major infrastructures and services like airlines and electricity plants. It is seen as a mixed economy.

There has been a huge increase in the resources sector (mineral, oil and gas) in PNG and this has triggered economic growth at a rate of 5.4% annually since 2000. PNG is seen as the leading country in the Pacific region in terms of economic growth, government policies and international relations between the Pacific and the world.

The Economic System in PNG

The economic system in PNG is entirely a mixed economy where the business sector trades through the free market concept while the majority of the rural population still depends on traditional agricultural practices for survival and solving their social and economic welfare. The government still has control over major infrastructures and utilities like roads, bridges, electricity and water.

Economic Growth in PNG

PNG has experienced continuous economic growth for the last ten years mainly riding on the exploration and development of petroleum and gas sectors. This is attributed to an average economic growth rate of 5% annually since 2000. The PNG economy was expected to grow at this rate in 2015. This however depended on the commodity price of oil and gas on the world market.

Economic Motivation in PNG

The majority of the population lives in rural areas and is engaged in subsistence farming and small economic activities. The government has therefore shifted its policies to include this majority of the population to participate in economic development at a wider level of the economy. The most notable policy changes that encourage economic participation are;

- SME policy (Small Medium Enterprise) through the creation of micro banks by the government and other commercial banks, the government has injected funds into these micro banks for local people to access and make business at a micro level. This has seen a major increase in small businesses in PNG.
- The PPP program (Public Private Partnership). This program encourages local businesses and foreign investors to partner with the government in business ventures in the country. However the public system put in place to carry out these changes seems to be ineffective, as a result, the allocation and distribution of resources are uneven and more of the population has missed out on government benefits.

**Facts and Features of PNG Economy**

GDP(Purchasing Power Parity) U\$ 19.96 billion	Government consumption 8.9% of GDP
GDP growth rate 5.4%	Exports of goods and services 53.6% of GDP
GDP per capita (PPP) U\$ 2900	Imports of goods and services 49.9% of GDP
Household consumption 55.7% of GDP	Unemployment rate 1.9%
Population 7.8 million	

GDP consumption by sector	Labour Force by Sector
Agriculture 27.6%	Agriculture 85%
Manufacturing industry 39.1%	Manufacturing 5%
Services industry 33.3%	Services 10%

Agricultural Products	Manufacturing Industries
Coffee, Sweet potato, Cocoa, Fruits and Vegetables, Copra Vanilla, Palm oil Poultry, Tea Shellfish, Sugar	Copra crushing, Palm oil processing, Plywood production, Woodchip production, Mining (gold, copper, silver), Crude oil and petroleum, Liquefied Natural Gas, Construction and Tourism

Png information source. World Bank report google search 2014



Exports and Imports

Exports U\$ 5.392 billion <ul style="list-style-type: none">oil, gold, copper, logs, palm oil, coffee, Cocoa, teacrayfish, prawns	Imports U\$ 4.587 billion <ul style="list-style-type: none">machineries, transport equipment, food.manufactured goods, fuel, chemicals
Export Partners <ul style="list-style-type: none">Australia 30.1%, Japan 9.9%, China 5%Germany 4.1%	Import Partners <ul style="list-style-type: none">Australia 36.3%, Singapore 13.8%,Malaysia 8.4%China 7.9%, Japan 5.8%, USA 4.8%

Even though the allocation of resources is uneven, the government is building more roads for the rural population to have access to major town and cities in PNG.

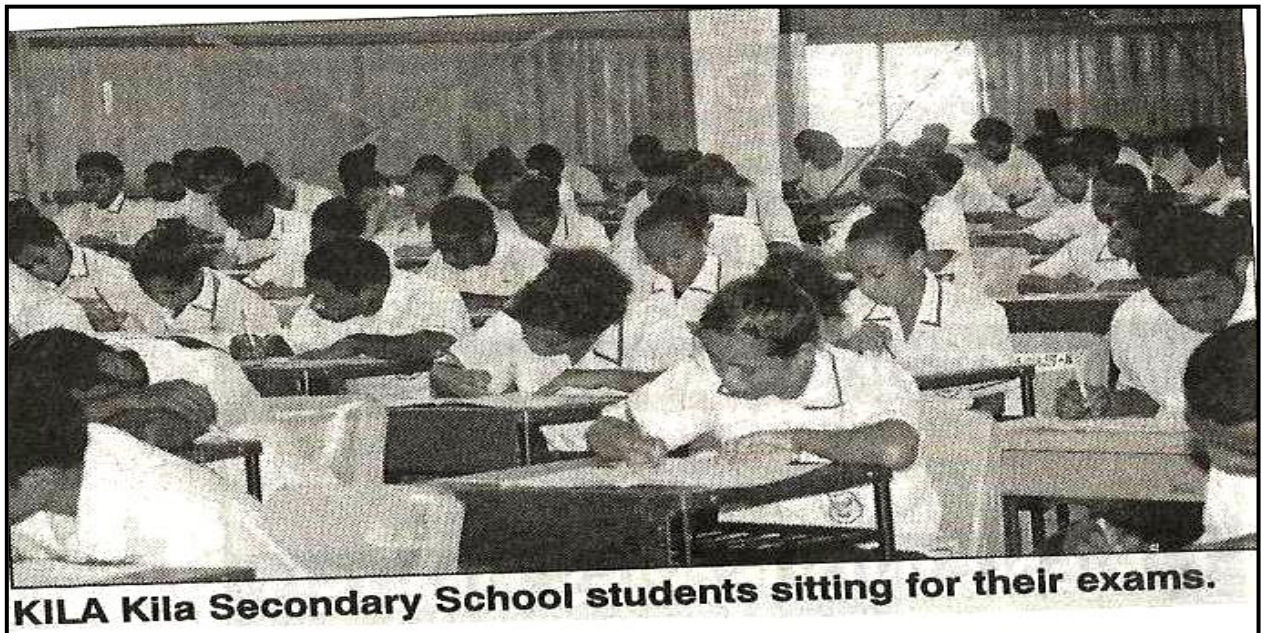
For example, the Trans Island Highway.

