НОВОСИБИРСКИЙ ГОСУДАРСТВЕННЫЙ
АГРАРНЫЙ УНИВЕРСИТЕТ
ФАКУЛЬТЕТ ЭКОНОМИКИ И УПРАВЛЕНИЯ

STUDYING TEXT CONTENT: GENERAL AND SPECIAL (FOR BACHELORS, MASTERS AND POSTGRADUATES)

Учебно-методическое пособие

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Кафедра иностранных языков

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Studying text content: general and special (for bachelors, masters and postgraduates) Работа с текстовым материалом общекультурного и специального характера на уровне бакалавриата, магистратуры, аспирантуры. учебно-методическое пособие / Новосибирский государственный аграрный университет, факультет экономики и управления; составители: Е.Г. Коротких, С.С.Машкова, Е.Ю.Сементовская, О.В.Ульянова – Новосибирск: ИЦ НГАУ «Золотой колос», 2022. – 228с.

Учебно-методическое пособие предназначено для аудиторной и самостоятельной работы с учебным текстовым материалом на английском языке. Разделы пособия содержат текстовый материал общекультурного и профессионально-ориентированного характера. Издание призвано помочь студентам сформировать необходимые компетенции: умение читать и анализировать тексты на английском языке с целью не только извлечения информации, но и приобретения навыков устной и письменной работы по определённой тематике.

Учебно-методическое пособие может быть использовано в качестве основной или дополнительной литературы для всего набора дисциплин блока «Иностранный язык», для студентов неязыковых программ бакалавриата, специалитета, магистратуры, аспирантуры, обучающихся в различных формах (очной, заочной, с применением дистанционных технологий).

Учебно-методическое пособие утверждено и рекомендовано к изданию методическим советом факультета ЭиУ (протокол № 4 от 28 декабря 2021 г.).

ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Настоящее учебно-методическое пособие предназначено для бакалавров, магистрантов и аспирантов различных направлений подготовки, связанных с экономикой, управлением, агрономией, агроинженерией. Пособие также ориентировано на все направления подготовки, где предусмотрена дисциплина «Профессиональный иностранный язык».

Пособие может быть использовано в качестве основной и дополнительной литературы на аудиторных занятиях по дисциплинам «Иностранный язык (английский)», «Профильный иностранный язык (английский)», «Иностранный язык в профессиональной сфере (английский)», «Научно-профессиональный иностранный язык (английский)». Пособие содержит большой объём текстового материала, а также необходимое количество тренировочных упражнений и тестовых заданий, которые могут быть использованы для формирования контрольных и самостоятельных работ.

В представленном учебно-методическом пособии реализуется **текстоцентрический подход к обучению дисциплине – формирование навыков и компетенций по иностранному языку через работу с текстом.** В рамках современного учебного процесса, при наличии множества программ электронного перевода, сам процесс перевода перестал быть фактором обучающего характера. На первый план выступает постмашинный анализ, обработка текста перевода, работа со специальной лексикой и терминологией, проработка текстового контента в упражнениях, связанных с устной и письменной практикой (Speaking and Writing Practice).

В учебно-методическом пособии представлены: 1) раздел по работе с текстовым материалом общекультурной и страноведческой направленности; 2) раздел по работе с текстовым материалом профессиональной направленности; 3) текстовая база профессиональной направленности;

Логика построения учебного пособия связана с последовательностью формирования лингвистических компетенций по дисциплинам учебного блока дисциплин по изучению иностранного языка (английского).

Таким образом, каждый блок через тексты и систему упражнений стимулирует интерес обучающихся к научной коммуникации на иностранном языке, повышает мотивацию к процессу обучения, способствует формированию основных и профессиональных компетенций:

– владение иностранным языком как средством коммуникации в рамках терминологии профессионального международного общения;

– способность применять иностранный язык в сфере профессиональной деятельности;

– способность к письменной и устной коммуникации на иностранном языке;

– способность использовать знание иностранного языка для получения профессиональной информации из иностранных источников.

Учебно-методическое пособие включает обширный текстовый банк по самым разным направлениям экономики и менеджмента АПК, а также справочный материал для подготовки докладов и презентаций.

Издание может быть использовано в научно-исследовательской работе магистрантов и при подготовке к сдаче кандидатского экзамена по английскому языку.

В целом пособие ставит своей целью развить коммуникативные умения, необходимые в сфере профессиональной деятельности. Особое внимание уделяется формированию ведущего коммуникативного умения – чтения литературы по специальности с разной глубиной осмысления содержания. Материалы и задания развивают диалогическую и монологическую речь, навыки реферирования и комментирования, стимулируют интерес к иноязычной информации о научных открытиях и проблемах.

РАЗДЕЛ I. РАБОТА С ТЕКСТОВЫМ МАТЕРИАЛОМ ОБЩЕКУЛЬТУРНОЙ И СТРАНОВЕДЧЕСКОЙ НАПРАВЛЕННОСТИ

1.1. Методические рекомендации для чтения с пониманием основного содержания непрофессионального текста

Цель – получить общую информацию о содержании текста, выделить главную мысль, высказать свое отношение к прочитанному.

Алгоритм

1. Перед чтением спрогнозируйте по заголовку содержание текста.
2. Читайте текст с пониманием основного содержания, то есть:

– сконцентрируйтесь на основных фактах текста, опуская второстепенную информацию;

– старайтесь охватить взглядом все предложение или его часть;

– старайтесь догадаться о значении незнакомых слов или обратитесь к словарю;

– во время чтения подчеркивайте или выписывайте словосочетания и предложения, несущие основную информацию.

3. Проверьте, поняли ли вы основные факты текста, определите его основную мысль. Для этого необходимо:

– выбрать заголовок из предлагаемых вариантов или сформулировать самому;

– разделить текст на смысловые отрезки;

– ответить на вопросы, выделяющие основную информацию.

4. Для подготовки высказывания следует:

– сформулировать главную мысль текста;

– сказать, что вы узнали нового;

– кратко изложить основные идеи текста;

– высказаться по проблеме текста.

Рекомендуемые клише для пересказа текста

the article is called... = the title of the article is...	статья называется…, статья озаглавлена…
the article is published in...	статья опубликована в…
the article is about/on …	статья повествует о…
the article is devoted to …	статья посвящена ...
the article is concerned with …	статья касается ...
the article deals with …	статья имеет дело с…
the article touches upon the problem of…	статья затрагивает проблему....
in the introductory part of the article the	во вводной части статьи автор

author points out …	указывает...
the following facts are stressed in the article:	в статье акцентируется внимание/ подчеркиваются следующие факты:
the article contains useful information on...	статья содержит полезную информацию о…
in concluding paragraphs it is pointed out that …	в заключительной части статьи указывается, что…
the article contains statistics about ...	статья содержит статистику о…
the reader's attention is drawn to ...	внимание читателя привлечено к…

1.2. Тексты общекультурной, страноведческой направленности для изучающего чтения и пересказа

ВНИМАНИЕ! Работа с текстовым материалом ведётся в следующем порядке:

1. Просмотрите текстовый материал, обращая особое внимание на первые предложения каждого параграфа. Помните, что в большинстве параграфов именно первое предложение выражает главную идею.
2. Выделите ключевые моменты текста, отражающие основную идею содержания.
3. Изложите основные положения текста в сжатой форме, учитывая логическую последовательность фактов или событий.
4. Используйте структурирующие фразы для пересказа.

Text 1. How to Improve Your English-language Skills

The success of your educational experience in the United States largely rests on your ability to understand, speak, read and write the English language. Experience has shown that no other single factor is as important to academic success as proficiency in English. Before you come to the United States, you may want to improve your English-language skills in intensive English-study groups or programs or by other means offered in your country.

Ease with spoken skills does not necessarily assure adequate skills in written English. (Even native English speakers often need additional assistance with reading and writing for academic purposes.) Your academic work will demand a great deal of reading and writing. If you can read and write English easily and have a good vocabulary, it will be easier to study and to finish assignments on time.

Lectures are the most common method of instruction at U.S. colleges and universities. Professors will not be able to reduce their normal lecture speed simply to help you. You must be able to take notes easily on facts, ideas, and references presented in lectures.

Engaging in conversation is still the best way to improve your English speaking and listening skills and ‘to feel comfortable in English’. Speak English whenever you can. You should remember that the key to the academic success in the United States is the ability to use English well.

Before you come to the United States, read English-language books, magazines and newspapers, and the materials sent to you by the college or university. Read as much as possible about the United States. Make yourself well informed about its geography and climate, its history, system of government, social customs and values, and cultural activities. Watch movies, videotapes and television programs in English if possible. Watching videotapes and TV programs is one of the best ways to sharpen your skills in understanding English.

Text 2. Early Britain

The Romans ruled all the civilized world and in the 1st century A.D. they conquered Britain. Britain was a province of the Roman Empire for about four centuries.

There are today many things in Britain to remind the people of the Romans: towns, roads, wells and the words.

After the departure of the Romans Britain was attacked by the Germanic tribes of Jutes, Saxons and Angels. The conquerors are generally referred to as the Anglo-Saxons. The Anglo-Saxons made up the majority of the population in Britain. The Anglo-Saxon language, or English, has been the principal language of the country since then.

In 793 the Danes from Denmark and the Northmen from the Scandinavian peninsular (frequently called as the Vikings) carried out their first raids in Britain. At last all England was in their hands. The Kingdom of Wessex alone was left to resist them. King Alfred (ruled 871–901) gathered his men and defeated the Danes.

In the 11th century England was invaded by the Normans, This was the fifth and the last invasion of England. The pretext for the invasion was the claims of Duke of Normandy, William, to the English throne. He gathered a numerous army and landed in the south of England. The battle between the numerous army and the Anglo-Saxons took place in 1066 at a little village near the town now called Hastings. The Anglo-Saxons were defeated. Thus the Norman Duke became king of England – William the Conqueror. He ruled England for 21 years (1066–1087). The Normans had to put down many rebellions in different parts of the country and the rebels were punished severely.

Gradually the Normans mixed with the Anglo-Saxons and the Danes and from this mixture the English nation finally emerged. For many centuries this country was simply known as England. To the west and north, Wales and Scotland fought for their independence so passionately that it took hundreds of years to bring them under English domination.

Text 3. The Founding of the United States

About 500 years ago North America was a vast territory inhabited by Indians who perhaps 20,000 years earlier travelled across a land bridge from Asia to America where the Bering Strait is today. Icelandic Viking Leif Ericson sailed to America around the year 1000. Then in 1492 Christopher Columbus, an Italian, sailing under the Spanish flag, set out for Asia and discovered a ‘New World’. For the next 100 years English, Spanish, Portuguese, Dutch and French explorers sailed forth looking for the New World, for gold and riches, for honour and glory.

But North America brought them little glory and less gold, so most explorers did not stay there. The people who did settle the New World arrived later, and they came in search of different goals – economic opportunity, religious and political freedom.

In 1607 the English settlers built the first village which they called Jamestown in commemoration of King James I of England. Bleak, hard and lonely immigrants soon founded colonies all along the Atlantic Coast. Over time settlers from many other nations joined the English in America. German farmers settled in Pennsylvania, French settled in Canada and Spanish explorers established missions and settlements in Florida and American South West. Africans were first brought in Virginia as slaves in 1619. The settlers cleaned the land for farms, built villages and established local governing bodies. By 1733 European settlers occupied 13 colonies along the Atlantic Coast.

A series of conflicts between the British and the French culminated in the French and Indian War (1754–63) in which the Britain with its American colonial allies won the victory. France ceded Canada and the Ohio territories east of Mississippi River.

In the following years the British started imposing new taxes on sugar, coffee, textiles and other imported goods. The British required the colonists to house and feed British soldiers. These measures seemed quite fair to the British politicians who spent large sums of money to defend their American colonies during the French and Indian War. But the Americans feared the new taxes would make trading difficult and that British troops stationed in the colonies might be used to crush civil liberties, which the colonists had enjoyed, that's why they insisted that they could be taxed only by their own colonial assemblies. But the British Parliament heeded their protest and sent customs officers to Boston to collect the tariffs. When the colonists refused to obey, the British sent soldiers to Boston.

Text 4. Monarchy

The monarchy is the most ancient secular institution in the United Kingdom, with a history stretching back over a thousand years.

Queen Elizabeth II, who succeeded to the throne in 1952, is, in addition to being an integral part of the legislature, the heart of the judicial, the commander-in-chief of the armed forces of the Crown and the temporal head of the established Church of England.

The monarchy in the United Kingdom has evolved over the centuries from absolute personal authority to the present constitutional form by which the Queen reigns but does not rule. Her Majesty's government governs in the name of the Queen who must act on the advice of the ministers. The Queen summons, prorogues (dismisses at the end of a session) and dissolves Parliament; she usually opens new sessions of Parliament with a speech from the throne in which the major government policies are outlined.

The Monarch must give the Royal Assent before a Bill which has passed all its stages in both Houses of Parliament can become a legal enactment (Act of Parliament). The Monarch's approval is required before a Cabinet can be formed. As Head of State the Monarch has the power to sign international agreements, to cede or receive territory, and to declare war or make peace. The Monarch makes appointments to all important offices of state, including judges, officers in the armed services, diplomats and the leading positions in the Established Church. It is only the Monarch who is able to remit all or part of the penalties imposed upon persons convicted of crimes through the exercise of the prerogative of mercy on the advice of the appropriate minister.

The Privy Council is the body on whose advice and thought the Monarch exercises most statutory and many prerogative powers. There are about 330 members of the Privy Council, which, however, only meets as a full body on the death of the Monarch. It conducts much of its business in committees at which the Monarch may not constitutionally be present. All Cabinet ministers are members; other members are appointed by the Monarch on the recommendation of the Prime Minister.

Text 5. Human Rights

Everybody knows that many of the rights of citizens are considered human rights. For example, a constitutional right is one which a state guarantees to its own citizens and sometimes even to foreigners who are within its jurisdiction. Still a question comes: What are human rights? Not everyone agrees that being born a human being entitled someone to certain freedoms and certain treatment. And those who agree have different opinions as to what these rights are. A human right is one to which people all over the world are entitled, whatever their nationality and wherever they live.

Most of the law in the world is made by governments for their own people. But human rights are independent of any political divisions. They are basic minimum standards of freedom and security for all people. When governments do not meet these standards, they are criticized by their own citizens and even by foreign governments. Sometimes some countries impose economic sanction against those countries where human rights are violated.

As a rule, human rights are violated when governments violate their own constitutions, and very often their policies make citizens to escape to other countries. But legally, most countries of the world have signed international agreements concerning the treatment of individuals. The most important agreement is the Universal Declaration of Human Rights (UDHR) adopted by UN General Assembly in 1948. Article 1 of UDHR declares that all human beings are born free and equal in dignity and rights, and Article 2 states that it does not depend upon race, color, sex, language, religion or any other difference among people.

Text 6. Methods of Instruction in U.S. Universities

Methods of instruction in U.S. colleges and universities vary with the type of class and the type of the professor teaching it. Professors are allowed a great deal of freedom in conducting classes, and sometimes students need extra help in learning how to study for classes.

If a student should fall behind in any of his / her classes, he / she is expected to seek help immediately from the professor, teaching assistant or his / her academic advisor.

The most common method of instruction at U.S. colleges and universities is a classroom lecture usually lasting 55–60 minutes. Lecture classes are usually large, while seminar classes are much smaller and involve more participation and representation based on independent reading or research in the library.

In many courses lectures are followed by discussion at seminar classes. If class discussion is encouraged, it is important to contribute to it. In many classes the student's grade will be partly determined by his / her participation in class discussion.

High level of English language proficiency is very important for native and foreign students for successful work at a classroom lecture or a seminar. One should be able to write down the main points of the lecture, to take part in question sessions before the end of the lecture because challenging the teacher or professor is regarded as a healthy sign of interest, attention and independent thinking though in some countries questioning or challenging the teacher is disapproved.

American colleges and universities operate on three main types of calendars, which divide the year into terms: the semester, trimester and quarter systems.

The academic year is approximately nine months long, no matter how it is divided. The semester system divides this period of nine months in half, resulting in fall and spring semesters. It is used by 69 % of U.S. colleges and universities. Schools, that use the trimester and quarter, divide the same nine months into three-month terms. The summer quarter is the fourth quarter in the quarter system, and enrollment in classes is optional.

Text 7. Faculty Members and Methods of Instruction

Students and faculty members typically interact less formally in U.S. undergraduate programs than they do elsewhere in the world. They often develop close relationships or friendships. The size of the institution and the size of the class will be important factors. Professors sometimes invite students to their homes, join them for lunch or participate with them in community activities. Each professor has his or her own personality and style, but, in general, faculty members at U.S. schools are more accessible than those in many other countries.

The classroom experience is frequently characterized by discussion between the professor and the students. A portion of a student's grade for a course is often determined by the quality of participation in class discussions. It is unusual to find a course where the entire grade is based on one examination at the end of the term. International students should be prepared to participate in class discussions since classmates and professors will expect it. Most faculty members are aware that cultural factors and English language skills may initially make participation difficult for international students. With time, most international students find that this participation adds a great deal to the learning process.

There are three basic methods of instruction. Large introductory-level courses are usually taught through lectures at which several hundred students gather to hear a professor speak. The small class or seminar is used with a smaller group of five to thirty students. This method is generally used in more advanced courses and allows for more interaction between the students and the professor, laboratory sections are similar to seminars and are usually required with courses in the sciences or applied fields like computer science or engineering. Almost all colleges and universities offer opportunities for students to work individually with professors in tutorials or independent study courses.

Text 8. The Way to Good Health

Recent work on vitamins C and A illustrates we are not passive organisms in the control of germs, but that we can achieve total resistance if our health is good. We only attract infection if we are already out of balance, and that infection may have a cleansing effect on us, such as a cold which promotes the release of toxic material. In other words, we, not the germs or viruses, are responsible for our health and lack of it.

Pasteur's works emerged in a time when epidemics were common, and through his brilliant work thousands of lives were saved.

Yet, in the modern world we are no longer threatened by typhoid and cholera. Our primary concerns are degenerative diseases such as cancer, heart disease, rheumatism and arthritis. And we are right to be concerned. After all, a very high percentage of people will have some form of arthritis before they reach 70, while huge numbers will die of cancer or circulatory disease.

The alarming increase in degenerative diseases has accompanied a drastic change in our lifestyle. The food we eat has changed, the lives we lead are different and probably faster, the air we breathe is polluted.

More than 200 new foods have been introduced in the past 100 years. How do you know what effect they have on us?

We must understand our body, how it works, what it needs and how it can combat today's hazards.

Most medical care has become impersonal, and often concerned solely with treating the symptoms. A holistic approach to health is aimed primarily at understanding the individual, as well as finding the cause for any imbalances.

The first and foremost principle of holistic healing is that you are unique. You and I do not have the same face, personality, the same ability to produce enzymes, nor the same nutritional needs. We are born different and our life experiences have shaped us differently. For this reason there cannot be one diet, one recommended level of vitamins, proteins and minerals for all people.

Text 9. The Science of Ecology

People all over the world are concerned about ecological and environmental protection problems. Ecology is the scientific study of how organisms interact with their environment. The word 'ecology' comes from the Greek word 'oikos' (house). The term was first introduced by the German biologist E. Hackel in 1870, and since the late 1960s it has become a subject of international interest. A key word in the definition of ecology is INTERACT. So numerous are each organism's interactions with other living things and the physical environment that biologists organize ecology, the science of interactions, into a hierarchy of four levels: populations, communities, ecosystems and the biosphere. 'Environment' describes the conditions surrounding an organism. Organisms interact with the other living things that collectively constitute their BIOTIC environment, as well as with the non-living physical surroundings (air, water, soil, light, temperature) that make up their ABIOTIC environment. A permanent change in any of these conditions, for example, a change in the intensity of the light, is a change in the environment.

Highly industrialized states cannot ignore the problems of environmental protection. The practical results of the state policy in environmental protection include agricultural pollution control, the study of man's influence on the climate, the biological and genetic consequences of pollution, protection of rare and vanishing plants and animals.

Recent scientific research suggests that the growing industrial use of chlorine compounds called chlorofluorocarbons (CFCs) is responsible for destroying the protective layer of ozone around our planet. CAC is a gas commonly used in aerosol sprays, air cooling systems in refrigerators and air-conditioning. Researchers suggest that the level of CFCs in the atmosphere is actually increasing by 5 % each year. An ever-thinning ozone layer could eventually allow a more harmful form of radiation, known as Ultra Violet C. Laboratory experiments have shown that UVC can penetrate cells in the body and irreparably damage the nucleic acids proteins which are the building blocks of life.

Text 10. Science and Technology, What Science Is

It can be said that science is a cumulative body of knowledge about the natural world, obtained by the application of a peculiar method practiced by the scientist. It is known that the world science itself is derived from the Latin 'scire', to know, to have knowledge, to experience. Fundamental and applied sciences are commonly distinguished, the former being concerned with fundamental laws of nature, the latter engaged in application of the knowledge obtained. Technology is the fruit of applied science, being the concrete practical expression of research done in the laboratory and applied to the manufacturing commodities to meet human needs.

The word 'scientist' was introduced in 1840 by a Cambridge professor of philosophy who wrote: 'We need a name for describing a cultivator of science in general. I should be inclined to call him a scientist.' 'The cultivators of science' before that time were known as 'natural philosophers'. They were curious, often eccentric, persons who poked inquiring fingers at nature. In the process of doing so they started a technique of inquiry which is now referred as the 'scientific method'.

Briefly the following steps can be distinguished in this method. First comes the thought that initiates the inquiry. It is known, for example, that in 1896 the physicist Henry Becquerel, in his communication with the French Academy of Sciences, reported that he had discovered rays of an unknown nature emitted spontaneously by uranium salts.

Second comes the collecting of facts: the techniques of doing this will differ according to the problem which is to be solved. But it is based on the experiment in which anything may be used to gather the essential data.

This leads to step three: organizing the facts and studying the relationships that emerge. It was already noted that the above rays were different from anything known. How to explain this? Did this radiation come from the atom itself? It might be expected that the other materials also have the property of emitting radiation. Some investigators made by Mme Curie proved that this was so.