The Free Education policy of the government is another way which tries to allocate more resources to the larger percentage of the population. The number of school children in PNG has increased dramatically with this policy. With two LNG (Liquefied Natural Gas) projects with a life span of 60 years and an influx of foreign investment into PNG, the economy continues to grow.

ECONOMY STILL STRONG

PRIME Minister Peter O'Neill says Papua New Guinea remains strong despite some adverse impacts including lower mineral prices, to the economy.
Yesterday Mr O'Neill said these adverse impacts have led to the deferral of some major impact project and the scaling down of some existing ones.
However, he said the most significant economic event this year and arguably since independence was the commencement of the LNG exports.
He said the project would do more than just deliver substantial revenue inflows; it has already raised PNG's international standing as a country where investors can invest in with confidence and certainty.
He said the multi-national consortium and all those who had delivered this great project ahead of time deserved high praise.
"Whenever people denigrate PNG as a place to invest, remind them of the PNG LNG project and its success. It is a compelling success story. But there must be no resting on this achievement," he said.

Newspaper Clip. The National 2014



Newspaper clip. The National Newspaper 2014

The economic system in PNG is mainly seen as fair. The free market approach in businesses has seen to accommodate the government driven SME policy (Small Medium Enterprise) for local businesses to operate. This is seen as a good feature of the economic system in PNG.

However hard the government is trying to deliver services right down to the grassroots level in PNG, it is always slowed down by the government processes. That is the negative side of the economic system in PNG.

The FDI (Foreign Direct Investment) from overseas firms into PNG has increased in the last five years which is an advantage of the economic system in place.

Main issues in PNG

Corruption is seen as an important issue that needs to be addressed seriously in PNG. While foreign political and economic analysts have branded PNG as one of the corrupt countries, it has not yet become a major problem.

The delivery of basic services like health, education, water supply, communication, transportation, electricity has not reached the majority of the population in rural areas. That is a major concern in PNG.



11.1.4.4: Tourism in Papua New Guinea

Tourism has become a growing and important part of PNG economy injecting an estimated K1 billion into the economy and supporting 15,000 full time jobs. The government has set up the (TPA) Tourism Promotional Authority in 2007. TPA functions as a government statutory body on tourism in PNG. TPA then creates partnership with the private sectors to promote tourism. This includes;

- Hotels
- Airline companies
- Tour operators

Tourism potential in PNG

PNG has a vast potential in tourism industry but the government has not allocated enough resources into this industry until recently in 2007, it set up the TPA and began to fund it. Before that, there were tourists visiting PNG mainly as a destination for;

- The best diving spot in the world
- Ecological Tourism

More recently because of the functions of the TPA, PNG has seen an increase in tourists in these areas;

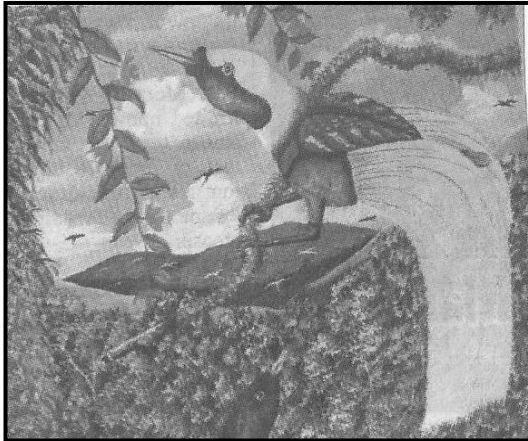
- Sports mainly in surfing and game fishing
- Trekking and bird watching
- Cultural experience like in Mt Hagen show, Canoe and Mask festivals.

Main source of tourist markets for PNG

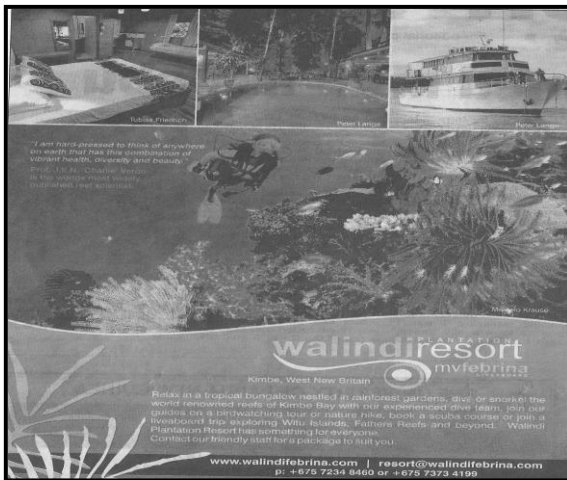
Through the marketing effort of TPA with hotels, airlines, tour operators and a concerted online marketing, PNG is seeing tourists coming from Australia, Europe, North America and Japan.

The Importance of Tourism to PNG Economy

1. Most tourists travelling to PNG are interested in rural, cultural, environment and ecological setting of PNG. It is seen as a major income sources for the rural communities.
2. Tourism is very sustainable and gives a viable economic future. It means, it can last for a long time after all the mining, gas and oil industries are gone.
3. Expansion in tourism has a direct positive effect on increase in efficiency in important sectors like transport, hotels and accommodation and increase employment. The opposite is also true.



Bird watching in Papua New Guinea is a major tourist attraction



Diving, exotic scenery and cultural festivals and events attract many foreign tourists to PNG

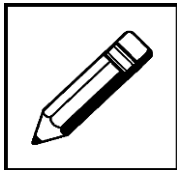
YOU HAVE COME TO THE END OF TOPIC 4. YOU MAY NOW READ THE SUMMARY ON THE NEXT PAGE.



Summary 11.1.4

- Economic decision making is very important because it
 - assists in allocation of resources to where it is most needed.
 - prevents wastage of resources.
 - assists in making efficient use of resources.
 - assists in bringing maximum benefit from the resources.
 - assists in minimising cost from using a resource.
- Following the steps in making economic decisions is very important to achieve maximum satisfaction.
- The Indian economy is the world's 12th largest according to market exchange rate and the 4th largest economy by purchasing power parity (PPP) basis. From 1947-1991 the Indian economic system was based on Social Democracy Policies.
- PNG's economy includes a formal sector based on exports and natural resources and a large informal sector that relies heavily on subsistence farming and other economic activities. PNG is a free market economy mainly but with a larger portion of its population still reliant on subsistence farming and the government's ownership of major infrastructures and services like airlines and electricity plants, it is seen as a mixed economy.
- The most notable policy changes that encourage economic participation are;
 - Small Medium Enterprise (SME) policy through the creation of micro banks by the government and other commercial banks, the government has injected funds into these micro banks for local people to access and make business at a micro level.
 - The Public Private Partnership (PPP) program. This program encourages local businesses and foreign investors to partner with the government in business ventures in the country.
- The allocation and distribution of resources is uneven and more of the population has missed out on government benefits.
- Tourism has become a growing and important part of PNG's economy injecting money into the economy and creating full time jobs.

NOW DO STUDENT LEARNING ACTIVITY 11.1.4 ON THE NEXT PAGE.



Student Learning Activity 11.1.4

Read the questions carefully and write their answers on the spaces provided below each question.

1. State the importance of economic decision making.

2. Explain why economic decision making is important in helping economies in allocating resources.

3. Which sector in the Indian economy produces more goods and services?

4. Why is it that the agriculture sector employs more people but produces only 17% of the goods and service in India? Give an explanation based on the facts provided in the case study?

5. If 60% of the population is employed in the agricultural sector yet produces only 17% of the total GDP, what does this tell you in terms of resource allocation in India?



6. What type of economic system does PNG has?

7. Which 4 countries are PNG's top importers and exporters?

8. What are PNG's main imports and exports?

9. Why it is that agriculture sector in PNG employs 85% of the workforce but consumes only 27.6% of the GDP? Explain in your own words.

10. In which areas of tourism does PNG has more potential in attracting tourists?

11. Why do you think it is necessary for TPA to create a partnership with hotels, airline and tour operating firms?

12. What would be the benefit for such partnership in Q11?

13. Explain why we say tourism has a long term benefit for PNG in terms of sustainability and long term income generating industry?

NOW CHECK YOU ANSWERS AT THE END OF THE UNIT



TOPIC 5: Economic Systems

This topic looks at the different types of economics systems and explains how each economic system functions in theory. It tries to answer the four basic economic questions of what to produce, how much to produce, how to produce and who gets what is produced.

What is an economic system? An economic system refers to the way, the allocation of resources is determined in a country.

An economic system must coordinate individual's wants and needs. It must allocate resource efficiently to solve the problems of; what must be produced? How should it be produced? How much to produce? For whom should it be produced?