Then follows the clearer statement of the theory. In December 1898, the Curies reported to the Academy of Sciences: 'The various reasons enumerated lead us to believe that the new radioactive substance contains a new element to which we propose to give the name of Radium. The new radioactive substance certainly contains a great amount of barium, and still its radioactivity is considerable. It can be suggested therefore that the radioactivity of radium must be enormous.'

And the final test is the practical test of theory, i.e. the prediction of new facts. This is essential, because from this follows the possibility to control the forces of nature that are newly revealed.

Text 11. Computer Skills for Information Problem-Solving

There seems to be clear and widespread agreement among the public and educators that students need to be proficient computer users – students need to be 'computer literate'.

However, there seems to be only a vague notion of what computer literacy really means.

Can the student who operates a computer well enough to play Doom be considered computer literate? Will a student who has used computers in school only for running tutorials have the skills necessary to survive in our society?

Clearly not. In too many schools, most teachers and students still use computers only as the equivalent of electronic worksheets. There are, however, some encouraging signs concerning computers and technology in education.

Over the past 20 years, media professionals have worked hard to move from teaching isolated skills to teaching integrated information skills.

Effective integration of information skills has two requirements: the skills must directly relate to the curriculum and to classroom assignments, and the skills themselves need to be tied together in a logical and systematic information process model. Media specialists, computer teachers, and classroom teachers need to work together to develop units and lessons that will include both computer skills, general information skills, and content-area curriculum outcomes. A computer literacy curriculum must be more than a list of isolated skills. Students need to be able to use computers flexibly, creatively and purposefully. Individual computer skills take on a new meaning when they are integrated within this type of information problem-solving process, and students develop true ‘computer literacy’ because they have genuinely applied various computer skills as part of the learning process.

Text 12. Some Facts about the Development of the Number System

There was a time when man did not know how to count. The origin of number and counting is hidden behind prehistoric ages. No one knows when counting first began. Counting represents a very important milestone in the progress of civilization. At first there were no names for numbers; so counters were used. For counters men used sticks, small stones, his fingers and sometimes even his toes. The numerals are called digits from the Latin, meaning finger. The early shepherd probably learned that instead of calling his sheep by name, he could, lay aside a little stone for each sheep.

Somewhere in the distant past man learned that number was useful and necessary in life. Historical records show the astronomical and arithmetical achievements of the early Babylonians. One of the greatest mathematicians recorded in history was the Greek Archimedes, who developed mathematics which could be applied to the laws of nature.

The civilization of ancient Rome, great in many other fields, contributed little to mathematics. If we try to add the numbers LXI, XXVII, XLIV, we see why the Romans found it difficult to develop a good written arithmetic. For making calculations they used a counting frame, such as an abacus and then wrote down the result. The abacus is still in use today in some countries, but modern electronic calculating machines are rapidly taking its place.

During the Renaissance period, we find the tribes of Moslems coming to Europe, bringing with them the culture of many civilizations, including a strange number system taken from the Hindus. The Hindus invented special symbols, or numerals, to represent numbers; we call these symbols digits, or numerals. The Hindus also invented the principle of place value, which means that the value of a digit depends on its position in a number. For example, the 4 in 3476 represents four hundred, while the 4 in 6743 represents four tens. We can see the connection between this principle and abacus.

The Hindu number system was brought into Europe by the Arabs, and so it is called the Arabic system; it was in common use by merchants especially in Italy – by about A.D. 1250.

Only about 400 years ago a great French mathematician and philosopher Rene Descartes represented number pairs by points. This creation made possible a great advance, in science and mathematics. Isaac Newton (1642–1727), one of the greatest minds of all time, was one of the inventors of the calculus which is now studied by students who are seriously interested in mathematics or physical science. Few discoveries in the world science can equal the discovery of

Lobachevsky (1792–1856). Like Archimedes, Galileo, Copernicus and Newton, Lobachevsky is one of those who laid the foundations of mathematical Science. Lobachevsky created one of the greatest masterpieces in mathematics – non-Euclidean geometry, one of the greatest achievements in mathematics.

Text 13. Memory

If you do not use your arms or your legs for some time, they become weak; when you start using them again, they slowly become strong again. Everybody knows this, and nobody would think of questioning this fact. Yet there are many people who do not seem to know that the memory works in the same way. When someone says that he has a good memory, he really means that he keeps his memory in practice by exercising it regularly, either consciously or unconsciously. When someone else says that his memory is poor, he really means that he does not give it enough opportunity to become strong. The position is exactly the same as that of two people, one of whom exercises his arms and legs by playing tennis, while the other sits in a chair or a motor car all day.

If a friend complains that his arms are weak, we know that it is his own fault. But if he tells us that he has a poor memory, many of us think his parents are to blame, or that he is just unlucky, and few of us realize that it is just as much his own fault as if it was his arms and legs that were weak. Not all of us can become extremely strong or extremely clever; but all of us can, if we have ordinary bodies and brains, improve our strength and our memory by the same means – practice.

Have you ever noticed that people who cannot read or write usually have better memories than those who can? Why is this? Of course, because those who cannot read or write have to remember things: they cannot write them down in a little notebook. They have to remember dates, times, and prices, names, songs and stories; so their memory is the whole time being exercised. So if you want a good memory, learn to practice remembering.

Text 14. The First Four Minutes

When do people decide whether or not they want to become friends? – During their first four minutes together, according to a book by Dr. Leonard Zunin. In his book ‘Contact. The First Four Minutes’ he offers this advice to anyone interested in starting new friendship, ‘Every time you meet someone in a social situation, give him your undivided attention for four minutes. A lot of people’s whole lives would change if they did just that.’

You may have noticed that the average person does not give his undivided attention to someone he has just met. He keeps looking over the other person’s shoulder, as if hoping to find someone more interesting in another part of the room. If anyone has ever done this to you, you probably did not like him very much.

When we are introduced to new people, the author suggests, we should try to appear friendly and self-confident. In general, he says, ‘People like people who like themselves.’ On the other hand, we should not make the other person think we are too sure of ourselves. It is important to seem interested and sympathetic, realizing that the other person has his own needs, fears, and hopes.

Hearing such advice, one might say, ‘But I am not a friendly, self-confident person. That’s not my nature. It would be dishonest for me to act that way.’ In reply, Dr. Zunin would claim that a little practice can help us feel comfortable about changing our social habits. We can become accustomed to any changes in our personality. ‘It’s like getting used to a new car. It may be unfamiliar at first, but it goes much better than the old one.’

But isn’t it dishonest to give the appearance of friendly self-confidence when we don’t actually feel that way? Perhaps, but according to Dr. Zunin, ‘total honesty’ is not always good for social relationships, especially during the first few minutes of contact. There is a time for everything, a certain amount of play acting may be best for the first minutes of contact with strangers. That is not the time to complain about one’s health or mention faults one finds in other people. It is not the time to tell the whole truth about one’s opinions and impressions.

Much of what has been said about strangers also applies to relationships with family members and friends. For a husband and wife or a parent and a child problems often arise during their first four minutes together after they have been apart. Dr. Zunin suggests that these first few minutes together should be treated with care. If there are unpleasant matters to be discussed they should be dealt with later.

The author declares that interpersonal relations should be taught in every school, along with reading, writing and mathematics. In his opinion, success in life depends mainly on how we get along with other people. That is at least as important as how much we know.

РАЗДЕЛ II. РАБОТА С ТЕКСТОВЫМ МАТЕРИАЛОМ ПРОФЕССИОНАЛЬНОЙ НАПРАВЛЕННОСТИ

Тексты профессиональной направленности с практическими заданиями

UNIT 1. What does Economics Study?

Vocabulary for Text 1

economics	экономическая наука, экономическая теория
business	1) бизнес, дело, занятие, торговля; 2) компания, фирма
inflation	инфляция
unemployment	безработица
decision	решение
to make / to take a decision	принять решение
a government	правительство
to deal with	иметь дело с
a resource	источник, ресурс
demand	потребность
housing	жилье, жилищное строительство; здания
heating	отопление
convenience	удобство, благоприятная возможность, благоприятное положение
to spend	1) проводить время; 2) тратить деньги
trade-off	обмен; компромисс, уступка
a society	общество
to manage	управлять
household budget	семейный бюджет
to run a business	руководить, управлять бизнесом
to agree	соглашаться
data	данные, информация, сведения
to improve	улучшать
relationship	отношение, взаимосвязь

Vocabulary Training Exercises

1. ***Match the words and their definitions.***

budget, demand, inflation, resources, unemployment, business, data, convenience, government, trade-off

1. the people who control a country and make laws
2. information
3. company that sells goods or services

4. easiness
5. the amount of money you have for something
6. how much people want something
7. the number of people without work
8. something such as money, workers, minerals, belonging to a country or an organization
9. rising prices
10. giving away something in exchange for something

2. Complete the sentences with the words from the box.

improve, data, relationship, Economics, deal with, run, agree, business, unemployment, demand, convenience, household, spend, decision, resources, manage, trade-off, society, heating,

1. Many people enjoy the pleasures and ________________ of living in a city centre.
2. The analysis was based on ________________ collected in the field.
3. We all ________________ that we should celebrate this event.
4. How much time do you ________________ on homework?
5. The committee should make its________________later this week.
6. Laura knows how to ________________difficult customers.
7. Never forget that we live in a multicultural________________.
8. He went to Hull University where he studied History and _________.
9. There is a ________________ between doing the job accurately and doing it quickly.
10. Your English will ________________ with practice.

The bus company ________________ a regular airport shuttle service.

11. ________________ is a very real problem for graduates now.
12. She has a very close ________________ with her sister.
13. The government must now ________________ the problem of high unemployment.
14. Museums are important ________________ for teaching history.
15. ________________ for organic food is increasing.
16. I'm cold. Turn the ________________ up.
17. Sheryl's parents run a small clothing ________________.
18. I do all my ________________ accounts on the computer.

Text 1.What does Economics Study?

What do you think of when you hear the word *economics*? Money, certainly, and perhaps more complicated things like business, inflation and unemployment. The science of economics studies all of these, but many more things as well. Perhaps you think that economics is all about the decisions that governments and businesses take. In fact, economists study the decisions that we all take every day.

Very simply, economics studies the way people deal with a fact of life: resources are limited, but our demand for them certainly not. Resources may be material things such as food, housing and heating. There are some resources, though, that we cannot touch. Time, space and convenience are also resources. Think of a day. There are only 24 hours in one, and we have to choose the best way to spend them. Our everyday lives are full of decisions like that. Every decision we make is a trade-off. If you spend more time working, you make more money. However, you will have less time to relax. Economists study the trade-offs people make. They study the reasons for their decisions. They look at the effects those decisions have on our lives and our society.

Economists talk about microeconomics and macroeconomics. Microeconomics deals with people, like you and me, and private businesses. It looks at the economic decisions people make every day. It examines how families manage their household budgets. Microeconomics also deals with companies – small or large – and how they run their businesses. Macroeconomics, on the other hand, looks at the economy of a country – and of the whole world. Any economist will tell you, though, that microeconomics and macroeconomics are closely related. All of our daily microeconomic decisions have an effect on the wider world around us.

Another way to look at the science of economics is to ask, 'what's it good for?' Economists don't all agree to the answer to this question. Some practise *positive economics*. They study the economic data and try to explain the behaviour of the economy. They also try to guess the economic changes before they happen. Others practise *normative economics*. They suggest how to improve the economy. Positive economists say, 'this is how it is'. Normative economists say, 'we should'.

So what do economists do? Mainly, they do three things: collect data, create economic models and formulate theories. Data collection can include facts and figures about almost anything, from birth rates to coffee production. Economic models show relationships between these different data. For example, the relationship between the money people earn and unemployment. From this information, economists try to make theories which explain why the economy works the way it does.

Comprehension Check

1. Read text 1 and match each paragraph with the correct heading.

Paragraph 1	A How economists work
Paragraph 2	B Making deals every day
Paragraph 3	C Various ideas about economics
Paragraph 4	D Two areas of economics
Paragraph 5	E Two types of economists

2. Read text 1 and answer the questions in written form.

1. What does the science of economics study?
2. What types of resources are mentioned in the text?
3. What is a trade-off?
4. How do economists study trade-offs people make?
5. What does microeconomics study?
6. What does macroeconomics study?
7. How are microeconomics and macroeconomics related?
8. What does positive economics study?
9. What does normative economics study?
10. What three main things do economists do?

3. Translate these sentences from Russian into English using content of Text 1.

1. Экономика изучает деньги, компании, инфляцию и безработицу.
2. Она также имеет дело с решениями, которые правительства и руководители компаний, а также обычные люди принимают каждый день.
3. Существуют разные виды ресурсов.
4. Все ресурсы ограниченны, а потребность в них – нет.
5. Есть материальные ресурсы, например, жильё, еда, отопление.
6. Время, пространство и удобства – это тоже ресурсы.
7. Каждый день мы принимаем решения, как распорядиться (потратить) эти ресурсы.
8. Каждое решение – это сделка.
9. Экономисты изучают, как эти решения влияют на нашу жизнь и на общество.
10. Экономисты говорят о макроэкономике и микроэкономике.
11. Макроэкономика рассматривает экономику страны и мира в целом.
12. Микроэкономика имеет дело с обычными людьми и компаниями.
13. Она изучает, например, как люди ведут семейный бюджет и как компании ведут бизнес.
14. Чем же занимаются экономисты?
15. Они собирают информацию, строят экономические модели и формулируют теории.
16. Экономические модели показывают взаимоотношения между разными сведениями.
17. Исходя из этой информации, экономисты объясняют, почему экономика работает так, как она работает.

Speaking Practice

1. Discuss with your partner whether you agree or disagree with these statements.

1. Economics is only the study of money.

2. Economics is something governments take care of.
3. An economist basically decides how money is spent.

2. Discuss these questions with your partner.

1. What use is the science of economics?
2. What trade-offs do you make every day?
3. How do the decisions we make affect the rest of the world?

3. Give a two-minute talk on what microeconomics and macroeconomics are.

Make notes on the following and present your talk to the class.

- what microeconomics studies
- what macroeconomics deals with
- how microeconomics and macroeconomics interact in the modern world.

Writing Practice

1. Translate the text from Russian into English.

Английское слово «economics» переводится на русский язык как «экономика или экономическая теория». Экономическая теория, основополагающая экономическая дисциплина, состоит из двух крупных разделов – микроэкономики и макроэкономики – и изучает как поведение отдельных экономических субъектов в процессе производства, обмена и потребления товаров и услуг (микроэкономика), так и функционирования экономической системы в целом (макроэкономика).

UNIT 2. History of Economic Thought

Vocabulary for Text 1

thought	мысль
skilful	искусный, умелый
to manage land and household	управлять, распоряжаться землей и хозяйством
to appear	появляться
to disappear	исчезать
wealth	богатство
wealthy	богатый
a state	государство
to depend on	зависеть от
precious metals	драгоценные металлы
to own	владеть
own	собственный
to remain	оставаться
the medieval times	средневековье

trade	торговля
a merchant	купец
experience	опыт
important	важный
importance	важность
scarcity	недостаток, нехватка
abundance	избыток, изобилие
ability	способность
to produce	производить
production	производство
goods	товары
value	ценность
to cost	стоить
cost	стоимость
cost of production / production costs	затраты, расходы на производство
raw materials	сырьё
division of labour	разделение труда
population growth	рост населения
to influence	влиять
to develop	развивать
supply and demand	спрос и предложение
a consumer	потребитель
satisfaction	удовлетворение
profit	выгода
profitable	выгодный, прибыльный

Vocabulary Training Exercises

1. ***Match the words and their definitions.***

to manage, division of labour, consumer, to own, production costs, thought, supply and demand, trade, raw materials, wealth, skilful, profit, to depend on, to disappear, to influence, goods

1. a person who buys goods or services
2. things for sale
3. to have something that legally belongs to you
4. no longer exist
5. an idea or opinion about a particular subject
6. to affect or change how someone or something develops, behaves, or thinks
7. a large amount of money or valuable possessions that someone has
8. good at doing something, especially because you have practised doing it
9. material, such as oil, cotton, or sugar before it has been processed for use

10. a way of organizing work, so that particular types of work are done by particular people
11.money that is earned in trade or business
12. the activity of buying and selling, or exchanging, goods and services
13. to be responsible for controlling or organizing someone or something
14. an amount of money spent in order to produce something
15. to be influenced or determined by something else
16. the idea that the price of goods and services depends on how much of something is being sold and how many people want to buy it

2. Complete the sentences with the words from the box.

abundance, concept, scarcity, consumer, Industrial Revolution, population, precious metals, production, process, firm, profit, satisfaction, raw materials

1. The __________________ began in the late 18^{th} century when machines started to replace human resources.
2. Sand and limestone are the __________________ needed to make glass.
3. The __________________ to make a car involves many people and machines.
4. The extra money a company makes is called __________________.
5. People want __________________ from the products they buy.
6. __________________ is when there is little of something.
7. __________________ is when there is a lot of something.
8. Gold and silver are examples of __________________.
9. Another word for idea is __________________.
10. The __________________ is the number of people a country has.
11. A business or a company is sometimes called a __________________.
12. When we buy things or use services we are a __________________.

Text 1. History of Economic Thought

Economic thought goes back thousands of years. The ancient Greek, Xenophon, used the word *oikonomikos* (from oikos, meaning *family*, *household*, *estate*, and nomos, for *usage*, *law*). He was talking about skilful or clever ways to manage land and households. We could call many of Aristotle's political writings *economics*, although he did not use the word. The English word *economics* first appeared in the 19th century – two and a half thousand years after Xenophon.

Early economic thought was all about the meaning of wealth or being rich. These early thinkers asked, 'what makes a state or a country wealthy?' For nearly 2,000 years, the answer simple: gold. A country or nation's wealth depended on its owning precious metals. This simple view of the economy remained until medieval times.

During medieval times – roughly the period between 1100 and 1500 AD, trading between nations grew, and a new social class appeared. These were merchants, people who made their money through the buying and selling of goods, and they began to write their own thoughts on the economy. They saw the economy as a way to make the state strong. For them, the nation's wealth depended on stocks of gold and the size of the population. More people meant bigger armies and a stronger state.

These were still simple ideas. However, daily experience had also taught people many basic economic concepts. For example, they understood the importance of trade with other states. They realised that scarcity makes things more expensive and abundance makes them cheaper.

Modern economics was really born in the 19^{th} century. At this time, thinkers like Adam Smith wrote down ideas that are still important today. Adam Smith is often called the *Father of Modern Economics*, although the science was called political economy then. Smith realised that a nation's wealth depended on its ability to produce goods. The value of these goods depended on the cost of production. The cost of production depended on the cost of workers, raw materials and land. This was really the first example of macroeconomics.

Smith and other classical economists were writing at a time of great change. The industrial revolution had begun. Paper money began to replace precious metals. The middle classes were growing stronger. Economists' theories echoed these changes. They wrote about the division of labour (each worker taking their part in the production process). They discussed the problems of population growth. They influenced thinking about social classes.

For classical economists, the value of goods depends on the cost of production. However, the price of goods is not always the same as their real cost. Later economists developed new theories to explain this weakness in classical economics. These are known as the neoclassical economists and they were writing at the end of the 19th and early 20th centuries.

In neoclassical economies, supply and demand make the economy work. In other words, the price of goods depends on how much people want them and how easily they can be found. Consumers want satisfaction from their resources (time and money). Firms want profit. In neoclassical economies, this is the basic relationship in the economy. These ideas are still the basis of economic thinking today.

Comprehension Check

1. Read text 1 and decide if these statements are true or false.

1. People in the past didn't understand anything about economics.
2. Early economists thought that a nation without gold was poor.
3. People in the past had very simple economic ideas.
4. Merchants were people who wrote about economics.

5. One of the first economic concepts was the importance of trade between countries.
6. Classical economists connected many economic changes with changes in society.
7. In classical economics, the value of something was measured in gold.
8. Economists later found a problem with the classical model.
9. In neoclassical economics, supply and demand control price.

2. Read text 1 and answer the questions in written form.

1. Which famous people of the past talked about economics?
2. Why could many Aristotle's thoughts be called economics?
3. What was the main economic thought of the past?
4. When did the trade between different states appear?
5. Who were merchants?
6. What did they think about the economy?
7. What did people in the medieval times begin to understand?
8. When did modern economics appear?
9. How did Adam Smith understand the state's wealth?
10. What was the first example of macroeconomics?
11. What did Adam Smith and other economists of his time discuss?
12. What was the main weakness of the classical economics?
13. How do things work according to neoclassical economists?
14. What is the main idea of economics now?

3. Translate these sentences from Russian into English using content of Text 1.

1. Экономическая мысль зародилась тысячи лет назад.
2. Древний грек Ксенофонт говорил об умных и умелых путях управления землей и домашним хозяйством.
3. До средневековья все экономические мысли были простые.
4. Ранние мыслители думали о том, что делает страну богатой.
5. Богатство страны зависело от владения драгоценными металлами.
6. В средневековье появились купцы, которые зарабатывали, покупая и продавая товары.
7. Для них экономика была способом укрепления государства.
8. Они понимали, что дефицит делает товары дорогими, а избыток – дешевыми.
9. Торговля между государствами стала очень важна.
10. Современная экономика зародилась в XIX веке.
11. Адам Смит и другие классические экономисты того времени считали, что богатство нации зависит от способности производить товары.

12. Стоимость товаров зависела от стоимости производства, затраты на рабочих и сырье.

13. Это были времена огромных перемен.

14. Бумажные деньги заменили золото, и появилось разделение труда.

15. Основным понятием неоклассической экономики является спрос и предложение.

16. Потребители хотят получить товары, а производители – выгоду.

17. Это – основное понятие в экономической мысли в наши дни.

Speaking Practice

1. Give a two-minute talk of what a monopoly is.

Make notes on the following and present your talk to the class.

- early economic thinking
- the classical economists
- neoclassical economists

Writing Practice

1. Write a magazine article about one famous thinker from Russian history.

Paragraph 1: Who is this thinker and what is he / she famous for?

Paragraph 2: Give some biographical information, facts about family life and important points in life.

Paragraph 3: What was his / her message? What were his / her influential thoughts?

Paragraph 4: Why do you think this person is important?

2. Translate the text from Russian into English.

История развития экономической мысли изучается в курсе истории экономических учений. Классическая экономическая теория берет свое начало в XVIII веке с трудов таких выдающихся ученых, как Адам Смит, Давид Рикардо и других экономистов-теоретиков. Адам Смит заложил основы представления о рынке и рыночном механизме, сформировал предмет политической экономии.

UNIT 3. Econometrics

Vocabulary for Text 1

to happen	происходить, случаться
to cause	быть причиной, вызывать
useful	полезный
science	наука
empirical	полученный опытным путём

evidence	доказательство
to measure	измерять
to gather/collect evidence	собирать доказательства
econometrics	эконометрика
to find out	выяснять, узнавать
to earn	зарабатывать
income	доход
amount	количество
value	ценность
to differ	различаться
variable	переменная величина
to change	менять
dependent on	зависимый от
time-series analysis	анализ временных рядов
cross-sectional analysis	структурный анализ
salary	зарплата
to increase	повышать
to compare	сравнивать
panel data analysis	анализ панельных данных
government	правительство
survey	исследование, обзор

Vocabulary Training Exercises

1. ***Choose the correct word.***

1. Prices usually ***increase / save*** from one year to the next.
2. People work in order to ***measure / to earn*** money.
3. My grandmother's only ***income / salary*** is her pension.
4. Einstein is famous for his ***theory / analysis*** of relativity.
5. The police search for ***evidence / variables*** to help them find the criminal.
6. If you ***increase / combine*** blue with red you get purple.
7. Government ***statistics / evidence*** show that crime is rising.
8. People ***save / increase*** their money in bank accounts.
9. You can use a ruler ***to measure / to earn*** the size of things.
10. A person's ***income / salary*** is the money they earn each month from work.
11. His ***theory / analysis*** of the problem is very good.
12. In experiments, scientists try to find out what makes ***a variable / evidence*** change.
13. An expert in a subject who works and teaches at a university is known as ***an individual /an academic***.

2. ***Match the words and their definitions.***

useful, survey, variable, to increase, income, dependent, to measure, to happen, value, salary, to differ, econometrics, to change, empirical, to cause, to earn, government, evidence

1. to receive money as payment for work that you do
2. a number, amount, or situation that can change
3. one or more reasons for believing that something is or is not true
4. a fixed amount of money paid every month
5. to become larger in amount or size
6. to discover the exact size or amount of something
7. the group of people who officially control a country
8. effective, helping you to do or achieve something
9. to make or become different
10. to have existence or come into existence
11. the testing of the performance of economies and economic systems using mathematical methods
12. to be not like something or someone else
13. a set of questions that you ask a large number of people or organizations
14. money that is earned from doing work or received from investments
15. needing the support of something or someone in order to continue existing or operating
16. based on what is experienced or seen rather than on theory
17. to make something happen
18. the importance or worth of something for someone

3. Complete the sentences with the words from the box.

salary, measured, surveys, happened, changed, increased, income, government, evidence, value, useful, earns, dependent, caused

1. The ________________ government has announced to increase the minimum wage next year.
2. The photographs are of great historical ________________.
3. She's on quite a good ________________ in her present job.
4. Brazil ________________ many millions of dollars a year from coffee exports.
5. I could tell from her face that something terrible ________________.
6. The organization of a society is largely ________________ on its economic system.
7. The ________________ of the students differ significantly.
8. The difficult driving conditions ________________ several accidents.
9. The town has ________________ from a small fishing port to an amazing tourist attraction.
10. Our costs ________________ dramatically over the last decade.

11. Success isn't _______________ by how much money you have.
12. The Internet is a _______________ resource of information.
13. This theory needs to be backed up with serious empirical______________.
14. The report shows that poor families spend a larger proportion of their _______________ on food.

Text 1. Econometrics

Economists like to make theories. They theorise about why inflation happens, for example, or what causes unemployment. But theories are not useful if you cannot test them. This is true for all sciences, and the same tor economics.

To test a theory, you first need to gather what scientists call empirical evidence. That's evidence that can be measured, like money spent or babies born. When you have collected the evidence, you're ready to do the maths and statistics to test your theory. Economists call their maths econometrics.

Let's take an example. Imagine that you want to find out why some people save more money than others. You may think that this depends on two things: how much money they earn (their income) and how happy they generally are about saving money. We can express your theory as an econometric formula:

amount someone saves = their income X their happiness to save.

Of course, we can't measure *happiness to save* exactly, but we can give it a value. Then we can see how that value differs between groups of people or cultures. Econometrics is about finding relationships between variables – in other words relationships between values that change. Economists try to find out if variable A changes every time value B changes. They want to find out if variable A is dependent on variable B. This is called analysis, and there are two main kinds of econometric analysis: time-series analysis and cross-sectional analysis.

Time-series analysis shows how variables change over a period of time. How salaries increased over the last century, for example. Cross-sectional analysis compares variables at one point in time. The salaries of men compared to women right now, for example. Of course, economists like to make things more complicated than that. Sometimes they combine cross-sectional with time-series analysis, and this is called panel data analysis.

As we said earlier, econometrics is good for testing economic theories. However, there is also a practical side to econometrics. The same maths and statistics are used by governments and business managers, as well as academics. Econometrics can help governments and companies find out how well they are doing. With the data from all this mathematics, they can make better decisions and plan better for the future.

Comprehension Check

1. Read text 1 and choose the best answer A, B or C to complete each sentence.

1. A theory is only good if you can …

A. express it clearly.
B. test it.
C. measure it.

2. Empirical evidence is evidence that …

A. we can see.
B. economists can't use.
C. can be measured.

3. Econometrics is …

A. the maths that economists use.
B. a way to measure how much someone saves.
C. a formula to find out why people save.

4. Panel data analysis …

A. only shows differences over time.
B. only shows differences between groups.
C. shows differences between groups and changes over time.

5. Econometrics is …

A. only good for proving theories.
B. good for making practical economic decisions.
C. only good for academic work.

2. Read text 1 and answer the questions in written form.

1. What theories do economists make?
2. Are all theories useful?
3. What should you do to test a theory?
4. What is empirical evidence?
5. What is econometrics?
6. What do economists do with the things they can't measure?
7. What relationships does econometrics find?
8. What is a variable?
9. How many types of analysis are there in econometrics?
10. What does time-series analysis show?
11. What does cross-sectional analysis show?
12. What is panel-data analysis?
13. Who can use econometrics?
14. What practical value does econometrics have?

3. Translate the sentences from Russian into English using content of Text 1.

1. Экономисты любят строить теории.
2. Они строят теории, почему инфляция случается или что является причиной безработицы.
3. Их теории полезны, только если их можно проверить.
4. Чтобы проверить теорию, ученые собирают эмпирические доказательства.
5. После этого они делают математические вычисления, чтобы проверить теорию.
6. Экономисты называют эти математические вычисления эконометрикой.
7. Эконометрика находит связи между переменными величинами.
8. Они хотят выяснить, зависит ли величина А от величины В.
9. Это называется анализом.
10. Существует два вида анализа: анализ временных рядов и структурный анализ.
11. Анализ временных рядов показывает, как переменные изменяются за какой-то промежуток времени.
12. Структурный анализ сравнивает переменные в одной временной точке.
13. Анализ панельных данных это анализ временных рядов и структурный анализ вместе.
14. Правительства и управляющие компаниями используют эконометрику.
15. Она помогает принимать правильные решения и планировать будущее.

Speaking Practice

1. Discuss with your partner how you spend your pocket money. Tell the group what you have found out about your partner's spending habits.

- first talk about things you spend your pocket money on
- next give examples of things your group mate buys with their pocket money
- finally compare your expenses by saying who spends more and why this happens.

Writing Practice

1. Write a survey about your group's spending habits. Write four paragraphs. In the first paragraph introduce the subject. In the second paragraph describe what and how much pocket money you spend. In the third paragraph describe your groupmates' spending habits. In the fourth paragraph make a conclusion.

2. Translate the text from Russian into English.

Эконометрика – это наука, изучающая конкретные количественные и качественные взаимосвязи экономических объектов и процессов с помощью математических и статистических методов и моделей. Эконометрические методы – это, прежде всего, методы статистического анализа конкретных экономических данных. В настоящее время эконометрика широко использует компьютерные технологии. Именно в России создана наиболее мощная научная школа в области основы эконометрики – теории вероятности. Вместе с тем в зарубежной эконометрике активно используются альтернативные теории вероятности.

UNIT 4. The Law of Demand

Vocabulary for Text 1

to make sense	иметь смысл
demand	спрос
to fall	падать
price	цена
to rise	повышаться, расти
demand curve	кривая спроса
necessity	необходимость
available	доступный
exception	исключение
to apply	применять, касаться
tax	налог
to put tax on	облагать налогами
petrol	бензин
price elasticity	эластичность цены
particular market	определённый рынок
to set prices	устанавливать цены
level	уровень
(to) increase	повышать; повышение
to affect	касаться, влиять
shift	сдвиг
(to) influence	влиять; влияние

Vocabulary Training Exercises

1. ***Choose the correct word.***

1. Newton's ***tax*** / ***law*** of gravity explains why things fall towards the earth.

2. There is lot of ***necessity* / *demand*** for organic fruit and vegetables these days.
3. When you throw a ball it follows a ***demand* / *curve*** back down to earth.
4. Some of the puzzles in this book are really ***confusing* / *available***.
5. Gold is expensive because there is only a very ***limited* / *available*** supply.
6. Normally I arrive at work at 8.00 am, but Thursday is an ***elasticity* / *exception***.
7. This rule ***agrees* / *applies*** to everyone in the school, even teachers.
8. Everyone who earns a salary must pay ***prices* / *taxes*** to the government.
9. When a company stops making a product, it isn't ***available* / *obvious*** any more,
10. There has been a ***shift* / *rise*** in public opinion about the environment recently.
11. There has been a huge ***fall* / *increase*** in demand for air conditioners due to the hot weather.
12. Prices have been ***affected* / *set*** too high and nobody can afford the goods
13. I found the work you've managed to do very ***impressive* / *confusing***. Well done!

2. ***Match the words and their definitions.***

confusing, tax, necessity, demand, to increase, obvious, to disagree, price, to influence, petrol, to agree

1. a liquid used as fuel for cars and other vehicles
2. to have an effect on people or things
3. the amount of money for which something is sold
4. to have an opinion that is different from the opinion that another person has
5. something that you need, especially in order to live
6. not easy to understand because it is complicated or not well organized or explained
7. a need for something to be sold or supplied
8. easy to see, recognize, or understand
9. to become larger in amount or number
10. an amount of money that you have to pay to the government
11. to have the same opinion as someone else

3. Complete the sentences with the words from the box.

influencing, obvious, petrol, agreed, price, demand, taxes, necessity,

increased, confusing, disagree

1. Doreen thought that the house was too small, and Jim _________________.
2. For a limited period only, all our carpets are being sold at half _________________.
3. The government has promised to lower _________________ after the election.
4. She’s very good at making friends and _________________ people.
5. There was little _________________ for tickets.
6. The instructions are really _________________. Could you help me with them, please?
7. We ran out of _________________ in the middle of nowhere.
8. Our costs _________________ dramatically over the last decade.
9. Dole and Evans _________________ on many aspects of the new policy.
10. It was _________________ from Eleanor’s voice that she disliked him.
11. A car is a _________________ in this town.

Text 1. The Law of Demand

Economics can often be very confusing. Econometric formulas and impressive charts are sometimes impossible to understand. Thankfully though, some economic ideas are completely obvious. One of these ideas is the law of demand. Economists are always disagreeing with each other but the law of demand is the only thing they all agree on. They all agree on it because it makes sense even to non-economists like you and me.

Demand is how much of the same good or service people would like to buy. The law of demand says that demand for something falls as its price rises. The reason why the law of demand works is quite obvious: the money we have is limited. If something becomes more expensive, we will have less money available to spend on our other needs. If the product or service is not a necessity, we will decide to buy less of it.

Most rules have exceptions, but economists agree that there are very few exceptions to the law of demand. It even applies to basic necessities like water. When water becomes more expensive, people find ways to use less. When the government put higher taxes on petrol, people try not to use their cars so often. The fall in demand might be very small, but it is real.

So price has an effect on demand, but the strength of the effect varies. The strength of the price / demand relationship is called price elasticity. Economists use a simple econometric formula to measure price elasticity for a certain product in a particular market. This helps governments and companies set prices at the correct level for a particular time and plan price increases.

Don’t forget, though, that other things affect demand apart from price. For example, during a very cold winter, demand for heating fuel like gas or coal will rise at any price. If the winter is unusually warm, then demand for fuel will fall. Economists say that these situations cause a shift in the demand curve.

If to chart numbers, you may see that the curve is still the same shape because price still has the same effect on demand. However, something else has caused a general increase in demand at all prices. A rise or fall in people’s incomes, fashion, climate and many other things can influence demand in this way.

Comprehension Check

1. Read text 1 and decide if these statements are true or false.

1. The law of demand is easy to understand.
2. The law of demand says when people want more of something, its prices rises.
3. There are no exceptions to the law of demand.
4. Price elasticity shows how much prices change when demand changes.
5. There are many reasons why people decide to buy something not only price.
6. A shift in demand changes the shape in demand curve.

2. Read text 1 and answer the questions in written form.

1. Why is economics confusing?
2. What idea do almost all economists agree on? Why does it happen?
3. What is demand?
4. What does the law of demand say?
5. Why is the law of demand obvious?
6. What is price elasticity?
7. How do economists measure price elasticity?
8. What is price elasticity used for?
9. Apart from price, what other things affect demand for a product or service?

3. Translate these sentences from Russian into English using content of Text 1.

1. Экономика бывает очень запутанной, потому что эконометрические формулы и графики очень сложно понять.
2. Однако некоторые экономические идеи очевидны.
3. Одна из таких идей – закон спроса.
4. Все экономисты согласны с законом спроса, потому что он понятен всем.
5. Спрос обозначает, сколько товаров или услуг люди хотят покупать.

6. Закон спроса гласит, что спрос на товар падает, когда цена на него увеличивается.

7. Если товар становится дороже, у нас остается меньше денег на другие нужды.

8. Если продукт или услуга не является первой необходимостью, мы станем покупать меньше.

9. Если правительство повышает цены на товары или облагает их налогами, наблюдается падение спроса.

10. Кривая спроса показывает, каким образом спрос зависит от повышения или снижения цены.

11. Отношение спроса к цене называется эластичностью цены.

12. Экономисты измеряют эластичность цены при помощи простой формулы.

13. Это помогает правительству устанавливать цены на правильном уровне и планировать повышение цен.

14. Не только цена влияет на спрос.

15. Изменение дохода, мода, климат влияют на падение и рост спроса и вызывают сдвиг в кривой спроса.

Speaking Practice

1. Discuss these questions with your partner.

1. Apart from price, what other things affect demand for a product or service?
2. If you were a manufacturer, how would you react to increases and decreases in demand?
3. How does the market take into account the needs of producers and consumers?
4. What goods and services are most in demand in your country now?
5. What goods or services will always be in demand among consumers?

2. Give a two-minute talk on the relationship between demand and supply.

Make notes on the following and present your talk to the class.

- the law of demand and the reasons for changes in demand
- how the market takes into account the needs of producers and consumers

Writing Practice

1. Translate the text from Russian into English.

Закон спроса представляет собой обратную зависимость между ценой и величиной спроса на товары и услуги в течение какого-либо периода времени. Проще говоря, если цена на какой-либо товар растет, то спрос будет снижаться при неизменности остальных факторов. Степень реакции количества спроса на изменение цен получила название эластичности спроса по цене.

UNIT 5. Traditional Economy

Vocabulary for Text 1

to imagine	представлять, воображать
a coin	монета
a banknote	купюра
to employ	нанимать на работу
an employer	работодатель
an employee	сотрудник
to exist	существовать
subsistence	прожиточный минимум
surplus	излишек
property	собственность
to share with	делить с
a tribe	племя
a custom	традиция, обычай
crops	сельскохозяйственные культуры
to make sense	иметь смысл
division of labour	разделение труда
environment	окружающая среда
a tool	инструмент
to survive	выживать
survival	выживание
a benefit	преимущество
a drawback	недостаток
to consume	потреблять
to protect	защищать
protection	защита
a disaster	катастрофа
a disease	болезнь

Vocabulary Training Exercises

1. ***Choose the correct word.***

1. Although we can buy meat in the shops, some people still like to ***chase / hunt / eat*** animals as a hobby.
2. ***Surplus / Goods / Shortage*** is another word for extra things that are not needed.
3. There are still ***customs / tribes / pygmies*** of people living traditional lives in the rainforests of South America.

4. In most modern societies ***parties / patterns / customs*** like celebrations and dances have disappeared.

5. Corn and wheat are two ***crops / animals / foods*** that farmers grow in their fields.

6. One of the ***goods / disadvantages / benefits*** of playing sports is that you keep fit.

7. One of the ***drawbacks / benefits / customs*** of living in the city is the noise.

8. Many African countries suffer from regular ***floods / droughts / hurricanes*** when no rain falls for months.

9. Heavy rain causes ***floods / droughts / hurricanes*** in many parts of Europe each year.

10. East Asian countries are well known for their ***agricultural / heavy / technology*** industries such as computers and cameras.

11. Exercises and sports at school are sometimes called ***physical / mental / fun education***.

2. ***Match the words and their definitions.***

employer, banknote, disaster, tool, to imagine, to survive, surplus, to consume, employee, property, to share, coin, benefit, to exist, to employ, tribe, subsistence, drawback, disease, to protect

1. to divide food, money, goods, etc. and give part of it to someone else
2. the state of having what you need in order to stay alive, but no more
3. a disadvantage or the negative part of a situation
4. to be real
5. to use something such as time, fuel or food
6. an event that results in great damage or serious difficulty
7. someone who is paid to work for someone else
8. a piece of printed paper that has a particular value as money
9. to stay alive despite an injury, illness, war
10. an illness of people, animals, plants
11. a helpful or good effect, or something intended to help
12. to form or have a mental picture or idea of something
13. more than is needed
14. to keep someone or something safe from injury, damage, or loss
15. a piece of equipment that you use to make or repair something
16. a person or organization that employs people
17. an object or objects that belong to someone
18. a small, round piece of metal that is used as money

3. Complete the sentences with the words from the box.

surplus, custom, coin, share, survived, exists, drawbacks, employ, subsistence, employer, benefits, employees, imagined, consume

1. One of the __________ of living with someone is having to share a bathroom.
2. Keep one cup of the liquid and throw away the __________.
3. We should __________ someone to manage production.
4. I __________ a house with four other people.
5. The new light bulbs __________ less electricity.
6. The discovery of oil brought many __________ to the town.
7. She __________ herself sitting in her favourite chair back home.
8. In my country, it's the __________ for women to get married in white.
9. The number of __________ in the company has increased over the past decade.
10. Poverty still __________ in this country.
11. He fished out a __________ from his pocket.
12. The family was living at __________ level.
13. We need a reference from your former __________.
14. Just eight passengers __________ the plane crash.

Text 1. Traditional Economy

It's hard to imagine our lives without coins, banknotes and credit cards. Yet for most of human history people lived without money. For thousands of years human societies had very simple economies. There were no shops, markets or traders. There were no employers, paid workers or salaries. Today, we call this kind of economy the traditional economy, and in some parts of Asia, South America and Africa this system still exists.

People who live in a traditional economy don't have money because they don't need it. They live lives of subsistence. That means they hunt or grow only enough food to live. There is no surplus in the traditional economy, and there is almost no property. Families may own simple accommodation, but land is shared by all the tribe. Economic decisions are taken according to the customs of the tribe. For example, every family may need to give some of the crops they grow to the tribal leader, but keep the rest for themselves. They don't do this because it makes economic sense. They do it because the tribe has always done it. It's simply a custom.

Custom, also, decides what jobs people do in the traditional economy. People generally do the jobs that their parents and grandparents did before them. Anyway, there aren't many jobs to choose from in the traditional economy. Men are hunters, farmers or both. The woman's place is at home looking after children, cooking and home-making. This division of labour between men and women is another characteristic of the traditional economy. Whatever the work is, and whoever does it, you can be sure it's hard work. This is because traditional economies have almost no technology. Physical strength and knowledge of the environment are the tools for survival.

Like any other economic system, the traditional economy has its benefits and drawbacks. Probably the biggest benefit is that these are peaceful societies. People consume almost everything they produce and own practically nothing. They are equally poor. For all these reasons, war is almost unknown in these societies.

However, people who live in traditional societies are among the poorest people in the world. Because custom decides what people do, nothing in these societies ever changes. Because there is no technology, people depend on nature to survive. They have no protection from environmental disasters like droughts and floods. They are always in danger of hunger and disease.

But the traditional economy is in danger itself. There are only a few examples left on the planet. In 100 years from now, it may have disappeared forever.

Comprehension Check

1. Read text 1 and match each paragraph with a suitable title.

Paragraph 1 ______________
Paragraph 2 ______________
Paragraph 3 ______________
Paragraph 4 ______________
Paragraph 5 ______________
Paragraph 6 ______________

A. Life without money
B. The advantages of the traditional economy
C. The future of the traditional economy
D. The disadvantages of the traditional economy
E. The importance of the traditions
F. Work in the traditional economy

2. Read text 1 and decide if these statements are true or false.

1. People have always used money.
2. In the past people didn't get money for the work they did.
3. There are no examples of the traditional economy nowadays.
4. In the traditional economy people don't use money.
5. In the traditional economy people buy and sell food.
6. People always follow traditions in the traditional economy.
7. People learn new jobs in the traditional society.
8. There is no division of labour in the traditional economy.
9. People develop new technologies.
10. People are equal in the traditional society.
11. People's life is full of danger.
12. Life in the traditional society is constantly changing.