Specific Learning Outcomes

After completing this topic, students should be able to;

- define and explain the different types of economic systems.
 - identify and explain the 4 main types of economic systems and their characteristics.
 - identify and explain how each economic system answers the questions of what and How to produce and who gets what has been produced.
 - identify the countries of the world that have these economic systems.
-



11.1.5.1: Basic Economic Questions

An economic system is more concerned with four basic economic questions which together when answered help to determine the allocation of resources and determine the standard of living in an economy.

The four basic questions are;

1. What goods do we produce?
2. How do we produce them?
3. How much do we produce?
4. Who do we produce them for?

What goods do we produce? This question tries to solve the problem of identifying which combination of goods should be produced. Is there more or less opportunity cost in producing these goods?

How do we produce them? This question aims to solve the problem of identifying which resources (factors of production) should be used to produce the goods. How do we allocate this resource between the two alternative goods that we are trying to produce? Do we use more labour and less capital to produce these goods?

How much do we produce? This question aims to solve the problem of unequal distribution and allocation of resources between the combinations of goods produced.

Producing more rice will see less resource allocation for flour production.

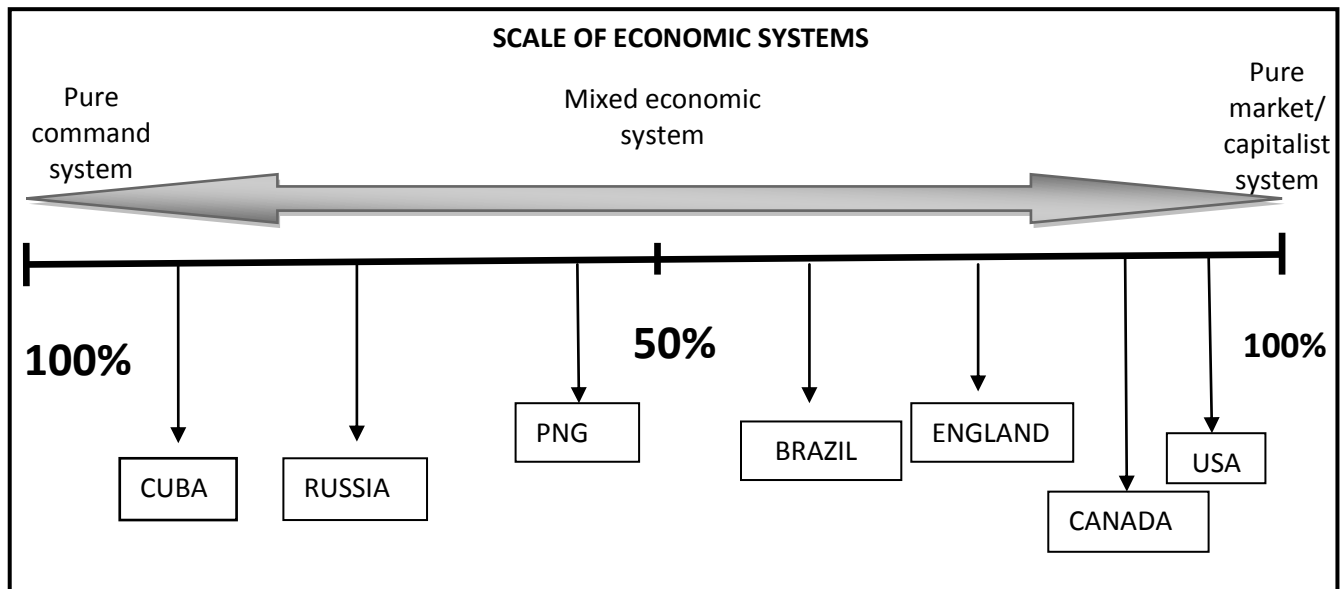
Who do we produce them for? This question is trying to solve the problem of identifying who should benefit from the goods and services produced. Building more rural schools will provide more benefits for children in rural areas.

Types of Economic Systems

There are three major types of economic systems

1. Free Market or Capitalist
2. Mixed (Dual)
3. Pure Command
4. Traditional Subsistence Economy which exists in all societies, but is clearly identified in developing countries.

Below is a scale of the types of economic systems that give us the idea that most of these economic systems do actually integrate with each other and give a system of mixed economies.



Explanation

The scale of economic system shows that most countries fall within the mixed economic system at different levels. They are not purely a command economy or free market capitalist economy but a combination of both. For example, Brazil is about 58% a mixed economy sliding towards a free market economy because it is an emerging free market economy with less government control and more private ownership of resources. PNG is about 53% mixed economy sliding towards a pure command economy because there are still more government control of businesses (public enterprise) and less private ownership of resources (most economic resources like land is traditionally commonly owned).

There is no country which has a purely command economic system but Cuba is the closest example. There is no country with a purely free market economy but USA is the closest example.