3. Read text 1 and answer the questions in written form.

1. How did people live in the past?
2. Where can examples of the traditional economy be found?
3. Where do people in the traditional society get food?
4. What is typical of the economy in the traditional society?

5. What examples of customs in the traditional economy are given in the text?
6. What are men’s jobs in the traditional economy?
7. What are women’s jobs?
8. What drawbacks does the traditional economy have?
9. What advantages does it have?
10. What dangers do people in the traditional society face?

4. Translate these sentences from Russian into English using content of Text 1.

1. В прошлом люди жили по прожиточному минимуму.
2. Тогда не было ни рынков, ни торговцев, ни работодателей, ни зарплат.
3. Такой тип экономики называется традиционная экономика, и она до сих пор существует в некоторых частях Азии, Африки и Южной Америки.
4. Люди, которые живут в традиционной экономике, не имеют денег, потому что они им не нужны.
5. У них нет никакой собственности.
6. Жизнь людей и их работа зависит от традиций общества или племени, а не от экономического смысла.
7. Мужчины обычно охотятся или выращивают еду, а женщины занимаются домашним хозяйством.
8. Такое разделение труда – ещё одна характерная черта традиционной экономики.
9. В таких обществах физическая сила и знание окружающей среды – это инструменты к выживанию.
10. Как и любая экономическая система, традиционная экономика имеет свои преимущества и недостатки.
11. В традиционной экономике люди потребляют практически всё, что производят, и не имеют излишков.
12. Такие общества обычно мирные и не знакомы с войной.
13. Но, с другой стороны, люди очень бедны и незнакомы с современными технологиями.
14. У людей нет защиты от природных катастроф, и они живут под угрозой голода и болезней.

Speaking Practice

1. Discuss the following questions with your partner.

1. Why do you think the traditional economy has almost disappeared?
2. Would you like to live in a traditional economy? Why / Why not?
3. What kind of people do you think still live in a traditional economy today? What’s their life like?
4. Can you imagine the world without money?

5. Can you think of any situations where people don't use money, either from the past or now?

2. Give a two-minute talk on what the traditional economy is.
Make notes on the following and present your talk to the class.

- where in the world the traditional economy still exists
- the way people live in the traditional economy
- the advantages and disadvantages of living in the traditional economy

Writing Practice

1. Translate the text from Russian into English.

Традиционная экономика, или натуральное хозяйство, представляет собой исторически первый уклад хозяйства, в котором не использовали деньги. В такой экономике практически отсутствовала собственность. Все, что производилось и выращивалось, потреблялось полностью, экономика не росла. Натуральное хозяйство до сих пор существует в ряде стран Азии, Южной Америки и Африки. Общество, основу которого составляет натуральное хозяйство, как правило, не ведет войн и характеризуется низким уровнем жизни.

2. Find some information on the Internet about a traditional society. Write a short report about their life. Write about the place where they live, their environment, their lifestyle, why they are important, what we can learn from them.

UNIT 6. Market Economy

Vocabulary for Text 1

a crowd	толпа
to reach	достигать
a stall	прилавок
to advertise	рекламировать
an advertisement	реклама, рекламное объявление
(to) order	заказывать; заказ
to prepare	подготавливаться
to arrive	прибывать
an incentive	стимул
to make profit	получать прибыль, извлекать выгоду
to raise	повышать
to reduce	снижать
a feature	характерная черта, признак
to compete	конкурировать

a competition	конкуренция
a competitor	конкурент
to afford	позволять
to make better use of	использовать с толком
an effort	усилие
to set limits	устанавливать ограничения
in order to V	для того чтобы

Vocabulary Training Exercises

1. ***Choose the correct word.***

1. Every Saturday this road becomes the local ***stall / street market*** where people come to buy fruit and vegetables.
2. Businesses ***advertise / compete*** their products in the media to attract more customers.
3. My ***role / feature*** in the business is to meet customers and find out what they want.
4. Making money is the main ***competition / incentive*** to work.
5. I bought this old camera for €50 and sold it for €75. That's €25 ***effort / profit***.
6. If there’s only one producer in the market, there's no ***competition / advertisement***.
7. Production ***features / costs*** are the amount of money companies spend to make a product.
8. A ***controlled / market*** economy is one where a government decides what can be bought and sold.
9. The speed ***effort / limit*** on this road is 90 kilometres per hour.
10. When there is a demand we ***raise / reduce*** prices, but we ***raise / reduce*** them if we want to sell something quickly.
11. I can’t ***arrive / afford*** that car— it's too expensive.
12. People are ***limited / prepared*** to pay a lot for services if they are of a good quality.

2. ***Match the words and their definitions.***

advertisement, to reduce, feature, to prepare, to afford, crowd, limit, to compete, incentive, to reach, to order, competitor, stall, to arrive, to raise, competition

1. to cause something to increase or become bigger, better, higher
2. to try to be more successful than someone or something else
3. to reach a place, especially at the end of a journey:
4. to be able to do or buy something because you have enough time or money
5. the activities of companies that are trying to be more successful than others

6. a picture, short film that persuades people to buy a product or tells people about a job
7. a typical quality or an important part of something
8. the greatest amount or level of something that is possible
9. to make or get something or someone ready
10. a large table or a small shop with an open front where goods are sold in a public place
11. something that encourages a person to do something
12. to ask for food or drink in a restaurant or hotel
13. to become or to make something become smaller in size, degree, importance
14. a large group of people
15. to arrive at a place, especially after spending a long time or a lot of effort travelling
16. a company that is trying to compete with others to make bigger sales in a particular market

3. Complete the sentences with the words from the box.

afford, ordered, features, raise, crowd, advertisement, stall, competitor, reached, prepares, incentive, reduced, competition, arrive, advertises, compete, limit

1. At least one major ______________ is starting to provide local service at lower price.
2. The number of employees will be ______________ by around 30 per cent.
3. I'm not sure how they are able to ______________ such expensive holidays.
4. This course ______________ students for middle and senior manageria l positions.
5. He ______________ his services on the company notice board.
6. The town's main ______________ are its beautiful mosque and ancient marketplace.
7. An angry ______________ came to the steps of the palace.
8. They finally ______________ the coast after five weeks sailing.
9. The waitress came, so we ______________ you another pizza.
10. It's difficult for a small shop to ______________ with the big supermarkets.
11. The government plan to ______________ taxes.
12. Traditional booksellers face hard ______________ from companies selling via the Internet.
13. I saw an ______________ for the job in yesterday's paper.
14. What time does the mail usually ______________?

15. I think we should put a strict ______________ on the amount of time we can spend on the project.

16. There is little ______________ for people to leave their cars at home when public transport remains so expensive.

17. He runs a fruit and vegetable ______________ in the local market.

Text 1. Market Economy

Have you ever walked through a busy street market? People push their way through crowds of others in order to reach the stalls first. The air is full of deafening shouts. Stall owners yell to advertise their goods. Buyers cry out their orders. It's hard to imagine, but behind this noisy confusion is a very logical economic theory: the market economy.

The market economy is sometimes called the free market. A free market is not controlled in any way by a government. It is also free from the influence of custom or tradition. In a free market, the only reason why things are bought and sold is because there is a demand for them. Prices for goods and services are simply what people are prepared to pay. The market economy is not really controlled by anyone. It controls itself.

The street market where we began has many of the characteristics of the free market. Customers arrive at the market with a shopping list of things they need. They also come with an idea of how much they are prepared to pay. Stall owners sell what customers demand, and try to get the highest price they can for it. Supply and demand control what is on the market and how much it sells for. In the wider economy, we are all customers, and the stall owners are like companies.

The role of the company in the free market is to supply what people want. However, companies need an incentive. The incentive is profit. There are two ways for companies to make a profit. The first way is to raise their prices. The second way is to reduce their production costs. And this brings us to two more features of the market economy: competition and technology.

Competition exists in a free market because, theoretically, anyone can be a producer. This means that companies have to compete with each other for a share of the market. Competition is good for consumers because it helps to control prices and quality. If customers aren’t happy with a product or service, or if they can’t afford it, they will go to a competitor.

Technology exists in a free market because producers need ways to reduce their costs. They cannot buy cheaper raw materials. Instead, they must make better use of time and labour. Technology is the use of tools and machines to do jobs in a better way. This helps companies produce more goods in less time and with less effort. The result: more profit.

People often think that most economies are free markets. However, at the macroeconomic level, a truly free market economy does not exist anywhere in the world. This is because all governments set limits in order to control the economy.

Some governments set many limits, other governments set very few but they all set some. For this reason, a true market economy is only theoretical. Nevertheless, many of the features of the market economy do exist in most societies today.

Comprehension Check

1. Read text 1 and decide if these statements are true or false.

1. According to the text the market economy is similar to a street market.
2. The market economy is not controlled by the government.
3. Customs and traditions deeply influence the market economy.
4. The reason why companies operate in the market economy is profit.
5. When companies reduce prices, they get more profit.
6. Competition is bad for consumers.
7. Technology helps companies produce high-quality goods with less effort.
8. A truly market economy exists in some developed countries.
9. Governments don't set any limits so that companies have more profit.

2. Read text 1 and answer the questions in written form.

1. What is the market economy similar to according to the text?
2. What is a free market?
3. Who decides what goods are for sale in the free market?
4. How are prices set in the free market?
5. Who controls the free market?
6. Why is the free market similar to a street market?
7. What do customers and companies want?
8. What is the role of companies in the free market?
9. What is the incentive for companies in the free market?
10. What are two main features of the free market?
11. Why is competition good for the consumers?
12. Why does technology exist in the free market?
13. Why are there no true market economies in the world today?

3. Translate these sentences from Russian into English using content of Text 1.

1. Чтобы получить большую прибыль, продавец должен поднять цену и снизить себестоимость товаров.
2. В рыночной экономике компании соревнуются друг с другом за долю рынка.
3. В нашей жизни и экономике деньги, монеты, купюры и кредитные карты играют очень важную роль.
4. В традиционной экономике люди охотились и не имели собственности. Земля принадлежала всему племени. Тогда впервые появилось разделение труда.

5. В любой экономической системе есть свои преимущества и недостатки. Самый большой недостаток традиционной экономики – это то, что люди потребляют практически всё, что производят.

6. Государство не контролирует свободный рынок, в нем нет влияния традиций и обычаев.

7. На свободном рынке существует конкуренция, которая помогает контролировать цену и качество.

8. Свободная рыночная экономика не может существовать, так как все правительства контролируют экономику, устанавливая ограничения.

9. Все компании рекламируют товар, чтобы продать его и получить прибыль. Потребители выбирают лучшее предложение, чтобы купить товары высшего качества и сэкономить.

10. Роль компании в свободном рынке – обеспечить потребителей товарами, на которые есть спрос.

11. Чтобы компании работали и производили товары, им нужен стимул. Этот стимул – прибыль.

12. Компании используют технологии, чтобы производить больше товаров за меньшее время и с меньшими затратами.

Speaking Practice

1. Give a two-minute talk on what the market economy is.
Make notes on the following and present your talk to the class.

- how the market economy words
- the necessity of competition in the market economy
- the advantages and disadvantages of living in the market economy

2. Discuss the following questions with your partner.

1. Do you think most countries have a market which is free from government management?
2. Can you think of any examples supporting or disagreeing with this idea?
3. What results from competitive processes?
4. Why is competent work better rewarded especially in countries with the market economy?

Writing Practice

1. Translate the text from Russian into English.

Существуют два вида экономики: традиционная и рыночная. Традиционная экономика существует в обществе, в котором нет торговли. У людей нет денег, потому что они им не нужны. Рыночная экономика существует в обществе, в котором люди покупают и продают товары. Людям нужны деньги, чтобы покупать товары.

В традиционной экономике люди полагаются на природу. Они охотятся и выращивают столько еды, чтобы выжить. С одной стороны, это преимущество. У людей нет причин для войны, потому что у них ничего нет. Это мирное общество. С другой стороны, это недостаток. Люди, живущие в традиционной экономике, очень бедны. Более того, у них нет защиты от природных катастроф, потому что у них нет современных технологий. Это значит, что они часто умирают от голода и болезней.

В рыночной экономике спрос и предложение контролируют, какие товары продаются. Это преимущество, потому что производители обеспечивают покупателей товарами и услугами такого качества и по такой цене, которые покупатели хотят. Однако у всех производителей есть стимул. Это прибыль. Во-первых, производители конкурируют друг с другом, чтобы продать свои товар и получить прибыль. Во-вторых, производители используют современные технологии, чтобы снизить расходы на производство. Это может быть недостатком, потому что если люди не работают, у них не будет денег на то, чтобы покупать товары и пользоваться услугами. Следовательно, производители не получат прибыль.

Мне кажется, самая лучшая экономическая система – это рыночная экономика. К сожалению, многие правительства устанавливают ограничения, чтобы контролировать экономику. Это значит, что подлинная рыночная экономика не может существовать.

2. Write an essay comparing the planned economy with the mixed economy. Write four paragraphs. In the first paragraph introduce the subject by saying what the traditional economy is, and what the market economy is. In the second paragraph describe the advantages and disadvantages of the traditional economy. In the third paragraph describe the market economy; show its advantages and disadvantages. In the fourth paragraph make a conclusion by saying which system is better in your opinion.

UNIT 7. Planned Economy

Vocabulary for Text 1

opposite	противоположный
a force	сила
to solve	решать
a solution	решение
to operate	работать, функционировать
to afford	позволять
basic commodities	основные товары, товары массового спроса
wage (wages)	зарплата, выплачиваемая ежедневно или раз в неделю

experience	опыт
to experience	переживать что-то, испытывать
huge	огромный
a steel industry	металлургическая промышленность
a drawback	недостаток
to meet demand	удовлетворять спрос
to warn	предупреждать
warning system	предупредительная система
a shortage	нехватка
to ration	ограничивать
to hoard	копить, запасать

Vocabulary Training Exercises

1. Match the words and their definitions.

solution, to experience, demand, to ration, commodity, steel, huge, to operate, opposite, wage, shortage, force, to afford, to solve, drawback, to warn

1. a regular amount of money that you earn, usually every week or every month, for work or services
2. a situation when there is not enough of the people or things that are needed
3. to find a way of dealing with a problem or difficult situation
4. a very strong request for something; something that somebody needs
5. to tell somebody about something dangerous or unpleasant
6. a strong, hard metal that is made of a mixture of iron and carbon
7. a product or a raw material that can be bought and sold
8. to have a particular situation affect you or happen to you
9. a person or thing that is as different from somebody or something else
10. to work in a particular way
11. to limit the amount of a particular thing that someone is allowed to have
12. a disadvantage or problem that makes something a less attractive idea
13. to have enough money to be able to buy or do something
14. extremely large in size or amount
15. a way of solving a problem or dealing with a difficult situation
16. a person or thing that has a lot of power or influence

2. Complete the sentences with the words from the box.

wages, demands, steel, commodity, forces, solution, drawback, huge, solve, shortages, operates, opposite, afford, experiencing, warned, ration

1. Their economy continued to suffer _______________ in raw materials.
2. The organization _______________ on a non-profit basis.

3. Iron and _______________ make up one quarter of the country’s national income.
4. We are currently _______________ problems with our IT systems.
5. The one big _______________ with the plan was its high cost.
6. I hope that he can find a good way to _______________ these problems.
7. They are prepared to work for _______________ well below the legal minimum.
8. The effect was exactly the _______________ to what he intended.
9. My children would watch television all day long, but I _______________ it.
10. Water is a precious _______________ that is often taken for granted in the West.
11. She was _______________ that if she did it again she would lose her job.
12. There's a potentially _______________ demand for this product.
13. It was decided that the only _______________ was for him to leave the company.
14. The management had no intention of meeting union _______________.
15. They believe that market _______________ should determine prices.
16. The company simply cannot _______________ to pay overtime.

Text 1. Planned Economy

In many ways, the planned economy is the direct opposite of the market economy. In the market economy, the forces of supply and demand decide everything: what is produced, how much is produced, the methods of production and the price. In the planned economy, all of this is decided by the government. In every way that the market economy is free, the planned economy is controlled.

Unfortunately, no economic system is perfect. If there was a perfect system, economists wouldn’t have anything to argue about! Market economies have their strengths, but they have their problems, too. Planned economies try to provide solutions to these problems. For example, the free market supplies the things that people want. However, what people want and what they need are not always the same: Fast food is always in demand, but it’s bad for us. In a planned economy, the government could decide to stop fast food restaurants operating in the market.

A second problem with free markets is that producers always want the highest price. Often the poor can’t afford things. In a planned economy, the government sets prices. They make sure that everyone can afford basic commodities. This is one way that planned economies try to share things equally. Another is to control how much people get paid.

In a planned economy, workers’ wages depend on the service they provide to society. If people can live without their service, you get paid less. This is very different from the free market. In the free market, someone’s salary mostly depends on the demand for his or her work. If people like what you do, you get paid more.

Before 1900, there were few examples of planned economies. During the 20th century, however, the planned economy became the standard for socialist governments like the USSR and China. These countries experienced amazing economic growth in a very short time. In a market economy, it takes a long time for big industries to grow from small companies. In a planned economy, however, huge industries can grow overnight. The government simply decides to spend money on factories and factories appear. Britain, for example, took centuries to develop her steel industry in a free market economy. China developed hers in a few decades.

But, as we said, no economic system is perfect. The planned economy has many drawbacks. One of these drawbacks is problems with supply. It is difficult for governments of planned economies to know exactly how much to produce to meet demand. In a market economy, when the price of a commodity rises, this indicates a rise in demand. Companies then supply more to the market. This warning system doesn't work in a planned economy because price is controlled by the government. The result is shortages.

When shortages happen, governments can do two things: ration goods or raise prices. In this situation, people then start to hoard things, and the problem gets even worse. As the population gets bigger, shortages like this become more common. For this reason, China - once the world's biggest planned economy - is rapidly moving towards another system: the mixed economy.

Comprehension Check

1. Read text 1 and decide if these statements are true or false.

1. In a planned economy, the government decides how products are made.
2. In a planned economy, suppliers can sell anything that is in demand.
3. In a planned economy, some people have more than others.
4. In a planned economy, a doctor gets paid more than a footballer.
5. Planned economies grow more slowly than market economies.
6. In a market economy, greater demand for something makes if cheaper.
7. Planned economies are difficult to run in countries with large populations.

2. Read text 1 and answer the questions in written form.

1. Why is the planned economy the direct opposite of the market economy?
2. Who decides what goods are sold in the planned economy?
3. What problems of the market economy can the planned economy solve?
4. Why are things shared equally in the planned economy?

5. What do workers’ wages depend on in the planned economy?
6. How do people get paid in the market economy?
7. What was typical of the planned economies in the 20th century?
8. Why can big industries grow overnight in the planned economy?
9. Why is there a problem with supply in the planned economy?
10. Why doesn’t this problem exist in the market economy?
11. Why do people hoard things in the planned economy?

3. Write down the English equivalents for the following expressions. Consult text 1.

Полная противоположность, силы спроса и предложения, иметь тему для спора, найти решение проблемы, пользоваться спросом, предоставлять услуги обществу, переживать удивительный экономический рост, занимать долгое время, появиться за одну ночь, сигнализировать о росте спроса, ухудшаться.

4. Translate these sentences from Russian into English using content of Text 1.

1. Плановая экономика – это полная противоположность рыночной экономики.
2. В рыночной экономике спрос и предложение определяет, что производить, сколько производить, какие методы производства использовать и какие цены устанавливать.
3. При плановой экономике правительство решает, что производить и по какой цене продавать.
4. Любая экономическая система имеет свои преимущества и недостатки.
5. Рыночная экономика снабжает людей товарами, на которые есть спрос.
6. Но эти товары не всегда являются первой необходимостью, а иногда могут вредить населению.
7. При плановой экономике правительство может принять решение прекратить производство и продажу таких товаров.
8. Продавцы в рыночной экономике хотят получить наивысшую цену, поэтому не все могут позволить купить некоторые товары.
9. В странах с плановой экономикой правительство может создать условия для того, чтобы все могли купить товары первой необходимости.
10. Другое отличие между рыночной и плановой экономикой – в оплате труда.
11. У стран с плановой экономикой есть проблемы с предложением.
12. Дефицит товаров обычен для таких стран, так как правительство не может знать точно, сколько товаров потребуется.
13. В рыночной экономике рост цены отражает рост спроса на товар.

14. Это правило не работает в плановой экономике, так как правительство контролирует рост цен.

15. В случае нехватки товаров правительство может повысить цены или ограничивать продажу товаров.

Speaking Practice

1. Give a two-minute talk on what the planned economy is. Make notes on the following and present your talk to the class.

- where in the world the planned economy still exists
- the way people live in the planned economy
- the advantages and disadvantages of living in the planned economy

Writing Practice

1. Translate the text from Russian into English.

Плановая экономика является прямой противоположностью рыночной экономики. При плановой экономике материальные ресурсы являются государственной собственностью, производство и распределение товаров и услуг контролируется государством, закон спроса и предложения не действует, цены и заработная плата устанавливаются правительством. В XX веке во многих странах Восточной Европы, СССР и Китае экономика была плановой.

2. Write a short paragraph about the everyday problems people face planned economy.

UNIT 8. Mixed Economy

Vocabulary for Text 1

strict	строгий
an enterprise	предприятие
privately-owned business	частная компания
state-run industry	государственная отрасль
to mix	смешивать, общаться
to include	включать
primary industries	добывающие отрасли
to manufacture	производить
a manufacturer	производитель
to allow / to be allowed to	позволять
deregulation	процесс разгосударствления
to accept	принимать
profit motivation	мотивация прибылью
to harm	вредить
to improve	улучшать

to ban	запрещать
honestly	честно

Vocabulary Training Exercises

1. ***Match the words and their definitions.***

state-run industry, to harm, to manufacture, strict, to include, to allow, primary industries, enterprise, to accept, privately-owned business, deregulation

1. to agree to do what someone asks or suggests
2. industries that produce energy or basic materials, such as coal, oil, metals, crops
3. limiting someone's freedom to behave as they wish
4. industries which belong to and are run by the government
5. a business company or organization
6. to produce goods in large numbers, usually in a factory using machines
7. to give someone permission to do or have something
8. to hurt someone or damage something
9. industries which belong to and are run by independent businesses
10. to contain something as a part of something else
11. the action of removing national or local government controls or rules f rom a business or other activity

2. Complete the sentences with the words from the box.

enterprise, deregulation, include, public transport, trade, honestly, primary industries, allows, mix, accept, ban, manufacturers, strict, profit, motivation, manufactures, monopoly

1. Buses, trains and planes are examples of __________________.
2. Do you __________________ with a wide variety of people in your job?
3. __________________ produce new goods from raw materials.
4. __________________ is what drives businesses in the market economy.
5. He works for a company that __________________ car parts.
6. My parents were very __________________ with me when I was young.
7. Our clients will never __________________ this proposal.
8. When a government puts on a __________________ on a commodity, people are not allowed to buy or own it.
9. Your responsibilities will __________________ making appointments with our foreign colleagues.
10. If only one company controls part of the economy, they have a __________________.

11. She only _________________ the children to watch television at weekends.

12. _________________ has led to higher electricity prices in many states.

13. When companies _________________, they do business with each other.

14. Euro Disney is a much smaller _________________ than its American counterparts.

15. Developing countries have a higher proportion of their workforce involved in _________________ than developed counties.

16. They have always dealt _________________ and fairly with their customers.

Text A. Mixed Economy

Most economists would say that there are no examples in the world today of a completely free market or a completely controlled economy. Instead, every country operates a mixture of the two systems. Even in the freest economies, like the USA, there is some government control; even in the strictest planned economy there is some free enterprise.

Economies mix government control and free market values in different ways. One way is to let privately-owned businesses exist alongside state-run industries. The economy becomes divided between the state sector and the private sector. The state sector often includes industries that the government thinks are important and need protection from the risks of the free market. These could include public transport, hospitals, schools and the postal service. The state sector can also include large industries that are important for a country's economic health, such as oil, steel or agriculture. These are sometimes called primary industries because they provide basic materials to manufacturers.

These state sector industries use money that the government collects in taxes. Often, they do not need to compete with other companies because no other company is allowed to provide the same product or service. However, many countries have recently started a process called deregulation.

Deregulation means freeing up the economy to allow private businesses to compete with state-run industries. The state sector should then run more efficiently in order to compete in the free market and because it now has less government protection. Deregulation of services like telecommunications, transport and banking has happened in many countries in recent years. People have generally accepted these changes. However, generally the public is less happy when governments start talking about deregulation in education and health services. Many people feel that profit motivation will harm these services rather than improve them.

Another way in which economies today are mixed is that governments put limits on free enterprise. For example, governments may decide to ban trade in certain goods if they are dangerous. They may also create laws to make sure companies trade honestly or to prevent monopolies. If a company has a monopoly, normal market forces do not affect it. This is bad for consumers and the economy in general. Governments may also regulate methods of production. They do this to guarantee that products are safe for consumers and to protect the environment.

Many economists would argue that the mixed economy is the best system for consumers. This is because consumers have two ways to control the economy: by choosing to buy a company's goods or services and by choosing to give political parties their votes.

Comprehension Check

1. Read text 1 and decide if these statements are true or false.

1. Most economists believe that a mixed economy exist in some way in all countries.
2. Public transport, hospitals, schools are examples of primary industries.
3. State-run industries need government protection from the risks of the free market.
4. State-run industries need to earn money to operate successfully on the market.
5. Governments choose to run some industries so that they may collect taxes.
6. Governments deregulate some industries because there is too much competition.
7. Deregulation of hospitals and schools is popular with the public.
8. Profit motivation makes all companies operate better.
9. Governments put limits on some enterprises to prevent monopolies.
10. Governments control free enterprises by setting prices on goods they produce.

2. Read text 1 and answer the questions in written form.

1. What is the mixed economy?
2. Which two sectors is the mixed economy divided into?
3. What industries does the state sector include?
4. Why are these industries called primary?
5. How does the state sector operate?
6. What does the process of deregulation mean?
7. What are the advantages and disadvantages of this process?
8. What businesses belong to the private sector?
9. How do governments control the private sector?
10. Why is the mixed economy good for consumers?

3. Translate these sentences from Russian into English using content of Text 1.

1. Когда рыночная и плановая экономика объединяются, появляется смешанная экономика.
2. Она характеризуется наличием контроля правительства, с одной стороны, и свободным предпринимательством – с другой стороны.
3. Экономика поделена на государственный сектор и частный сектор.
4. Государственный сектор включает важные отрасли, которым необходима защита на свободном рынке.
5. Это транспорт, здравоохранение, почтовая служба, образование.
6. Добывающие отрасли, такие как сельское хозяйство, нефтяная промышленность и металлургия, поставляющие сырьё производителям, также находятся под контролем государства.
7. Налоги, которые собирает правительство, позволяет этим отраслям функционировать.
8. Им нет необходимости конкурировать с другими компаниями на рынке, так как они могут быть единственными, кто производит товар или предоставляет определенную услугу.
9. Однако во многих странах наблюдается процесс разгосударствления.
10. В этом случае частный сектор конкурирует с государственным сектором.
11. Разгосударствление происходит в таких сферах экономики, как СМИ, банковский сектор, транспорт.
12. Многие люди недовольны этим процессом в сфере образования и здравоохранения, так как считают, что мотивация прибылью вредит, а не улучшает их.
13. Очень часто государство накладывает запреты и ограничения на частные предприятия, а также создаёт законы, чтобы компании торговали честно.
14. Смешанная экономика очень выгодна для потребителей.
15. Люди поддерживают государство, когда голосуют за ту или иную политическую партию.
16. Потребители поддерживают бизнес, когда выбирают тот или иной продукт.

Speaking Practice

1. Work in groups of 3. Each of you will take one of these roles. Take turn to present arguments for the best economic system.

Student A

You believe that the planned economy is the best.

Student B

You believe that the free market is the best.
Student C
You believe that the mixed economy is the best.

2. Give a two-minute talk on what the mixed economy is.
Make notes on the following and present your talk to the class.
- where in the world the mixed economy exists
- the way people live in the mixed economy
- the advantages and disadvantages of living in the mixed economy

Writing Practice

1. Write an essay comparing the planned economy with the mixed economy. Write four paragraphs. In the first paragraph introduce the subject. In the second paragraph describe the planned economy; show its advantages and disadvantages. In the third paragraph describe the mixed economy; show its advantages and disadvantages. In the fourth paragraph make a conclusion by saying which system is better in your opinion.

2. Translate this text from Russian into English.

Смешанная экономика — это экономика, которая базируется как на частной, так и на государственной собственности на средства производства. Хотя государство активно регулирует деятельность экономики, особенно ее финансовой системы, частные предприниматели могут принимать независимые финансовые решения. В рамках смешанной экономики частные предприятия имеют право обладать средствами производства, свободно перемещать товары, осуществлять сделки по купле-продаже, нанимать и увольнять работников.

UNIT 9. Market Structure and Competition

Vocabulary for Text 1

market structure	структура рынка
to compete	конкурировать
a particular market	определённый рынок
to win a share of the market	получить место на рынке
to affect prices	влиять на цены
to have control over prices	контролировать цены
a scale	шкала
pure monopoly	чистая монополия
to exist	существовать
own	собственный
a substitute	замена, товар-аналог, заменитель
to satisfy needs	удовлетворять нужды, потребности

complete	полный, целый
to enter the market	входить на рынок
to stay in the market	оставаться, работать на рынке
to block companies from trading	препятствовать торговать на рынке
to have access to	иметь доступ к
price takers	соглашающиеся с ценой
to cover costs	покрывать расходы
to push prices higher	поднимать цены
to drive prices back	снижать цены
equilibrium (equilibrium point)	точка равновесия

Vocabulary Training Exercises

1. Choose the correct word.

1. Companies usually have a ***shape / structure / building*** with senior managers at the top and employees at the bottom.
2. McDonald's has a very big ***piece / part / market share*** of the fast food market.
3. Some teachers mark students' work using a ***scale / point / grade*** from A to E.
4. No one's work is ***good / better / perfect***. We all make mistakes.
5. A perfect economic system may never ***be / live / exist***.
6. A ***pure / good / clean*** monopoly means an absolute or complete monopoly.
7. Not all twins are ***similar / identical / same***. Some twins are brother and sister, for example.
8. Sometimes a person's colour or race can be a ***gate / barrier / block*** to getting work.
9. We use curtains to ***barrier / close / block light***.
10. Countries have been ***shopping / trading / selling*** with each other for thousands of years.
11. The ***equilibrium / middle / equal*** point is where two things are balanced against each other.
12. Honey is a healthier ***addition / difference / substitute*** for sugar to make things sweet.
13. Everyone should have ***access / openings / entrance*** to education.

2. ***Match the words and their definitions.***

equilibrium, to compete, scale, monopoly, to cover costs, price taker, to exist, substitute, access, complete, to share, structure

1. something that is used instead of something else
2. a company which is not able to influence the price of a product
3. a state of balance
4. to have enough money to pay for something

5. the right or opportunity to use or look at something
6. complete control of the supply of particular goods or services
7. a set of people or things arranged in order fromthe highest level to the lowest
8. including all the parts, details, or features
9. to be real
10. the way in which the parts of a system or object are arranged or organized
11. to try to be more successful than someone or something else
12. a part of something that has been divided between several people

3. Complete the sentences with the words from the box.

access, substitute, exist, cover, scale, monopolies, compete, equilibrium, own, structure, share, complete

1. We have a differential salary __________________ based on employees' experience.
2. The total bill comes to €80, so our __________________ is €20.
3. It is almost impossible in the real market that supply and demand are in __________________.
4. Everyone has their __________________ idea of what democracy means.
5. We couldn't get cream, so we used yoghurt as a __________________.
6. Big problems __________________ in the poorest regions of the country.
7. It is difficult for a small shop to __________________ with big supermarkets.
8. We need £1,000 a month to __________________ the rent.
9. Hackers had complete __________________ to the company files.
10. There are laws to stop companies becoming __________________.
11. The rich are at the top of the social __________________.
12. The library is fortunate to have an almost __________________ set of these publications.

Text 1. Market Structure and Competition

When economists talk about market structure they mean the way companies compete with each other in a particular market. Let's take the market for pizzas, for example. There may be many thousands of small companies all trying to win a share of the pizza market, or there may be only one huge company that supplies all the pizzas. These are two very different market structures, but there are many other possible structures. Market structure is important because it affects price. In some market structures, companies have more control over price. In other market structures, consumers have more control over price.

You can think of market structure as a kind of scale. At one end of the scale is perfect competition and at the other end is pure monopoly. In a market with perfect competition, there are many companies supplying the same good or service, but none of them are able to control the price. This sounds fine, but in reality it is very difficult for such a market structure to exist. What's needed?

First of all, there must be many small companies competing. Each company has its own small share of the market. If one company has a much larger share than any other, it can affect price, and perfect competition will no longer exist.

Secondly, products or services from different companies must be the same. This doesn't mean that everything on the market has to be identical, but they have to be perfect substitutes. In other words, one company's product must satisfy the same need as another company's. Imagine a company produces a television that also makes tea. Its product is different from everyone else's. If it chooses to raise the price of its TVs, customers may still want to buy them because of this difference.

Thirdly, customers and companies must have perfect and complete information. This means that they know everything about the products and prices on the market and that this information is correct.

Fourthly, there mustn't be any barriers to new companies entering the market. In other words there must not be anything that helps one company stay in the market and blocks others from trading.

Finally, every company in the market must have the same access to the resources and technology they need.

If all of these conditions are met, there is perfect competition. In this kind of market structure, companies are price takers. This is because the laws of supply and demand set the price, not the company. How does this work? Very simply! An increase in demand will make a company increase its price in order to cover costs. It might try to push its prices even higher than necessary so that it can make more profit. However, it will not be able to do this for very long. The increase in demand and the higher price will make other companies want to enter the market, too. This will drive the price back down to equilibrium.

Comprehension Check

1. Read text 1 and decide if these statements are true or false.

1. Market structure describes how competitive a market is.
2. Perfect competition and pure monopoly are opposites.
3. Four conditions are necessary for perfect competition to exist.
4. In perfect competition, every company makes a slightly different product.
5. In perfect competition consumers don't know anything about the situation in the market.
6. Perfect competition makes it easy for new companies to start trading.

7. When there is perfect competition, companies are able to set any prices they want.

2. Read text 1 and answer the questions in written form.

1. What is the market structure?
2. What is perfect competition?
3. What is the direct opposite of perfect competition?
4. What conditions are necessary for perfect competition to exist?
5. Why is it important that goods from different companies in perfect competition must be substitutes?
6. Why are companies in perfect competition called price takers?
7. How does the law of supply and demand work in this kind of market structure?

3. Translate the sentences from Russian into English using content of text 1.

1. Структура рынка показывает, как компании конкурируют друг с другом.
2. Может существовать несколько компаний, каждая из которых занимает свою долю рынка, или только одна компания, поставляющая тот или иной продукт или услугу.
3. Существуют различные структуры рынка, которые влияют на цену товаров.
4. В некоторых рыночных структурах компании имеют полный контроль над ценами, в других – потребители.
5. Структура рынка похожа на шкалу, где есть идеальная конкуренция или чистая монополия.
6. В условиях идеальной конкуренции существует много компаний, производящих одинаковый товар, но они не могут контролировать цену.
7. Каждая компания имеет свою долю рынка, производит похожие товары и имеет достоверную информацию о состоянии рынка.
8. Новые компании могут зайти на рынок, а существующие компании не препятствуют их торговле.
9. Каждая компания на рынке имеет доступ к технологиям и сырью.
10. В случае идеальной конкуренции закон спроса и предложения регулирует цены.
11. При повышении спроса на товар компания может повысить цены, чтобы покрыть расходы на производство.
12. В этом случае другие компании захотят выйти на рынок, чтобы производить подобный товар.
13. Таким образом, цена снова опустится до точки равновесия.

Speaking Practice

1. Discuss the following questions with your partner.

1. Perfect competition is really only an idea. It almost never happens in the real world.
2. Why do you think this is?
3. Can you think of any market that has perfect competition?

2. Discuss with your partner the importance of the following factors influencing the market.

- the size of companies
- what products and services are like
- what information consumers and companies have about products
- ease of entry into the market for companies
- companies having the resources and technology they need

3. Give a two-minute talk on what the market structure and competition in the market.

Make notes on the following and present your talk to the class.

- what is understood by 'market structure'
- the role of competition in the market economy
- what factors on the market can lead to the perfect competition

Writing Practice

1. Translate the text from Russian into English.

Под рыночной структурой в экономической теории понимают количество участников рынка (фирм) в данной отрасли, количество покупателей, то, как фирмы выходят на рынок, как могут воздействовать на рыночную цену. Важнейшей характеристикой рыночной структуры является конкуренция. Существует бесконечно большое количество рыночных структур, которые для удобства сводятся к четырем моделям. Это совершенная конкуренция, когда количество фирм неограниченно, барьеры для входа и выхода с рынка и воздействие на рынок отсутствуют. Чистая монополия – одна фирма, имеющая максимальное воздействие на рынок, производящая уникальную продукцию. Олигополия – несколько фирм, которые оказывают влияние на рынок и существуют высокие барьеры для входа и выхода с рынка. Монополистическая конкуренция, когда существует большое количество фирм, каждая из которых незначительно влияет на рынок.

UNIT 10. Monopolies

Vocabulary for Text 1

market share	доля рынка
pure monopoly	чистая монополия

perfect competition	идеальная конкуренция
to occur	происходить, случаться
economy of scale	экономия на масштабе, эффект масштаба производства
to achieve	достигать
to set up	образовывать, основывать
to lay cable	прокладывать кабель
to make the network	создавать сеть
to run the system	управлять, контролировать систему
to bother	утруждаться, соизволить
a takeover	поглощение компании другой компанией
a publishing company	издательство
a printing company	типография
legal monopoly	монополия, созданная юридическим путём
illegal	незаконный
a law	закон
state monopoly	государственная монополия
a price maker	компания, устанавливающая цены на рынке
the bottom line	практический итог, результат
to mean	значить

Vocabulary Training Exercises

1. Choose the correct word.

1. ***Printing / publishing*** companies make books.
2. A ***network / cable*** is a set of connections.
3. When one company gains control of another company it is called a ***takeover / monopoly***.
4. Raw materials are things like wood or oil that exist ***legally / naturally***.
5. When something is ***legal / illegal***, it is not allowed by law.
6. Electricity travels along ***lines / cables*** to reach our houses.
7. ***Aggressive / illegal*** people get what they want by violence and force.
8. ***Printing / publishing*** companies are responsible for the writing and pictures in books.
9. ***Law / innovation*** is inventing and thinking of new solutions to problems.
10. If something is ***legal / illegal***, it is allowed by law.
11. If a problem ***bothers / occurs***, you will have to deal with it.

2. ***Match the words and their definitions.***

economy of scale, price maker, pure monopoly, to set up, law, takeover, to run, illegal, legal, monopoly, to achieve, to bother, bottom line, natural monopoly, market share, legal, to occur

1. to be in control of something
2. to start a new business
3. a situation when a monopoly occurs due to the government control
4. to happen especially of accidents and other unexpected events
5. not allowed by law
6. an official rule that people must obey
7. the most important fact in a situation
8. a situation when a monopoly occurs due to economies of scale
9. the reduction of production costs that is a result of making and selling goods in large quantities
10. a company with powers to set prices in the market
11. a situation when only one company supplies to the market
12. to make the effort to do something
13. the number of products or services that a company sells compared to the number that other companies sell
14. a situation in which a company gets control of another company
15. allowed by the law
16. to succeed in finishing something or reaching an aim, especially after a lot of work or effort

3. Complete the sentences with the words from the box.

publishing house, bothered, running, illegal, set up, network, laws, achieved, occurred, market share, legal, bottom line

1. It is __________________ to drive a car that is not registered.
2. He's been __________________ his own company since he left school.
3. He sent the 400-pages manuscript to his __________________.
4. The police said that the accident __________________ at about 4.30 pm.
5. There are __________________ against drinking in the street.
6. After years of rejections, she finally __________________ success on the big screen.
7. Its US __________________ fell to 45% from 50%.
8. He hasn't even __________________ to write.
9. After the war, she __________________shop in a quiet Yorkshire town.
10. The __________________ is that they lost the game.
11. Massive investment is needed to modernize the country's phone __________________.
12. It’s an organization that offers free __________________ advice to people on low incomes.

Text 1. Monopolies

In a monopoly, one company has a much larger market share than any other company. In fact, their share is so big that other companies cannot really compete. When there is monopoly, the normal laws of supply and demand do not always work. Monopolies come in different kinds, but a pure monopoly is when there is only one company in the market providing a particular product or service. This situation, in fact, is the exact opposite of perfect competition. How do pure monopolies happen?

Some monopolies occur naturally. This happens when a company manages to create an economy of scale. An economy of scale is when variable costs of production increase more slowly than increases in supply. Every company would like to be in this situation. Unfortunately, it's not easy to achieve. Economies of scale are possible for companies which need a lot of money to set up but much less money to run.

A telephone company is a good example. Telephone companies have to spend millions of pounds laying cables. However, once they have made the network, running the system does not cost so much. Any other company that wants to compete will have to make their own network. Not surprisingly, not many bother!

However, the world of business is a jungle, and there are more aggressive ways to create a monopoly. One of these is by making takeovers. This means that a more powerful company buys a smaller one in the same industry. Takeovers happen vertically or horizontally. In vertical takeover, a company buys companies that supply it with materials or services. For example, a publishing company might buy a printing business. In a horizontal takeover, a company buys its competitors. The competitors then become part of the first company.

One final way a monopoly occurs is for the government to make it happen. This is called a legal monopoly, but not because other monopolies are illegal! It is called a legal monopoly because it is created by law. The government may decide that a competitive market is not good for a certain industry. In this case, it can make one company the only legal supplier. Sometimes, it provides the service itself. This is called a state monopoly. The postal service in many countries is an example of a state monopoly.

Generally, monopolies are not good for consumers. This is because in a monopoly, the laws of supply and demand do not work in the same way. A company with a monopoly becomes a price maker. They have much more power to set the price for their product or service. Also, they don't usually spend money on innovations because they don’t need to. The bottom line, as they say, is that monopolies mean less choice for consumers.

Comprehension Check

1. Read text 1 and decide if these statements are true or false.

1. A company with a monopoly has a larger share of the market than other companies.
2. When there is a monopoly in the market, the law of supply and demand still works.
3. A perfect competition is when only one company provides the market with a certain good or service.
4. A monopoly is always created by the government.
5. With economies of scale companies have less production costs.
6. Legal monopolies are created by law.
7. A takeover happens when companies work together to have more profit.
8. A competitive market can be bad for some industries.
9. A company with a monopoly is a price taker.
10. Monopolies are good for consumers.

2. Read text 1 and answer the questions in written form.

1. What is a monopoly?
2. Does the law of supply and demand work if there is a monopoly in the market? Can you explain why it happens?
3. What is a pure monopoly?
4. How can a natural monopoly appear?
5. What happens in a company with economies of scale?
6. What is a takeover?
7. How does a vertical takeover differ from a horizontal takeover?
8. Who creates a legal monopoly?
9. What is a state monopoly?
10. Why are monopolies bad for consumers?

3. Translate these sentences from Russian into English using content of Text 1.

1. Структура рынка показывает, как компании конкурируют друг с другом.
2. Может существовать несколько компаний, каждая из которых занимает свою долю рынка, или только одна компания, поставляющая тот или иной продукт или услугу.
3. Существуют различные структуры рынка, которые влияют на цену товаров.
4. В некоторых рыночных структурах компании имеют полный контроль над ценами, в других – потребители.
5. Структура рынка похожа на шкалу, где есть идеальная конкуренция или чистая монополия.