This scale shows us that the economic system of a country is determined by;

1. The way in which economic resources are owned

For example; in the case of PNG most important economic resources like land and labour has a strong traditional ownership to the clan and its society. The land is commonly owned and skilled labour signifies the standing of the clan in the society. Very little land is owned by the state and private businesses.



2. A System of Exchange

A free market economy is where the buyers and sellers meet to determine the price of goods and services. However, in some economies, the government does intervene to set prices of basic goods and services and impose regulation on some goods it views as dangerous.

3. Motivation

For example; the economic system of the USA, England, Canada, and Australia is profit motivated. The government allows private businesses and individuals to own more resources and become more creative in producing goods and services to trade with other countries. The government provides business loans to motivate businesses to be more productive and to expand.

4. Government involvement in economic decision making

For example, if the government decides to increase business tax, this will cause the prices of goods and service to increase. Some businesses will shut down and move out. Foreign businesses will be less interested in setting up business in PNG.



11.1.5.2: Traditional Subsistence and Barter Economy

Traditional Economy

- An economic system in which economic decisions are based on customs and beliefs.
- People will always make what they always made and will do the same work their parents did.
- Exchange of goods is done through barter. (exchange goods for goods).

Traditional Economy

- Who decides what to produce?

People follow their customs and make what their ancestors make.

- Who decides how to produce goods and services?

People grow and make things the same way their ancestors did.

- Who are the goods and services produced for?

People in the village who need them.

Examples of traditional economy

- Villages in Africa, South America and the Pacific Islands.
- The Inuit tribes in Canada.
- The caste system in parts of rural India.
- The Aborigines in Australia.

Advantages	Disadvantages
All resources are owned and used by the people who really need them	Resistant to change and new ideas
No wastage of resources, all goods produced are used up by the clan through sharing and bartering.	Difficult to store, measure and value the amount of goods exchanged through bartering

**11.1.5.3: Market Economy (Capitalist)****Market Economy**

- An economic system in which production and distribution questions are answered prices and profits (supply and demand).
- Most of the resources are owned by private citizens.
- Economic decisions are based on Free Enterprise (competition between firms)
- Important economic questions are not answered by government but by individuals.

Market Economy

- Who decides what to produce?
Business base decisions on supply and demand and free enterprise (price)
- Who decides how to produce goods and services?
Businesses decide how to produce goods and services.
- Who are the goods and services produced for?

Market Economy

- In a truly free market economy, the government would not be involved at all.
- There would be no laws to protect workers from unfair bosses
- There would be no rules to make sure that finances were properly protected.
- However, many societies have chosen to have some rules to protect consumers, workers, and businesses (mixed economy)
- These rules reduce the freedom that businesses have, but they also protect the businesses and the consumers.

Market Economy

- There are no true pure market economies but the closest countries are;
- United States
- Canada
- France
- Germany

Advantages	Disadvantages
Competition between businesses creates high quality products	There will be no government regulation to control business
Efficient delivery of goods and services	Unfair treatment of workers by businesses
Less government control Private ownership of resources	Ignorance to consumers rights to complain for low quality and poor standard of goods



11.1.5.4: Command (Planned) Economy

Command (Planned) Economy

- Government makes all economic decisions and owns most factors of production.
- Governmental planners determine such things as the price of goods and services and wages of workers.

This system has failed in Russia and Eastern Europe and most countries in that area have abandoned this system.

Command (Planned) Economy

- Who decides what to produce?

Government makes all economic decisions.

- Who decides how to produce?

Government decides how to make goods and services.

- Who are the goods and services produced for?

Whoever the government decides to give them to.

Command Economy

- Countries with communist governments have command economies
- There is no truly pure command economy system today but countries that have gone closer to achieving a command economy system are;
- Russia (Soviet Union) which abandon the system in 1990s.
- North Korea which is still a command economy with a communist government.
- Cuba which is still a command economy with a communist government.

Advantages	Disadvantages
Equal distribution of goods and services by the government to every citizen	Inefficient distribution of goods and services by the government
The state is the main employer and employs all citizens	Lower standard and poor quality of goods and services provided by the government
The system makes sure that no citizen is too rich and powerful over others	No private ownership of resources
	State is more powerful and ignores human rights of citizens

**11.1.5.5: Mixed Economy****Mixed Economy**

- Market + Command = Mixed Economy
- There are no pure command or market economies;
- All modern economies have a mixture of command and market economy and are referred to as mixed economic system.
- Businesses owns most resources and decides what and how to produce, but the government set the laws and rules on how businesses to trade.

Mixed Economy

- Who decides what to produce?

Businesses decide what to produce.

- Who decides how to produce goods and services?

Businesses decides how to produce but the government set the law and rules on certain industries.

- Who are the goods and services produced for?

The consumers

Mixed Economy

- Most democratic countries have mixed economic system (market + command)
- Examples of countries with mixed economies are;
- USA, Canada, United Kingdom, Australia, Germany, France, etc.