6. В условиях идеальной конкуренции существует много компаний, производящих одинаковый товар, но они не могут контролировать цену.
7. Каждая компания имеет свою долю рынка, производит похожие товары и имеет достоверную информацию о состоянии рынка.
8. Новые компании могут зайти на рынок, а существующие компании не препятствуют их торговле.
9. Каждая компания на рынке имеет доступ к технологиям и сырью.
10. В случае идеальной конкуренции закон спроса и предложения регулирует цены.
11. При повышении спроса на товар компания может повысить цены, чтобы покрыть расходы на производство.
12. В этом случае другие компании захотят выйти на рынок, чтобы производить подобный товар.
13. Таким образом, цена снова опустится до точки равновесия.

Speaking Practice

1. Give a two-minute talk on what a monopoly is.
Make notes on the following and present your talk to the class.

- What is a monopoly?
- What types of monopolies exist?
- How do monopolies appear?
- Are monopolies good or bad for consumers and why?

Writing Practice

1. Translate the text from Russian into English.

Монополия представляет собой рыночную структуру, при которой одна компания является производителем и продавцом уникального вида продукции. У фирмы-монополиста нет прямых конкурентов. Рынок находится в полной власти монополиста. Для сохранения позиций монополисту необходимо существование на рынке чрезвычайно высоких барьеров для входа на рынок и выхода с рынка.

В зависимости от типа барьера различают естественную монополию, сырьевую монополию, локальную монополию. Естественная монополия возникает, когда одна фирма обеспечивает продукцией весь рынок при существенной экономии на масштабе, чего невозможно достичь при конкуренции нескольких фирм.

Сырьевые монополии связаны с контролем над поставками редкого или важного сырья.

Локальные монополии возникают в связи с высокими транспортными издержками, которые приводят к формированию изолированных местных рынков.

РАЗДЕЛ III. БАНК ТЕКСТОВ ПРОФЕССИОНАЛЬНОЙ НАПРАВЛЕННОСТИ

3.1. Текстовая база по направлениям подготовки

38.03.01 – Экономика
Профиль: Инновационная экономика в АПК

Text 1. What Is Agricultural Economics?

Источник: https://www.wisegeek.com/what-is-agricultural-economics.htm

Agricultural economics is the study of applying economic management principles to food farming. The result, ideally, is an agriculture industry that better understands efficiency, sustenance and market demand. This field looks at all elements of food production and applies rational thought and planning as a whole. From crops, livestock, land usage and soil content, all aspects of farm life are examined, including how its connection to one another can be strengthened. Mostly, this involves learning about the latest technology to help crops or livestock, but it also might require knowledge of what has and has not worked in the past.

Agricultural economics is a relatively new field, considering the countless years that people have been farming. Interest began to mount in the early 1900s, when many economic thinkers around the globe began focusing attention to agriculture. Noting that the act of planting, harvesting and distributing crops and livestock was inefficiently performed, academics believed that farms around the world could see greater yields and profits with a change of thought. Additionally, many universities and colleges opened agricultural economics programs with the intent of preparing students for a career in this field.

Careers in economical agriculture are as wide ranging as the crops produced around the world. The principles of farm economics, agricultural production and management can be directly applied to being a successful farmer, but there are a multitude of other options. Seed and chemical companies utilize agricultural economic thought in their production and development, grain elevator companies and equipment manufacturers must understand the economic landscape for each crop in order to stay relevant, and salesmen use agricultural economics to better serve their clients with the products they demand.

Since its inception, this field has helped further the science behind farming, too. Advances in food preservation and shipping techniques have allowed a myriad of fruits, vegetables and meats to reach grocery stores. Currently, many economists see the implementation of microcomputers in agriculture as another step toward streamlining farmland economics.

Agricultural economics is not a term that fits neatly within a single definition. It is the accumulation of many schools of thought on practically every aspect of agriculture, from planting a seed to serving food on a dinner table. It contains many different careers and needs that are constantly evolving as technology and economic thought grow.

Text 2. What Does Agricultural Economics Study?

Источник: http://www.studyingeconomics.ac.uk/module-options/agricultural-economics/

Agricultural economics is a branch of applied economics that takes the tools of both micro and macroeconomics and uses them to solve problems in a specific area. With food inflation soaring and agricultural disputes at the heart of the collapse of the latest round of world trade talks, the subject has seldom been so topical.

At the micro level, we need to understand the relevant production functions and the relationship between labour and capital. When is it worthwhile to employ labour-saving, 'lumpy' capital? And most courses will also look at the by-products (externalities) of some types of agricultural production, such as the effect of increased nitrogen fertiliser use.

Equally, we can use consumer theory to understand how shoppers make choices about the food they buy (including diets and fads). Many courses will also look at the food sector more generally, and ask whether there is excessive market power in the hands of supermarkets.

At the macro level, the subject studies the way governments decide how to support farmers. In developed economies, policy has tended to be devised so as to support and protect farmers – subsidies for prices and agricultural import tariffs under the European Union's Common Agricultural Policy for example – often with significant effects on trade flows and trading relations. In contrast, developing nations seek ways to ensure adequacy of supply of food for their people and to gain access to world markets to earn export revenue. Both are difficult tasks and both can be informed by the agricultural economist.

The skills of graduates with training in agricultural economics make them especially attractive to agricultural/environmental-based employers, such as government ministries, lobby groups and non-governmental organisations. A good knowledge of agricultural economics can prove particularly helpful to those intending to work in the developing countries.

Text 3. Agricultural Economist – Job Description

Источник: https://www.academicinvest.com/arts-careers/economics-careers/how-to-beco me-an-agricultural-economist

Agricultural economists are responsible for applying knowledge of the demand for goods and services in the agricultural sector, including the analysis of production, consumption and distribution. Agricultural economists typically focus on an area of specialization, such as rural development, marketing systems or crop and livestock sciences.

General job duties involved are:

– Determine trends in economic activity by analyzing economic data.

– Devise data collection methods and use appropriate statistical methods to obtain useful information.

– Collect market samples by performing research.

– Develop predictions based on research.

– Prepare detailed reports concerning predictions and present them to clients.

– Develop client base by identifying relevant agricultural organizations and marketing services to them.

– Maintain detailed understanding of agricultural production and relevant economic forces.

As to experience needed to get into this field, generally, it depends on the employer's preferences, as well as the level of expertise necessary for competence within the role.

For example, employers whose purpose is to reduce poverty in developing countries (such as the World Bank Group) often want candidates to have experience conducting operational research and analysis of agricultural markets in developing countries.

Senior and mid-level agricultural economist jobs will often require many years of experience, which can be gained by working in positions of lower-responsibility, either for the same employer or for an outside employer.

As to skills needed to be successful, agricultural economists must be familiar with the agriculture sector and institutional context of a specified region (the region to which they are assigned).

Because so much of their job involves turning the results of research and analysis into advice, agricultural economists must have exemplary analytical, written, and oral communication skills, including the ability to influence and persuade others.

They must be able to conduct effectively the policy dialogue on economic and agriculture issues with senior government officials, the private sector, donor representatives, civil society, farmers and farmer communities. This involves the capacity to present complex issues in accessible fashion.

Many agricultural economists do work that is international in nature; a second language is typically an asset, or a requirement, for those seeking agricultural economist jobs.

Text 4. What Does an Agricultural Economist Do?

Источник: https://www.wise-geek.com/what-does-an-agricultural-economist-do.htm

The field of agricultural economics is a broad one in most places. What once was a discipline devoted to the economics of land management and livestock maximization has expanded to include research into renewable resources; rural land and community planning; government farm subsidy and loan financing programs; and environmental agribusiness, among other things.

An agricultural economist may work for government agencies at either the national or the local level, helping to plan the mathematical side of successful farm policies. Others may work with land planning or farm future's firms, managing communities or analyzing agriculture-related investment opportunities. Still others work in academia, teaching the agricultural economists of tomorrow.

Agriculture is an important part of every country's national agenda. Countries with robust agricultural systems have the ability to be self-sustaining, and those that have learned to maximize their natural resources are in many ways more stable on both internal and international fronts.

Supporting a healthy agricultural economy does not usually happen by itself, however. Practices that are good for a farming community in one generation might not be sustainable over time, just as agriculture and food management activities designed to benefit a nation as a whole might prove detrimental for the rural communities they touch.

The job of the agricultural economist is to analyze a given agricultural situation, then strategize a plan to sustain and maximize it over time for mutual benefit.

The work of every agricultural economist focuses on how the calculations, projections, and statistical analyses of economics can be applied to farming and land development. Economics as a discipline is centered on resource management and allocation.

In an agricultural setting, the resources at issue are land, farm equipment and livestock, and natural resources like coal, fresh water, and natural gas. The agricultural economist is involved in maximizing those resources in a way that allows for the continued success and propagation of agricultural life.

Economics and agriculture intersect in many different ways, and agricultural jobs that involve economics are similarly wide-reaching. Agricultural economists work in many different kinds of jobs, for many different employers. Some do most of their work at a desk, reading reports, drawing conclusions on economic trends, and performing calculations and agriculture analysis.

Others may work in the field, interviewing farmers, surveying land, and looking at the layouts and outputs of rural and farming communities. Some write analysis to teach and others to advocate; some work with legislatures, and some lobby governments on behalf of farmers.

Despite the differences in their work, at the end of the day a whole range of professionals can be called 'agricultural economist'. Given the breadth of the shared agricultural and economic issues in any given country or community, agricultural economists necessarily perform a whole host of agricultural jobs and functions.

Still, from training to passion and all things in between, professionals in the field have many important things in common.

Text 5. What Traits Are Needed to Be a Successful Agricultural Economists?

Источник: https://www.academicinvest.com/arts-careers/economics-careers/how-to-become-an-agricultural-economist

The following types of organizations typically hire agricultural economists: regional and federal government agencies; the United Nations (including the World Food Programme and the World Bank); non-profit organizations; colleges and universities; private research institutions; consulting firms; fertilizer, pesticide, or herbicide producers; food processing and food machinery manufacturing companies; other farm-related businesses.

As to characteristics and traits you'll need in order to be successful as an agricultural economist, you have to enjoy truly what you do. If you have the following personal traits and interests, then this career is likely well-suited for you:

– You have an interest in current affairs.

– You have an interest in mathematics, statistics, business, agriculture and economics.

– You enjoy developing innovative methods for solving problems.

– You have a high degree of tact and sensitivity in handling confidential and sensitive information.

– You take pride in paying attention to details, and being accurate in your work.

– You enjoy the idea of advising, as well as persuading others as part of your work.

– You enjoy the idea of developing economic models and solving economic problems as a career.

– You enjoy the idea of being part of the decision making process in government and/or business.

Regarding the average salary level of agricultural economists, it can vary, typically depending on the following factors: their level of education, their level of experience, the size and type of their employer, and the region in which they work.

Agricultural Economist Salary – Canada (Alberta): According to the 2018Alberta Wage and Salary Survey, Albertans working in the Economists and Economic Policy Researchers and Analysts occupational group earn an average salary of $92,846per year. Unfortunately, no similar statistics were available for other Canadian provinces and territories.

Agricultural Economist Salary United States: According to the United States Bureau of Labor Statistics, the median salary level of American workers in the Economists occupational group is $91,860 per year.

Talking about work environment in this profession, it's worth paying attention to working conditions, work setting and working hours. As to working conditions, a career as an agricultural economist is one that involves a great deal of research, report preparation, policy communication, and cooperation among various groups of stakeholders. Their work may become quite stressful, such as when key decisions are pending, and they are under pressure, to provide accurate, timely analyses.

Regarding work setting, the daily work of an agricultural economist is largely independent, although they do spend time collaborating with other economists and statisticians, sometimes working on teams. Agricultural economists are typically based out of an office. They spend much of their day using computers and large databases to compile and analyze data. Some agricultural economists work from home, and others may be required to travel as part of their job, or to attend conferences.

As concerns working hours of agricultural economists, they can vary, although they typically work standard, weekday working hours. They may occasionally have to work long hours, such as when finishing reports.

Text 6. What Are the Different Types of Agricultural Economist Jobs?

Источник:https://www.wise-geek.com/what-are-the-different-types-of-agricultural-economist-jobs.htm

The pace at which agricultural products are traded around the world can affect the health of regional economies, local businesses, and farmers. It also influences the distribution of food items to different parts of the world. Economist careers in agriculture are somewhat pervasive throughout federal agencies. Fair pricing models are needed in the agriculture industry so no single corporation attempts to implement price fixing for a particular crop or item. Agricultural economist jobs could be obtained at research institutions or schools where objective insight may be offered on the accurate pricing of these products.

Federal agencies are among the leading providers of agricultural economist jobs. The most senior of these roles could be a chief agricultural economist. This professional may be expected to assess domestic conditions for trade based on the regional laws that are in place. A chief agricultural economist is likely to be involved with creating forecasts for a nation’s export activity based on demand stemming from other countries. Global organizations that are involved with food distribution in poverty-stricken areas might employ economists to assess the progress and economic potential of such initiatives in relation to demand.

A career as a top economist in a federal agency might also include making market predictions for global trade activity. The description for these agricultural economist jobs may include analyzing data, creating industry reports, and participating in industry seminars. A chief economist might be looked upon to determine future pricing estimates for different agricultural items in a region, such as wheat, corn, and cotton, to name a few. Agricultural economists in federal offices may be appointed to groups and committees that shape farming laws within a country. Economists are likely to be used to evaluate the needs of a country’s agriculture industry as it relates to a federal budget.

Agricultural economist jobs may also be filled at colleges and universities with resources dedicated to research in this industry. These professionals may not only participate in research, but might also serve as professors to students who are studying the economics of agriculture. Agricultural economists serving as professors could instruct business students who are preparing for careers in trading agricultural commodities and financial contracts. While many of the agricultural economist jobs are full time in nature, it's also possible for an industry expert to be called upon to participate as a consultant in development projects sponsored by local or overseas government agencies.

Text 7. Educational Requirements to Become an Agricultural Economist

Источник: https://www.academicinvest.com/arts-careers/economics-careers/how-to-become-an-agricultural-economist

If you want to become an agricultural economist that performs research and consulting duties, you will need at least a master's degree (and likely a Ph.D.) in agricultural economics.

To be successful in this field, you will also need to make sure this career aligns with your interest, skills, and personality traits.

Does the following describe you?

– You have an interest in current affairs.

– You have an interest in economics, agriculture, math and statistics.

– You have exemplary analytical, written, and oral communication skills.

– You have the capacity to present complex issues in accessible fashion.

– You have the ability to influence others with regards to areas in which you have expertise.

– You enjoy the idea of developing economic models and solving economic problems as a career.

– You enjoy the idea of being part of the decision making process in government and/or business.

Below we've provided detailed information on what you'll need to work as an agricultural economist. We've also included helpful information for this career, such as salary expectations, working conditions, a list of possible employer types, and much more!

As to the education required for becoming an agricultural economist, it typically varies based on the level of responsibility you will have, and can range from a bachelor's to a doctoral degree.

Bachelor's Degree: Having a bachelor's degree (B.A.) in economics is typically sufficient for research assistant positions in agricultural economics. An advanced degree is required to move into research and consulting positions.

Master's Degree: A Master of Arts (M.A.) degree in agricultural economics usually is required to work in most research and consulting jobs in this field. Many employers however, prefer researchers to have a doctoral degree.

Doctoral Degree: Having a doctoral degree (Ph.D.) in agricultural economics will qualify you to work in virtually every research and post-secondary teaching position. It will also qualify you to work in consulting within your specialized area of agricultural economics.

Text 8. How Do I Become an Agricultural Economist?

Источник: https://www.wise-geek.com/how-do-i-become-an-agricultural-economist.htm

To become an agricultural economist, a person usually needs a college degree, either a bachelor's degree or a master's degree, and experience in the field. Generally, the experience required depends on the employer's preferences. Often a person who enters an agricultural economy career has a strong interest in agriculture and the business of agriculture, especially as it relates to economic development. To obtain the necessary education, usually a person enters a college that offers a degree specifically designed for agricultural economy.

Most U.S. state universities offer degrees in agricultural economy. Not all colleges offer bachelor's, master's, and doctorate degrees, but many offer one or two degrees. Internationally, similar degrees are available, and often schools engage in exchange programs to offer students diverse agricultural experiences. Sometimes, schools refer to agricultural economy as agricultural business.

Mainly, degrees require agricultural, economic, and general education courses. Agricultural courses may contain rural sociology and farm management. Economic degrees normally incorporate general economic courses, such as micro- and macro-economics, as well as courses that are specific to agriculture, like agricultural economics. Usually degrees incorporate computer classes because agricultural economists need to be computer proficient.

Typically, a person who wants to become an agricultural economist may work in the private or government sector, non-profit organizations, and academic institutions or research centers. Often various industries, such as fertilizer, pesticide, or herbicide producers, hire agricultural economists. Other industries may include food processing, machinery manufacturing, and other farm-related businesses. A person endeavoring to become an agricultural economist should pick a field that interests him or her.

Some individual jobs include extension and outreach program directors and field agents, teachers or lecturers, and research workers. Often research workers need to have efficient computer skills, including proficiency in Internet and database searching. To become an agricultural economist who specializes in research, it is normally helpful to have a clear understanding of statistical methods.

Some agriculturists categorize agricultural economy into seven subcategories. Agricultural development concerns agriculture's role in the development of local, national, and international economy. Agricultural marketing concerns the various market types and pricing. Agricultural policy refers to all policies that concern agriculture, including trade policies, government policies, and others. Often people in this field work in a governmental institution.

Financial management is another category and generally refers to agricultural planning and financial principles. Many people in this specialty work for banks and financial institutions. Another category is natural resource and environmental economics. This specialized career is a growing sector of agricultural economy and deals with the balancing of environmental concerns and agricultural production. Typically, to become an agricultural economist in this field, a person takes environmental courses as electives during college.

Operational research or management science is the seventh category. This area of agricultural economy requires very little fieldwork and is mainly an office-type job. To become an agricultural economist in this category, a person needs excellent computer and statistical skills. Production economics deals with agricultural production, profit, and pricing of agricultural products.

Text 9. What Are Rural Economics?

Источник: https://www.wise-geek.com/what-are-rural-economics.htm

Rural economics are the basis for a social science that focuses on a variety of issues that specifically affect rural communities. Agricultural economics is one topic of study within this discipline that includes various aspects of markets for food production, farming economies and agribusiness. Another discipline, environmental economics, analyzes the costs and benefits of natural resource use. Finally, regional economic development is concerned with the unique challenges that smaller communities face as they try to stimulate local economies. Possible careers for a student of rural economics might include economic analyst, agribusiness manager or researcher.

Agricultural economics is one area of study within the discipline of rural economics. It involves examining relationships between groups involved in the agricultural system, including farmers, retail food stores, wholesalers, distributors and processors. Researchers in the field of agricultural economics also study the effects of factors such as globalization and technological changes on food production. Those who study the agricultural aspects of rural economics also learn about the specific characteristics and overall operation of this market sector. Agribusiness, which refers to food production by large corporations rather than small farmers, is a significant part of agricultural economics.

A second part of rural economics is called environmental economics. In this field, researchers study the ways that economic markets and financial interests can negatively or positively affect areas that are rich in natural resources. One prominent area of study in this discipline is conducting cost benefit analyses of natural resource use to demonstrate that sustainable practices can yield a greater economic benefit than environmentally unsustainable methods. Unlike conventional economics, environmental economics attempts to quantify the financial costs of depleting Earth's natural reserves. Environmental economics does not study rural areas exclusively, but they are an area of focus because they often are rich in natural resources.

Still another part of rural economics is rural economic development. It involves overcoming the unique challenges faced by rural communities as they attempt to improve their local economies. People who are interested in regional economic development study individual households' decision making and the ways that it affects the functioning of the larger market. Rural development is also concerned with the issues of poverty and unemployment in small communities.

Career options for students of rural economics can vary greatly depending of the specific area of study. Those focusing on agricultural economics might work in agribusiness as managers. Students who get degrees in environmental economics could work as analysts for a variety of private corporations or nonprofit organizations. Many rural economists also choose to get doctoral degrees and embark on research careers.

Text 10. What Is Land Economics?

Источник: https://www.infobloom.com/what-is-land-economics.htm

Land economics is a branch of the economics field which focuses on the use of land and the role of land in economics. It often intersects with environmental economics, since land use policies have an impact on the health of the environment, and many land economics trade journals focus on the environmental ramifications of land use around the world. Specialists in this branch of economics work in a number of places, from university campuses to public utilities.

Land itself is a resource like labor or capital, especially when the land harbors deposits of natural resources like minerals, oil, or timber. It is also a fixed resource: the amount of available land on Earth is finite, although land speculation may create situations in which the supply of land cannot meet the demand. The way in which land is used can have a profound impact on a local or national economy, whether that use is urban or rural. Public and private uses of land and their sometimes conflicting needs are also of interest in land economics.

One of the fields of focus in land economics is the allocation of land. As a fixed resource, land's value is dictated by its availability, and the allocation of land resources can play a critical role in how land is treated. In packed cities, for example, land can be scarce and difficult to obtain, and it has a correspondingly high price. In rural regions, however, land may be very inexpensive due to decreased demand. Or, demand for land which can be used as housing may inflate the prices of farmland, making it difficult for farmers to buy or retain land for farming use.

Researchers in this field may look at issues like government acquisition of land to satisfy right of way requirements for roadways and utilities, and land use policies which force land to remain unoccupied and unused for large stretches of time. They also look at how land can be made more profitable, and how land values shift over time in response to a variety of factors including market pressures and the discovery of natural resources.

The study of land economics is often closely wrapped up in politics, especially politics on a local scale. Powerful planning commissions and lobbies may be able to push the nature of land use in their communities, shaping land use policies and the economics of locally available land in ways which sometimes surprise economists. Regional and national governments also play a role in land economics, by establishing policies which are designed to balance the needs of individuals against the needs of the government and the population as a whole.

Text 11. Agricultural Business Economics: the Challenge of Sustainability?

Источник: https://agrifoodecon.springeropen.com/articles/10.1186/s40100-021-00179-3

The agri-food sector is facing new and important challenges. These challenges are the consequence of the profound changes that have recently affected the national and international economic scenario.