Advantages	Disadvantages
Private ownership of resources by business and individuals	Government regulations and laws may slow business activities
Businesses and individuals decides what to produce	
Taxation allows resources to be redistributed to the poor people in the society	
Consumer's rights and sovereignty is respected by the system.	

YOU HAVE COME TO THE END OF TOPIC 5. YOU MAY NOW READ THE SUMMARY ON THE NEXT PAGE.



Summary 11.1.5

- An economic system refers to the way the allocation of resources is determined in a country.
- An economic system must coordinate individual's wants and needs. It must allocate resource efficiently to solve the problems of: What must be produced, How it should be produced, How much to produce, who should we produce it for.
- An economic system is more concerned with 3 basic economic problems which together when answered helps to determine the allocation of resources and determine the standard of living in an economy. The 3 basic questions are;
 1. What do we produce?
 2. How do we produce it?
 3. Who do we produce it for?
- What do we produce? Is trying to solve the problem of identifying which combination of goods should be produced at which points of the PPC. Is there more or less opportunity cost in producing at this point?
- How do we produce it? This question is trying to solve the problem of identifying which resources (factors of production) should be used to produce the goods. How do we allocate this resource between the two alternative goods that we are trying to produce?
- Who do we produce it for? This question is trying to solve the problem of identifying who should benefit from the goods and services produced.

NOW DO STUDENT LEARNING ACTIVITY 11.1.5 ON THE NEXT PAGE.



For Questions 1-5, circle the letter of the correct answer.

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6. Study the table below and fill in the correct answers. The table shows the different economic systems and the basic economic questions?

State how each economic system answers these questions by filling in the table.

Economic Questions	Command Economy	Market Economy	Traditional Economy	Mixed Economy
Who decides what to produce?				
Who decides how to produce it?				
Who decides how much to produce it?				
Who decides who gets the goods and service?				

NOW CHECK YOUR ANSWERS AT THE END OF THE UNIT

**ANSWERS TO STUDENT LEARNING ACTIVITIES 1 – 5**

TOPIC: 1

1. In studying human behavior, economics view human as the main cause of things and changes. It tries to understand and predict human behavior using scientific approach and mathematical models and logical reasoning.

2. Economics is viewed as a Social Science because it studies human behavior as the main cause of things and changes.

3. You will have different views based on different perspectives but if you mentioned that “all things on earth are subjected to human action therefore humans are the main actors in causing things to be built or changed.

4. Economics can be simply defined as “the study of societies and how they are organized”.

5. a. Scarcity is the situation of having limited resources available and unlimited needs and wants.
 b. Ends are the wants and the needs of the society.
 c. Choice is selecting between the alternatives available.
 d. Scarce is having limited amount of resources available.
-

6.

Situation of scarcity in PNG	Situation of scarcity in Singapore
<ul style="list-style-type: none">• Lack of financial capital• Lack technical expertise and skills	<ul style="list-style-type: none">• Lack of natural resources

7. Both countries choose to trade because they will gain what they lack from each other.



8. (a) Shortage of money
- (b) The choices must be made based on which good is the important basic necessity for that period and has a lower opportunity cost.
- (c) The choice will vary but must show these assessments;
1. Selecting the basic important goods first.
 2. The resource (K20) is efficiently used to get maximum benefit.
 3. The opportunity cost of making that choice is lower
- (d) The explanation of your decision should mention all these assessment given above.
-

9. Normative statement in economics is a valued judgment which is not supported by facts and evidence but is considered important because of its value while a Positive statement in economics is supported by facts and evidence.

10. Article #1: Positive because it is supported by facts

Article #2: Positive because it is also supported by facts and evidence

Article #3: Normative because it is a value judgment based on the position and experience of the commentator therefore these statements are seen to have value attached to it.

**TOPIC: 2**

1. A resource is a natural or man-made good that is useful in nature and can be used to produce a good or a service to satisfy people's needs and wants.

2. i. Land ii. Labour iii. Capital iv. Enterprise

3. i. Resources are scarce. ii. Resources have alternative or competing use.
iii. Not all places have the same type or amount of resources.

4. i. Resources are said to be scarce because there is not enough resources to satisfy the unlimited wants and needs of the society.
ii. Some places have abundant of resources while other places have few or none at all.
iii. A resource can be used to produce different types of goods.
iv. A resource can be used to produce more than one good or services or a combination of both

5.

Land	Labour	Capital	Enterprise
Tuna	Plumber	Truck	Car dealer
Timber	Carpenter	Tractor	Bakery owner
Gold	Policeman	Airplane	Shop owner
Copper	Nurse	Ship	Private doctor

6. Students will have different examples.

Land	Labour	Capital	Enterprise
Actual land for factory	Food technologists	Trucks for transportation	Wholesaler who is willing and able to buy

Land is an important factor in production. Apart from many other labourers needed a food technologists is one of the most important skilled specialist needed by a food production firm like Hugo canning for production of ox and palm. Trucks are major capital asserts



needed to move the finished goods from factory to the retailers. A wholesaler is an important middle man between the producer and the final consumer. The wholesaler identifies demand for that product and makes sure it is distributed from the producer to the final consumer.

7. The entrepreneur identifies the market and then takes the risk by sacrificing their own resources (finance, time) to buy, lease or rent a land. They hire labour to build the shop and work for him/her. They purchase capital resources like trucks for transportation.

8. There have been many developments recently in alternative energy source mainly in Europe, North America (Canada, USA) South America (Brazil) and Asia mainly in Japan. But China and India have followed suite in developing alternative energy sources. These include; Ethanol fuel, wind farms for wind energy, solar power energy, thermal energy and bio gas energy.

9. - Make sure resources are distributed to where it is needed.
- No wastage or under use of resources
 - Efficient use of resources
 - Lower opportunity cost
-

10. The main idea of the concept of allocation of resources is that “resources must be seen to be used for production of goods and services that the society really need and not producing things that the society does not need.

11. An efficient country will allocate its resources to where it is needed. Make sure scarce resources are efficiently used to gain maximum benefit at a lower opportunity cost.

12. Free education policy is one of the major policies that have allocated a lot of government’s resources to build school infrastructure across the country and teachers’ salaries and school materials.

13. If price for producing a good or service increase, than the allocated resources will be diverted and allocated to anther market or economy where it is cheaper.

14. Increase in population.

**TOPIC: 3**

1. D	7. D
2. A	8. C
3. C	9. B
4. A	10. A
5. D	11. A
6. D	12. i. B ii. A iii. C iv. B

13. ii and v

14.

Points of Production	Producing Cars	Producing Tractors
A	1 unit of tractor	-
B	1 unit of tractor	1 unit of car
C	1 unit of tractor	1 unit of car
D	1 unit of tractor	1 unit of car
E	1 unit of tractor	1 unit of car
F	-	1 unit of car

15. Because they have no cost attached to them.

16. Because they are used to produce other goods and services.



TOPIC: 4

1. Economic decision making is important in making sure that resources are allocated to where it is most needed and that scarce resources are efficiently used to gain maximum benefit at a lower opportunity cost.

2. It assists economies to allocate resources and answers the basic questions of what to produce, how to produce it, and who gets what is produced.

3. The services industry

4. Agriculture does not contribute much to the GDP of India therefore it does not receive much allocation of resources from the government.

5. Services industry in India is more high technological and exports more services to the world than agriculture therefore receiving more resource allocation from the government.

6. PNG has a mixed economic system.

7. Export Partners; Australia, Japan, China and Germany.
Import Partners; Australia, Singapore, Malaysia, China, Japan and USA.

8. Imports; machineries, transport equipment, food, manufactured goods, fuel, chemicals
Exports; oil, gold, copper, logs, palm oil, coffee, cocoa, crayfish, prawns.

9. Similar to India, agriculture in PNG exports less than mining industry so the allocation of government's resources is less.

10. Eco tourism, surfing and game fishing, culture show and festivals, bird watching, diving.

11. Because all these businesses complement each other and gain from tourism.



12. All these businesses benefit from tourism in the sense that tour operators advertise tourist destinations, state which airlines fly to that destination and which hotels and lodges are located there, and what activities and festivals happen there too.

13. Tourism is sustainable and can be managed for a long time with long term economic benefits for any country if natural resources on the land and in the sea are conserved and also cultural and traditional way of life is maintained.

**TOPIC: 5**

Questions 1-5 answers are in the box.

1	D
2	D
3	D
4	C
5	D

6

Economic Questions	Command Economy	Market Economy	Traditional Economy	Mixed Economy
Who decides what to produce?	Government	Business based on Demand and Supply	People	Business
Who decides how to produce it?	Government	Business	People	Business but government regulates
Who decides how to produce it?	Government	Business	People	Business but government regulates
Who decides who get what is produced?	Government	Consumers	People	Consumers

**YOU HAVE COMPLETED UNIT 1 OF THE GRADE 11 ECONOMICS COURSE.
YOU WILL NOW WORK ON THE ASSIGNMENT BOOK.**

**GLOSSARY**

Benefit	A gain or profit from an economic decision making
Capital	Man-made resources that are used in production of other goods and services
Cost	A loss from an economic decision making
Econometrics	The branch of economics that uses mathematical model and logical reasoning for explaining
Economic choice	Selecting between alternative goods to allocate resources to produce
Economic decision making	Deciding the best method to use resources for maximum benefit at a lower cost
Economic method	The method of analyzing costs and benefits
Efficient	Being economical without wasting or overuse of resources
Ends	The wants and needs of the society
Enterprise	The practice of organizing the factors of production to produce goods and services
International economics	The branch of economics that is concerned with international trade
Labour	The human effort, skills and knowledge used in production of goods and service
Land	The actual land including the waters and the sea with all living things
Macro-economics	The branch of economics that studies government policies and how it affects economic activities
Maximum benefit	A large gain or profit from an economic decision making
Micro-economics	The branch of economics that studies consumer behavior by looking at demand and supply and how it affects economic activities
Minimum cost	The lowest accepted loss from an economic decision making