In this context, new frontiers of research and investigation seem to have recently opened. On the one hand, these new frontiers derive from previous unresolved issues; on the other hand, they derive from the growing awareness that natural resources are becoming more and more limited and threatened by short-sighted choices. These issues have been recently addressed in the document of the EU Commission on the Green Deal, which highlights how, in light of new challenges, a new growth strategy is necessary (European Commission 2019):

‘That will transform the Union into a modern, resource-efficient and competitive economy, where there are no net emissions of greenhouse gases by 2050, economic growth is decoupled from resource use, and no person and no place are left behind.’

Within this program, agriculture plays a significant role that has a relevant impact on the environment. Its performance can be measured not only from a socio-economic point of view, but also from an ethical and even from an aesthetical one, given the impact it has on the landscape. In other words, the relationship between agriculture, environment, and society is intensified and diversified. Here, a new paradigm is expected, placing on the one hand agricultural farms in front of an ecological transition while on the other in front of an ethical-social change.

The European Green Deal takes its first implementation steps to revolutionize the European economy and society in a ‘green’ sense and to achieve the goal of mitigating the effects of climate change. Among the programs launched by the commission aimed at mobilizing research and innovation to promote a just and sustainable society transition, we can highlight the following: ‘Farm to fork’(European Commission 2020), ‘EU Biodiversity Strategy for 2030 Bringing nature back into our lives,’ and ‘Stepping up Europe’s 2030 climate ambition, investing in a climate-neutral future for the benefit of our people’. These programs have complementary strategies and intend to push the whole economy towards innovative and virtuous systems with zero climate impact. Particularly, agriculture is involved in a set of objectives to be achieved by 2030 in a very significant (and not riskless) way: a 50% reduction in pesticides, 20% reduction in fertilizers, 50% reduction in the sales of antimicrobials for livestock and aquaculture, achievement of at least 25% of the agricultural area with organic farming, transformation of at least 10% of agricultural land into areas with high biodiversity, and protection of at least 30% of rural and marine areas.

These objectives will require the operational, but also financial involvement of agricultural enterprises to adapt to new requirements of the production and to seek innovative solutions (Matthews 2020). This will aim not only at achieving the objectives set by the EU Commission, but also maintaining an adequate level of competitiveness in the domestic and foreign market. The risk of a quantitative decrease in agricultural production with harmful consequences for producers should be avoided, as well as the shift of the demand from domestic high-added-value products to extra-European cheaper with lower health and environmental standards. The perspective of sustainable intensification should, therefore, be the one to pursue. Intensifying also means to embody more knowledge and the right technology into the production process in order to combine an intensive and productive agriculture with high standards of agricultural-based environmental ‘performances’ (Buckwell et al. 2014).

Text 12. Agricultural Business Economics: Need in Transformation of Production System

Источник: https://agrifoodecon.springeropen.com/articles/10.1186/s40100-021-00179-3

Today more than ever before, agricultural and food enterprises are involved in processes of transformation of the production system, within which they have the task of developing a strategy that maintains unaltered the economic vitality and improves the environmental and social sustainability. It is therefore not only a question of producing quality goods with a good level of differentiation on national and international markets, but also of providing public goods. It entails also of developing organizational and technological knowledge that guarantees an effective relationship with partners of the supply chain as well strategy adopting sustainable production techniques for the protection of the environment, the rational use of natural resources, the protection of biodiversity, and the enhancement of local resources.

All these leads to a significant increase in the complexity of the strategies and functions that agri-food enterprises are required to perform, subjected to many complex technical and socio-environmental constrains which agri-food enterprises have to deal in order to maintain and improve their economic vitality and efficiency.

In this scenario, agricultural economists are increasingly sked to concentrate their attention and their skills on the study of agricultural business economy, as well as on the different organizational and management forms along the supply chain, to contribute to defining and motivating sustainable development and transformation paths suited to present and future scenarios. This opens up new applied and methodological research frontiers in the field of business economics.

In this regard, agricultural economists are encouraged to explore innovative study paths and to brush up on some tools, left out due to academic needs and opportunities, overcoming the basic assumptions of neoclassical theory. For instance, the neo-institutionalist theory, in the study on vertical relations of the food chain, or from a methodological point of view, industrial organization models to analyze strategic behavior and interactions of companies in vertical chains and to assess the impacts of various forms of contract.

Text 13. Agricultural Business Economics: Bioeconomy and One Health

Источник: https://agrifoodecon.springeropen.com/articles/10.1186/s40100-021-00179-3

The new agricultural business economics can benefit from emerging approaches such as the Bioeconomy and One Health. The Bioeconomy approach (Viaggi 2018), based on the efficient use of natural and biological resources, brings together different areas of industrial science and technology, and is characterized by an integrated multidimensional approach. To illustrate, the bioeconomic approach seek to simultaneously achieve the following goals: efficient resource management, protection of biodiversity, soil conservation, production of ecological and social services, valorization of waste and by-products, and production of bioenergy through the efficient and sustainable use of renewable resources.

From this perspective, the bioeconomy is increasingly connected and functional to the public choice sector which regulates innovation, production processes, and the allocation of property rights. Moreover, the economic theory of property rights, which identify the conditions to achieve a long-term sustainable resource ‘community’ management, through the assessment of marketable and non-marketable aspects and common goods, is still today seen as a test for agricultural economic research. For instance, ecosystem services generated by the agricultural sector and natural coastal environments show the multifunctional role of the primary sector, contributing to social and environmental equilibria and, therefore, worthy of attention in the definition of economic policies.

A rather overlooked but emerging topic due to the recent health crises (Belik 2020) is that of One Health approach, a multidisciplinary approach with a systemic vision of the business economy to manage and respond effectively to the foodborne diseases along the food chain.

Food is an important aspect of health, not only from a nutritional point of view, but also because it carries pathologies (foodborne diseases) that are transmitted through the production processes and the supply chain. Quality is called into question, not only as we usually consider it (brands, origin, etc.), but as a broader health-based concept, which brings together production methods, animal health, and eating habits. Animal production is a central aspect in this context. The health costs that are faced upstream and along the supply chain are a safety issue for the consumer, and its absence would generate costs for individuals and for the system as a whole (in this case the public health).

Text 14. Agricultural Business Economics: Behavioral Economics Tools

Источник: https://agrifoodecon.springeropen.com/articles/10.1186/s40100-021-00179-3

For the future of agricultural economics research, behavioral economics tools deserve to be mentioned. These tools are aimed at analyzing the decision-making processes of farmers and consumers in front of new sets of options coming from new technological solutions, European policies, novel foods, and objectives of a different nature (economic, environmental, and social). The speed of adoption of new technologies, the attitude to risk, the propensity to collaborate, and time preferences are all dimensions that can be analyzed from the perspective of behavioral economics.

Other indications may come from tools linked to the economy of innovation in which factors such as digitization and information technology are integrated into the process of business economic choices, between product and means, as well as between product and product, and between means of production, to define new performing business models.

Today’s innovation, while maintaining a decisive role in the technological progress of the agricultural and food sector, has a different meaning than in the past. It is no longer considered only a component to increase the productivity of the means of production, but it has the task of organizing production systems and combining the factors of production of new technical and economic trajectories, that means pursuing different performance criteria based on sustainability parameters in its various dimensions.

Finally, we must not forget some territorial approaches, in large part already addressed by agricultural economists, but which should be taken up in a specific and in-depth analysis. These approaches should be re-explored and interpreted not only with a productivist view, but also with a view of socio-economic and environmental balance, highlighting the pluralism of development of territorial agricultural systems and local models.

Therefore, the agri-food enterprise, as an institution operating in a highly integrated scenario and with direct responsibility towards the surrounding environment, acquires a strengthened role in building a more sustainable, fair, and competitive system and relaunching and preserving biodiversity. Incorporating the concept of sustainability in the food production and consumption will benefit all players in the food chain, especially farmers. For too long, the agricultural enterprise has been considered exclusively having a passive role, as an instrument on which to operate through various political interventions according to specific objectives (productivism, food security, environmental and territorial changes, local development, etc.), or as an actor at the mercy of the market, customers, international competition, and changing consumers' choices. It is perhaps time to rediscover the active role of the agricultural enterprise, highlighting the importance of the difficult business choices that are made under the stimulus of various constraints and objectives, in a climate of uncertainty and in comparison, with the actions of other actors of the economic system. Perhaps, it should be clarified that, in the midst of different obstacles, guided paths, more or less blocked roads, and decision-making labyrinths, we are still dealing with autonomous and independent choices, and not inevitable reactions to a deterministic world. In this context, agricultural economists must return to pay more attention to the study and analysis of business economy to seize the challenges and opportunities dictated by the new course of agri-food development in the near future.

Text 15. What Is the 'Green Economy'?

Источник: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf

According to the United Nations Environment Programme (UNEP) the 'green economy' is: 'An economy that results in improved human well-being and reduced inequalities over the long term, while not exposing future generations to significant environmental risks and ecological scarcities.'

Put simply, the 'green economy' is one that promotes economic opportunities that are not in conflict with environmental sustainability and social well-being. It also promotes environmental objectives that can provide new forms of socio-economic opportunities.

The European Network for Rural Development (ENRD) Thematic Group highlighted that the term does not mean that there is a single 'green economy' or that one model can be applied across Europe. Rather, there will be multiple forms and types of 'green economy' activity across the diversity of Europe's rural areas. Other terms are also used to describe this kind of development, such as 'green growth' (Green Growth Report, 2011). These terms describe new goals and dynamics in both policy and the (rural) economy itself putting an emphasis on economic growth that:

– is driven by low-carbon, energy and resource-efficient investments and practices;

– improves the resilience of ecosystems and rural practices to climate and economic change;

– at a minimum, prevents the loss of biodiversity and ecosystem services and fosters coherence between environment and economic growth;

– and is socially inclusive.

The concept has developed as a positive model for future economic growth that can be achieved sustainably, within the capacity of the earth's natural resources and minimising both environmental harm and the effects of climate change (Fedrigo-Fazio D and ten Brink P, 2012).

The concept can also be seen as a response to various global financial, environmental, climatic and social crises. Questions have been raised about the soundness of traditional models of economic growth and their role in creating or worsening these crises.

There are a number of multiple benefits of the ‘green economy’.

Environmental benefits of the ‘green economy’ are: natural resources protected, conserved and enhanced; biodiversity and ecosystem services sustained; greenhouse Gas (GHG) emissions reduced, carbon stored; and climate resilience.

Economic and social benefits of the ‘green economy’ are: jobs and skills; production potential; efficient sustainable businesses; new markets and products; economically viable and prosperous rural communities; and social inclusivity.

Text 16. The Green Economy and EU Policy

Источники: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf,https://ec.europa.eu/priorities/index_en,https://ec.europa.eu/priorities/energy-union-and-climate_en, https://ec.europa.eu/priorities/jobs-growth-and-investment/towards-circular-economy_en, http://ec.europa.eu/environment/action-programme

Commitments to the transition towards a green economy are both explicit and implicit in many of the EU’s strategic documents and sectoral policies.

The ‘green economy’ is not a headline term in the current EU priorities. Nevertheless, green economy transition is a way of integrating a number of the stated priorities, for example the headline priorities around jobs and growth, and climate action.

The EU priority on ‘Energy Union and Climate’ aims to ensure that Europe has secure, affordable and climate-friendly energy. It is based on the recognition that ‘wiser energy use while fighting climate change is both a spur for new jobs and growth and an investment in Europe's future’.

Under the ‘Jobs, growth and investment’ Priority, one of the three main policy areas is the move ‘Towards a circular economy’. It defines this as: ‘helping European businesses and consumers make the transition to a stronger and more circular economy where resources are used in a more sustainable way’.

The European Commission has adopted an ambitious new ‘Circular Economy Package’ to support actions that contribute to ‘closing the loop’ of product lifecycles through greater recycling and re-use to extract the maximum value and use from all raw materials, products and waste.

More explicit reference to the green economy and its key elements can be found within the Seventh Environmental Action Plan (EAP), which is intended to provide a long-term vision of where the European Union should be by 2050. It has the objective to ‘turn the Union into a resource-efficient, green, and competitive low-carbon economy’.

Without seeking to provide a comprehensive list, sector-specific strategies and policies at EU level that could be integrated through a green economy transition include: Climate and Energy; Agriculture and Forestry; Rural Development; Jobs and Growth; Waste Management; The Circular Economy; The Bioeconomy; Food; and the wider environment, including water, biodiversity, etc.

The EU’s Seventh Environmental Action Plan includes the following key objectives:

– to protect, conserve and enhance the Union’s natural capital;

– to turn the Union into a resource-efficient, green, and competitive low-carbon economy;

– to safeguard the Union’s citizens from environment-related pressures and risks to health and wellbeing.

The EAP approach is ‘The transformation into an inclusive green economy requires the integration of environment issues into other policies, such as energy, transport, agriculture, fisheries, trade, economy and industry, research and innovation, employment, development, foreign affairs, security, education and training, as well as social and tourism policy, so as to create a coherent, joined-up approach.’

The EAP Vision is ‘In 2050, we live well, within the planet’s ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected, valued and restored in ways that enhance our society’s resilience. Our low-carbon growth has long been decoupled from resource use, setting the pace for a safe and sustainable global society.’

Text 17. Carbon in the Rural Economy

Источник: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf

Carbon is an essential part of any rural economy, providing the basis for production, commodities and energy. The soils and the carbon cycle can be described as follows:

1. Plants use CO2 from the atmosphere, water from the soil and sunlight to make their own food and grow in a process called photosynthesis. The carbon they absorb from the air becomes part of the plant.

2. Animals that feed on the plants pass the carbon compounds along the food chain.

3. Most of the carbon the animals consume is converted into CO2 as they breathe (respiration), and is released back into the atmosphere.

4. When the animals and plants die, the dead organisms are eaten by decomposers in the soil (bacteria and fungi) and the carbon in their bodies is again returned to the atmosphere as CO2.

5. In some cases, the dead plants and animals are buried and turn into fossil fuels, such as coal and oil, over millions of years. Humans burn fossil fuels to create energy, which sends most of the carbon back into the atmosphere in the form of $CO2$.

Carbon provides the basis for agricultural and forestry production, in the form of organic matter in soils. Converted to biomass it forms commodities in the form of food, materials (such as hemp) and fibre (including wood and reed). It also provides energy in the form of fuels used to run businesses and machinery, and power homes.

But this dependence on carbon also brings with it some questions and challenges, such as how to maintain and increase existing carbon stocks, how to be more efficient in its use and what are the consequences of doing so.

As to low-carbon agriculture, when we talk about greenhouse gas (GHG) emissions from the agricultural sector, we are mainly talking about emissions of: methane (CH4) from livestock digestion processes and stored animal manure; and nitrous oxide (N20) from organic and mineral nitrogen fertilisers.

Globally, agriculture is the single largest human-made contributor to non-CO2 GHGs, accounting for 56% of emissions in 2005. In the EU, this contribution is much smaller at around 10%, although with significant variation between Member States (3 - 32%).

Looking at the specific sources of GHG emissions in the EU's agriculture sector, the share is divided between the following source categories:

– agricultural soils (51%) – nitrous oxide (N2O) in soils, attributable particularly to organic and mineral nitrogen fertilisers;

– enteric fermentation (31%) – methane (CH4) from the digestion processes of livestock;

– manure management (17%) – both CH4 and N2O;

– rice cultivation (0.5%) – CH4;

– field burning of agricultural residues (0.2%) – CH4.

Separately from this, land management has other impacts on the carbon balance. On the one hand, there are further emissions, particularly of CO_2, from the use of machinery and equipment on farms. On the other hand, certain land management practices can release significant amounts of stored carbon from soils, forests and bogs.

Compared to other sectors, agriculture is expected to be able to make significant emissions reductions already in the period to 2030. However, after that point, further reductions will be more limited. Along with transport, agriculture is expected to be one of the main sectors where no full decarbonisation is achieved, even in the longer term.

The overall level of emissions from agriculture has already declined since 1990 with proportionally greater reductions for CO2 than non-CO2 emissions. However, the rate of decline has slowed in the last decade suggesting more action is needed to maintain the transition to a low carbon economy in the sector, and rural areas in general.

Text 18. Rural Modernisation and Efficiency

Источник: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf

Technology developments and improvements mean that today it is possible to do more with the resources we have available.

Rural areas face specific challenges that are not seen in other areas of society. Often off-grid or with connectivity challenges, they can be more at risk from changing economic markets and prices.

For decades, fossil fuels have been relatively cheap, with liquid fuels even exempt from tax in some rural areas, however this is slowly changing and using less fuel and increasing efficiency in machinery is an increasing priority.

In this context, promoting low carbon actions as part of a transition towards green rural economies can often be about making the most of the resources available in a given area. Being efficient means getting more from less.

Many traditional practices and approaches have been developed over decades to save time, energy and ultimately money by getting the most out of the resources available, whether that has been through utilising residues, the way buildings are constructed, or even where rural communities are located.

Taking these ideas and practices and bringing them up to date with more modern equipment and techniques can help to breathe new life into traditional practices whilst making them more efficient, using less energy and fewer materials.

The RDPs (Rural Development Programmes) support – such as that through advice and training or farm business development – can help to build capacity in achieving these aims.

The opportunities and benefits of improved energy efficiency and energy conservation may not be immediately apparent because traditional and older buildings can be more difficult to insulate and more costly to modernise. However, once complete, they can save money and improve quality of life in the longer term.

The management of wastes can be better integrated into the whole production cycle using new techniques and technologies. Using fertilisers more efficiently, targeting them only to those areas that need it can save embedded energy as well as money. Such practices can make the farm more efficient, with reduced costs and lower carbon impacts.

Being more energy efficient, in all its forms, should increase the sustainability of rural businesses, reduce costs and even generate income. Yet one of the greatest benefits is the increased resilience of rural areas to external pressures, whether this is a changing climate, more extreme weather events, or economic fluctuations.

The modernisation of rural economies can also mean changing the way we look at the land and resources available. As markets have changed over time, some areas are increasingly difficult to farm or forest profitably.

Diversifying rural businesses towards recreation, accommodation or other green and low carbon rural enterprises or providing greater integration of rural businesses can help deliver a low carbon green economy whilst bringing in new income streams and avoiding inefficient practices. Cooperation between actors is an important aspect.

Text 19. Renewable Energy in Rural Areas

Источник: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf

One of the main transition points in a low carbon economy is in changing the way we generate energy. Rural areas and rural activities provide several interesting avenues for producing diverse forms of renewable energy. These can reduce costs for rural businesses, improve efficiency of resource use and serve wider societal needs.

Waste and by-products from rural production offer biomass resources that can be used for energy production. Landscape management wood can be used to provide a low-cost means of fuel for local communities (see the example from Belgium in Text 20) or energy generation.

Livestock manure has long been used as a fertiliser. However, whilst this is a very ‘natural’ process, without careful management its use can quickly cause nutrients to accumulate and present a problem for soil and water. If captured and used more effectively, manure can also provide a source of biogas and generate additional income. Various agricultural wastes, such as slurry, manure, or crop residues can all be managed to produce fuels and energy (see the example from Romania described in Text 21).

The Rural Development Programmes (RDPs) support investments in physical assets or in basic services and village renewal can help to realise some of these benefits.

The integration of low carbon technologies into rural areas can also serve wider societal needs. As cities become increasingly crowded and require more and more energy, rural areas can provide the space to develop renewable energy infrastructure. Such low carbon options include wind farms or solar arrays to generate energy. RDPs can support the development of new infrastructure to meet these needs. The important aspect for rural areas, is that the resources for generating renewable energy from waste, residues or modern infrastructure vary hugely throughout the EU. Some areas will have greater potential for solar energy, some for wind, others a surplus of forest biomass or agricultural residues.

Text 20. Energetic Use of Residual Wood from Landscape Management in Flandersa, Belgium

Источник: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf

Here is the example of energetic use of residual wood from landscape management in Flandersa, Belgium (www.sval.be). A pilot project, set up by Samenwerking voor agrarisch landschap (SVAL) (the Cooperation for Agricultural Landscape Association) in 2012 aimed to improve the management of landscape elements in the region through enabling the collection and processing of residual wood for energy purposes – restoring a once traditional practice of using the wood to supply this need.

This was achieved through the purchasing of a specific wood chipper able to process the types of wood growing in the region. The aim was to bring the rural community closer together and be partly self-sufficient in heating fuel. The use of residential heating systems based on woody biomass can lead to significant carbon savings of around eight tonnes of $CO2$ per year per residential installation (based on an assumption of 2500 litres of heating oil per year). Excess biomass is used to supply local biomass energy plants.

With residual wood now providing local added value, there is an incentive for rural people to be involved in the management of their landscape and deliver a more sustainable and low-carbon source of energy. This also translates into considerable cost savings and a more secure supply of energy with less exposure to changes in wider economic markets.

– Project duration: 2012 – 2014.
– Total budget: € 69850.
– EAFRD contribution: € 13620.
– National/regional co-financing: € 15080 (Flemish) + € 16700 (provincial).
– Other sources: € 24450 (private funds and sponsors).

Text 21. Resource-Efficient and Modern Dairy Farm in Dambovita County, Romania

Источник: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf

Of the 2000 dairy producers in Dambovita County, only seven are considered to be modern industrial farmers. The small size and subsistence or semi-subsistence nature of the farms means that manure management and composting processes on farms are a problem for the region. Ammonia emissions cause air pollution to nearby population centres.

Recognising the importance of integrating environmental, economic and social activities as part of the green economy, the project aimed to deliver on a number of related areas.

A new dairy farm was created with onsite facilities to produce cheese and other dairy products. At the same time, an onsite renewable energy unit (biogas) was integrated into the farm's development to both process the wastes arising from the dairy process (manure, waste milk, etc.) and produce energy (~250kW) to help run the farm and processing plant.

Traditional physical labour on the farm was reduced through the automation of production processes, including manure management and fodder delivery. However, other less physically demanding jobs were created in milk processing and operation of the new facility. This created job opportunities for a wider range of local people.