Needs	The basic necessary things that are required for survival
Non- renewable resources	Resources that cannot regenerate naturally and cannot be sustained
Normative economics	An economic statement of value which is not supported by facts and evidence
Opportunity cost	The cost in terms of the benefits of the alternative goods that has been sacrificed
Positive economic	An economic statement which is supported by facts and evidence
Private benefit	The gain or profit that is added to an individual economic decision maker
Private cost	The loss that is added on o an individual economic decision maker
Production Possibility curve	A graph that show a combination of two goods being produced with a given amount of resources at a particular time
Renewable resources	Resources that can regenerate and can be sustained
Resources	Natural or man-made goods that are useful in nature which can be used to produce other goods and services
Scarce	Having very few or limited resources
Scarcity	A situation of having limited resources and unlimited wants
Social benefit	Gains or profit that is added to the society as a whole
Social cost	Losses that must be faced by the society as a whole
Wants	Things that people would like to have but are not really necessary for survival. People can live without them



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2	KEREMA	P. O. Box 86, Kerema	72228124	77522842	Mr David Saria	72229049
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4	ALOTAU	P. O. Box 822, Alotau	72228130	77522844	Mr Albi Bapera	72229051
5	POPONDETTA	P. O. Box 71, Popondetta	72228138	77522845	Mr Stansen Sevese	72229052
6	MENDI	P. O. Box 237, Mendi	72228142	77522846	Mr Wari Tange	72229053
7	GOROKA	P. O. Box 990, Goroka	72228116	77522847	Ms Ovin Tuki	72229054
8	KUNDIAWA	P. O. Box 95, Kundiawa	72228144	77522848	Mr Denge Gundu	72229056
9	MT HAGEN	P. O. Box 418, Mt. Hagen	72228148	77522849	Mr Robert Maki	72229057
10	VANIMO	P. O. Box 38, Vanimo	72228140	77522850	Mrs Isabella Danti	72229060
11	WEWAK	P. O. Box 583, Wewak	72228122	77522851	Mr David Wombui	72229062
12	MADANG	P. O. Box 2071, Madang	72228126	77522852	Mrs Applonia Bogg	72229063
13	LAE	P. O. Box 4969, Lae	72228132	77522853	Ms Cathrine Kila	72229064
14	KIMBE	P. O. Box 328, Kimbe	72228150	77522854	Mrs Bernadette Litom	72229065
15	RABAU	P. O. Box 83, Kokopo	72228118	77522855	Mrs Verlyn Vavai	72229067
16	KAVIENG	P. O. Box 284, Kavieng	72228136	77522856	Mr John Lasisi	72229069
17	BUKA	P. O. Box 154, Buka	72228108	77522857	Mr Marlyne Meiskamel	72229073
18	MANUS	P. O. Box 41, Lorengau	72228128	77522858	Ms Roslyn Keket	72229080
19	NCD	C/- FODE HQ	72228134	77522859	Mrs Marina Tomiyavau	72229081
20	WABAG	P. O. Box 259, Wabag	72228120	77522860	Mr Salas Kamberan	72229082
21	HELA	P. O. Box 63, Tari	72228141	77522861	Mr Ogai John	72229083
22	JIWAKA	c/- FODE Hagen	72228143	77522862	Joseph Walep	72229085

**SUBJECTS AND GRADE TO STUDY**

Grade Levels	Subjects
Grades 7 and 8	1. English Language
	2. Mathematics
	3. Science
	4. Social Science
	5. Making a Living
	6. Personal Development
Grades 9 and 10	1. English
	2. Mathematics
	3. Science – Biology/Chemistry/Physics
	4. Social Science
	5. Business Studies
	6. Personal Development
	7. Design and Technology- Computing
Grades 11 and 12	1. English - Applied English/Language and Literature
	2. Mathematics - Mathematics A/Mathematics B
	3. Science – Biology/Chemistry/Physics
	4. Social Science – History/Geography/Economics
	5. Business Studies
	6. Personal Development
	7. ICT

REMEMBER

- For **Grades 7 and 8**, you are required to do all six (6) courses.
- For **Grades 9 and 10**, you must study English, Mathematics, Science, Personal Development, Social Science and Commerce, Design and Technology-Computing is optional.
- For **Grades 11 and 12**, you are required to complete seven (7) out of thirteen (13) courses to be certified.
- For **Matriculation**, you must successfully complete 8 courses; 5 core and 3 optional courses.

Matriculation Certificate**CORE COURSES**

- Basic English
- English 1
- English 2
- Basic Maths
- Maths 1
- Maths 2
- History of Science & Technology

OPTIONAL COURSES

- Science
 - Stream:
Biology, Chemistry and Physics
- Social Science Stream:
Geography, Introduction to Economics, and Asia and the Modern World