Project details:

– Project duration: 2011 – 2015.

– Total budget: € 5100000.

– European Agricultural Fund for Rural Development (EAFRD) contribution: € 893000.

– National/regional co-financing: € 47000.

– Other sources: € 4160000 (including European Economic Recovery Plan).

Text 22. Efficient and Sustainable Use of Rural Land

Источник: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf

Using rural land efficiently and sustainably means protecting the soil and biological systems on which production depends.

From a short-term viewpoint, efficiency can simply mean minimising input costs while maximising output and unit price. This may work for an industrial manufacturer, but it is not a sensible or sustainable approach for a production system that depends not just on access to land but on the soil itself and the natural cycles of carbon, nitrogen and water.

Soil is a finite resource easily lost to erosion by wind and heavy rainfall. Growing the same crop year after year depletes soil nutrients and can create an unwelcome reservoir of pests and diseases.

In the short-term these problems can be overcome and yields maintained by using mineral fertilisers or plant protection products. However, these are expensive and overusing them can cause water pollution and damage to soil biodiversity (the micro-beasts, bacteria and fungi which process soil organic matter).

Increasing the sustainability of modern EU farming and forestry can require changes in land use and management, such as increasing the diversity of farm crops and changing the silvicultural system, which can have an impact on individual businesses in the short term.

Innovation and new technology can help, for example in reducing input costs through precision farming. This involves assessing plant needs through soil testing and surveillance of pest and disease outbreaks using remote sensing or drones. Agrichemicals can then be applied exactly and only where needed using machinery guided by GPS.

The development of the European Geostationary Overlay Service (EGNOS) provides detailed satellite information to farmers. This service means farmers now have an affordable way of targeting field operations to within one metre, helping them to maximise yields while reducing their impact on the environment.

Text 23. Success Factors for Green Economy Initiatives

Источник: https://enrd.ec.europa.eu/sites/enrd/files/publi-enrd-rr-23-2017-en.pdf

Developing green rural economies in practice is as much about maintaining existing good practice as it is about developing new ideas and opportunities. Projects and initiatives that have been successful often share similar characteristics, such as: cooperation between different actors; an individual with the vision, drive and enthusiasm to see it through; and learning from other examples through good communication and sharing of knowledge.

Champions – The most common success factor of any green economy initiative is a project champion. Whether this is a person or a group of people, it is their commitment and drive that keep projects alive, persuade other actors that the project is viable and worth supporting, and drive the initiative through to success.

Synergies – Combining environmental, economic and social objectives is at the heart of the green economy. Creating synergies between these objectives has helped initiatives develop coherently, balancing the need to generate income and jobs whilst respecting the environment and resources used. This has enabled those initiatives to connect a greater number of actors and be more sustainable and resilient in the longer term.

Cooperation – The resilience of an initiative is strengthened when different actors work together, where everyone has a shared interest in seeing a project succeed and where people from different areas, backgrounds and sectors bring new and different ideas and experience.

Sharing and communication – Sharing experiences, knowledge and good practice is essential, not just between actors involved in the same initiative, but with those looking to develop a similar approach elsewhere or a new idea entirely. Communication during the project is important to ensure that the goals are clear, explain how the benefits will be shared and provide support and advice to those who need it. Communicating the successes of the project, as well as what did not work and how barriers were overcome is also valuable.

Support and Advice – Support and advice can come in many forms and what is appropriate will depend on the initiative being developed. Financial support is often the first consideration in developing a new initiative or keeping one alive, yet technical and operational support can be just as important, filling knowledge gaps or helping to interpret rules and regulations. Sometimes it is just a case of moral support, knowing there are others who have a shared interest and willingness to work together.

Experts – Sometimes new initiatives require specialist skills, such as the design of a new facility or setting up of a network of suppliers and producers. Drawing on the advice and experience of experts can play a key role, particularly at the design and development stages.

Existing resources and skills – Many successful green economy projects have focused on using and enhancing the skills and resources they have available, developing initiatives that use and promote natural and human capital in a sustainable way. Making the most of existing strengths, skills and abilities can make an initiative more resilient in the long term.

Space and Time – Getting an idea off the ground takes time, finding synergies, building cooperation, securing support and expertise. Having the scope to develop an idea and the time to trial different approaches, adapt and progress is essential. Having flexibility in the way financial support is designed and provided is particularly important, as this often requires reports on progress before ongoing commitments are made.

Flexibility – Developing an idea is not always a linear process, sometimes ideas change and lessons learnt through the initial stages can mean changes to the original idea. Even if the idea remains good, the policy, social, technical, economic environment can all change around it. Building in the flexibility to adapt and develop constantly is important (matching new priorities etc.).

To sum up, learning from these key factors can help ensure successful green rural economy initiatives are realised in practice.

Text 24. Indoor Vertical Farming

Источник: https://www.plugandplaytechcenter.com/resources/new-agriculture-technology-modern-farming/

Innovation is more important in modern agriculture than ever before. The industry as a whole is facing huge challenges, from rising costs of supplies, a shortage of labor, and changes in consumer preferences for transparency and sustainability. There is increasing recognition from agriculture corporations that solutions are needed for these challenges. In the last 10 years, agriculture technology has seen a huge growth in investment, with $6.7 billion invested in the last 5 years and $1.9 billion in the last year alone. Major technology innovations in the space have focused around areas such as indoor vertical farming, automation and robotics, livestock technology, modern greenhouse practices, precision agriculture and artificial intelligence, and blockchain.

Indoor vertical farming can increase crop yields, overcome limited land area, and even reduce farming’s impact on the environment by cutting down distance traveled in the supply chain. Indoor vertical farming can be defined as the practice of growing produce stacked one above another in a closed and controlled environment. By using growing shelves mounted vertically, it significantly reduces the amount of land space needed to grow plants compared to traditional farming methods. This type of growing is often associated with city and urban farming because of its ability to thrive in limited space. Vertical farms are unique in that some setups don't require soil for plants to grow. Most are either hydroponic, where vegetables are grown in a nutrient-dense bowl of water, or aeroponic, where the plant roots are systematically sprayed with water and nutrients. In lieu of natural sunlight, artificial grow lights are used.

From sustainable urban growth to maximizing crop yield with reduced labor costs, the advantages of indoor vertical farming are apparent. Vertical farming can control variables such as light, humidity, and water to precisely measure year-round, increasing food production with reliable harvests. The reduced water and energy usage optimizes energy conservation – vertical farms use up to 70% less water than traditional farms. Labor is also greatly reduced by using robots to handle harvesting, planting, and logistics, solving the challenge farms face from the current labor shortage in the agriculture industry.

Text 25. Farm Automation and Livestock Farming Technology

Источник: https://www.plugandplaytechcenter.com/resources/new-agriculture-technology-modern-farming/

Farm automation, often associated with 'smart farming', is technology that makes farms more efficient and automates the crop or livestock production cycle. An increasing number of companies are working on robotics innovation to develop drones, autonomous tractors, robotic harvesters, automatic watering, and seeding robots. Although these technologies are fairly new, the industry has seen an increasing number of traditional agriculture companies adopt farm automation into their processes.

New advancements in technologies ranging from robotics and drones to computer vision software have completely transformed modern agriculture. The primary goal of farm automation technology is to cover easier, mundane tasks. Some major technologies that are most commonly being utilized by farms include: harvest automation, autonomous tractors, seeding and weeding, and drones. Farm automation technology addresses major issues like a rising global population, farm labor shortages, and changing consumer preferences. The benefits of automating traditional farming processes are monumental by tackling issues from consumer preferences, labor shortages, and the environmental footprint of farming.

As to livestock farming technology, the traditional livestock industry is a sector that is widely overlooked and under-serviced, although it is arguably the most vital. Livestock provides much needed renewable, natural resources that we rely on every day. Livestock management has traditionally been known as running the business of poultry farms, dairy farms, cattle ranches, or other livestock-related agribusinesses. Livestock managers must keep accurate financial records, supervise workers, and ensure proper care and feeding of animals. However, recent trends have proven that technology is revolutionizing the world of livestock management. New developments in the past 8-10 years have made huge improvements to the industry that makes tracking and managing livestock much easier and data-driven. This technology can come in the form of nutritional technologies, genetics, digital technology, and more.

Livestock technology can enhance or improve the productivity capacity, welfare, or management of animals and livestock. The concept of the ‘connected cow’ is a result of more and more dairy herds being fitted with sensors to monitor health and increase productivity. Putting individual wearable sensors on cattle can keep track of daily activity and health-related issues while providing data-driven insights for the entire herd. All this data generated is also being turned into meaningful, actionable insights where producers can look quickly and easily to make quick management decisions.

Animal genomics can be defined as the study of looking at the entire gene landscape of a living animal and how they interact with each other to influence the animal’s growth and development. Genomics help livestock producers understand the genetic risk of their herds and determine the future profitability of their livestock. By being strategic with animal selection and breeding decisions, cattle genomics allows producers to optimize profitability and yields of livestock herds.

Sensor and data technologies have huge benefits for the current livestock industry. It can improve the productivity and welfare of livestock by detecting sick animals and intelligently recognizing room for improvement. Computer vision allows us to have all sorts of unbiased data that will get summarized into meaningful, actionable insights. Data-driven decision making leads to better, more efficient, and timely decisions that will advance the productivity of livestock herds.

Text 26. Modern Greenhouses and Precision Agriculture

Источник: https://www.plugandplaytechcenter.com/resources/new-agriculture-technology-modern-farming/

As to modern greenhouses, in recent decades, the Greenhouse industry has been transforming from small scale facilities used primarily for research and aesthetic purposes (i.e., botanic gardens) to significantly more large-scale facilities that compete directly with land-based conventional food production. Combined, the entire global greenhouse market currently produces nearly US $350 billion in vegetables annually, of which U.S. production comprises less than one percent.

Nowadays, in large part due to the tremendous recent improvements in growing technology, the industry is witnessing a blossoming like no time before. Greenhouses today are increasingly emerging that are large-scale, capital-infused, and urban-centered.

As the market has grown dramatically, it has also experienced clear trends in recent years. Modern greenhouses are becoming increasingly tech-heavy, using LED lights and automated control systems to perfectly tailor the growing environment. Successful greenhouse companies are scaling significantly and located their growing facilities near urban hubs to capitalize on the ever-increasing demand for local food, no matter the season. To accomplish these feats, the greenhouse industry is also becoming increasingly capital-infused, using venture funding and other sources to build out the infrastructure necessary to compete in the current market.

Regarding precision agriculture, it is worth mentioning thatagriculture is undergoing an evolution – technology is becoming an indispensable part of every commercial farm. New precision agriculture companies are developing technologies that allow farmers to maximize yields by controlling every variable of crop farming such as moisture levels, pest stress, soil conditions, and micro-climates. By providing more accurate techniques for planting and growing crops, precision agriculture enables farmers to increase efficiency and manage costs.

Precision agriculture companies have found a huge opportunity to grow. A recent report by Grand View Research, Inc. predicts the precision agriculture market to reach $43.4 billion by 2025. The emerging new generation of farmers are attracted to faster, more flexible startups that systematically maximize crop yields.

Text 27. Blockchain and Artificial Intelligence

Источник: https://www.plugandplaytechcenter.com/resources/new-agriculture-technology-modern-farming/

Blockchain's capability of tracking ownership records and tamper-resistance can be used to solve urgent issues such as food fraud, safety recalls, supply chain inefficiency and food traceability in the current food system. Blockchain's unique decentralized structure ensures verified products and practices to create a market for premium products with transparency.

Food traceability has been at the center of recent food safety discussions, particularly with new advancements in blockchain applications. Due to the nature of perishable food, the food industry at whole is extremely vulnerable to making mistakes that would ultimately affect human lives. When foodborne diseases threaten public health, the first step to root-cause analysis is to track down the source of contamination and there is no tolerance for uncertainty.

Consequently, traceability is critical for the food supply chain. The current communication framework within the food ecosystem makes traceability a time-consuming task since some involved parties are still tracking information on paper. The structure of blockchain ensures that each player along the food value chain would generate and securely share data points to create an accountable and traceable system. Vast data points with labels that clarify ownership can be recorded promptly without any alteration. As a result, the record of a food item's journey, from farm to table, is available to monitor in real-time.

The use cases of blockchain in food go beyond ensuring food safety. It also adds value to the current market by establishing a ledger in the network and balancing market pricing. The traditional price mechanism for buying and selling relies on judgments of the involved players, rather than the information provided by the entire value chain. Giving access to data would create a holistic picture of the supply and demand. The blockchain application for trades might revolutionize traditional commodity trading and hedging as well. Blockchain enables verified transactions to be securely shared with every player in the food supply chain, creating a marketplace with immense transparency.

As to artificial Intelligence, the rise of digital agriculture and its related technologies has opened a wealth of new data opportunities. Remote sensors, satellites, and Unmanned Air Vehicles (UAVs) can gather information 24 hours per day over an entire field. These can monitor plant health, soil condition, temperature, humidity, etc. The amount of data these sensors can generate is overwhelming, and the significance of the numbers is hidden in the avalanche of that data.

The idea is to allow farmers to gain a better understanding of the situation on the ground through advanced technology (such as remote sensing) that can tell them more about their situation than they can see with the naked eye. And not just more accurately but also more quickly than seeing it walking or driving through the fields.

Remote sensors enable algorithms to interpret a field's environment as statistical data that can be understood and useful to farmers for decision-making. Algorithms process the data, adapting and learning based on the data received. The more inputs and statistical information collected, the better the algorithm will be at predicting a range of outcomes. And the aim is that farmers can use this artificial intelligence to achieve their goal of a better harvest through making better decisions in the field.

Text 28. Automation Transforming the Farming Industry

Источник: https://www.plugandplaytechcenter.com/resources/how-automation-transforming-farming-industry/

The development of agriculture was a watershed moment in humanity. Humans ability to engineer the environment to generate enough food to sustain massive population growth was the first profound change in the relationship between fully-modern humans and the environment. The advent of agriculture kickstarted a wider range of advancements from the use of fire and prepared food to self-driving machinery.

Agriculture has moved us forward us so far in 12,000 years, but we are now at a turning point. And with a global population projection of 9.7 billion people by 2050, agricultural production will need to increase by at least 70% from current levels to serve nutritional trends. Now more than ever, the pressure on farmers to produce nutritious products is putting our planet's health under even more stress.

As to advantages of farm automation, it is worth mentioning that farm automation technology addresses major issues like a rising global population, farm labor shortages, and changing consumer preferences. The benefits of automating traditional farming processes are monumental.

Consumers preferences are shifting towards organic and sustainably-produced products. With automation technology, produce reaches consumers faster, fresher, and more sustainably. Increase in productivity from automation increases the yield and rate of production, therefore reducing costs for consumers.

Labor is over 50% of the cost to grow a farm and 55% of farmers say they are impacted by labor shortages. Because of this, 31% of farmers are moving to less labor-intensive crops. However, there is huge potential with harvest robots. Routine tasks can be automated with robotics technology, reducing labor costs and manpower needed amidst a labor shortage in the agriculture industry. A single strawberry robot harvester has the potential to pick a 25-acre area in 3 days and replace 30 farm workers.

Farm automation practices can make agriculture more profitable while also reducing the ecological footprint of farming at the same time. Site-specific application software can reduce the amount of pesticides and fertilizer used while also reducing greenhouse gas emissions.

Regarding challenges of farm automation**, s**till, there are challenges of farm automation that must be overcome. High costs to adopt robotic technologies present a huge barrier to entry for farmers, especially in developing countries. For example, robotic planters must carry water or pesticides with significant weight; the hardware must be built differently, which results in higher costs to make it a larger size. Technical issues and breakdown of equipment also present high costs to fix for such specialized equipment. In order to fully utilize farm automation, farmers will need to combine their knowledge and experience with these new technologies.

Looking ahead we may say that we are only at the early stages of farm automation technology, but it will be able to transform agriculture. It offers a path towards sustainable and more efficient agriculture by advancements of technologies, production systems, and software. Every year, automation technology becomes more sophisticated, and what was cutting-edge just a few years ago will become commonplace and cost-effective soon. The human element will always be a fundamental aspect of managing a farm, but fully autonomous vehicles and farm equipment are coming.

Text 29. Technologies Being Used in Farm Automation

Источник: https://www.plugandplaytechcenter.com/resources/how-automation-transforming-farming-industry/

Regarding harvest automation, it is worth mentioning that harvesting fruits and vegetables have always proven to be a difficult problem to automate. Harvest robots must be gentle with the produce to avoid bruising and damage. Agrobot has successfully developed the first robot for gently harvesting strawberries, no matter where and how they are grown. From a flexible mobile platform, up to 24 robotics manipulators work together to pick the fruit, which meets the farmer’s quality standard.

Another company, Abundant Robotics, is the world's first commercial robotic apple harvest. Their machines handle fragile fruits by using a vacuum instead of any claw or hand-like graspers to pull apples from the branch.

As to autonomous tractors, they can be controlled remotely or even pre-programmed to give full autonomy to a producer. Rabbit Tractor's autonomous tractor delivers value to row crop farmers not just through a reduction in labor costs, but through increased efficiency across operations and increased yield. Tractor automation kits are even being developed by Bear Flag Robotics that makes automation more accessible for farmers by affordably retrofitting existing tractors with cutting edge driverless technology and implement control.

As to seeding and weeding, robotics developed for seeding and weeding can target specific crop areas. In seeding, this can easily reduce labor and mundane tasks on the farm. Weeding robotics can be incredibly accurate and reduce pesticide usage by 90% with computer vision. Blue River Technology employs computer vision and robotics technologies to precisely spray herbicides only where needed and with exactly what's needed. This gives farmers a new way to control and prevent herbicide-resistant weeds. EcoRobotix is another company that produces a weeding robot – this is the first ever completely autonomous machine for a more ecological and economical weeding of row crows, meadows, and intercropping cultures.

Regarding drones, they can be used to monitor conditions remotely and even apply fertilizers, pesticides, and other treatments from above. They can also quickly and cost-effectively identify problem areas with imagery and infrared analysis to help farmers diagnose issues early on. American Robotics is developing a fully autonomous 'Robot-as-a-service' with an autonomous drone, base station, and analytics platform that provides insights to growers at resolutions, frequencies, and speeds never before possible.

Text 30. Livestock Farming Technology in Animal Agriculture

Источник: https://www.plugandplaytechcenter.com/resources/livestock-farming-technology-animal-agriculture/

Most of us are familiar with the term 'farm-to-table'. We set out on sunny Saturday mornings for brunch at trendy cafés and restaurants, but while we gulp down our mimosas, we often forget the undertaking required to bring our favorite dishes from farms to kitchens. Farmers today are facing challenges from infrastructure to connectivity, growing demands for animal proteins to food spoilage, and disease with concerns rising around animal health. Technology is disrupting all industries in our modern age, and AgTech is no exception. We sought out on a mission to get back to our roots and gather perspective from those leading the industry and working to address these issues.

The traditional livestock industry is a sector that is widely overlooked and under-serviced, although it is arguably the most vital. Livestock provides much needed renewable, natural resources that we rely on every day. So why is the process to adopt technology so slow within this industry? Well, the short answer is money. The economics of the livestock industry shifts from season to season, meaning it's not always profitable. With fewer investments, comes fewer adoptions of technology.

Investors need to understand the market dynamics that farmers face. 'We can't view farming in the Silicon Valley mind frame since farms don't operate in the same manner,' says Amado Guloy, CEO and Founder of Rex Animal Health. IoT (Internet of Things) has taken off and investments in IoT continue to increase, yet most investors don't realize that big data is often inaccessible to farmers because of lack of infrastructure and internet connectivity.

Companies such as Cainthus and Rex Animal Health are working to address some of these industry's pain points. Cainthus' cutting-edge technology monitors cows 24/7, 365 days a year, analyzing their well-being, productivity, and performance. Using computer vision and artificial intelligence, they translate visual information into actionable data. In seconds, their imaging technology identifies and memorizes individual animals by their unique features. Rex Animal Health brings together clinical, performance, health, and genetic data to provide a clear understanding for farmers to prevent and predict disease in herds, that in turn can optimize yields.

As to digitalization of livestock management, it is worth mentioning that livestock management has traditionally been known as running the business of poultry farms, dairy farms, cattle ranches, or other livestock-related agribusinesses. Livestock managers must keep accurate financial records, supervise workers, and ensure proper care and feeding of animals. However, recent trends have proven that technology is revolutionizing the world of livestock management. New developments in the past 8-10 years have made huge improvements to the industry that make tracking and managing livestock much easier and data-driven. This technology can come in the form of nutritional technologies, genetics, digital technology, and more. Sensors are being developed to monitor real-time milk quality, health, and pregnancy hormones. In addition, virtual fences exist that can move animals wearing a sensor to be moved remotely from one area of a pasture to another. Even robotics are advancing fast in this industry, where it's addressing the challenges of labor shortages on traditional livestock farms. 12% of dairy farms are currently using robots and is expected to grow to 20% in the next 5 years.

Text 31. Livestock Technology and the 'Connected Cow'

Источник: https://www.plugandplaytechcenter.com/resources/livestock-farming-technology-animal-agriculture/

Everything in the digital age is connected, including farming and agriculture. Livestock technology can enhance or improve the productivity capacity, welfare, or management of animals and livestock. The concept of the 'connected cow' is a result of more and more dairy herds being fitted with sensors to monitor health and increase productivity. Putting individual wearable sensors on cattle can keep track of daily activity and health-related issues while providing data-driven insights for the entire herd. All this data generated is also being turned into meaningful, actionable insights where producers can look quickly and easily to make quick management decisions.

Cainthus is one startup that is leading innovation in the livestock technology space. Cainthus is a machine vision company ID's animals through the use of cameras and monitor their behaviors – time spent eating, drinking, and feed locations throughout the day. By monitoring feed delivery, they can deliver a body condition score that tells farmers real-time health statistics on their livestock such as weight, fat, and even if the animal has a limp. By monitoring a whole host of animal behavior, Cainthus's technology can allow producers to have better management of their animals, thus having healthier livestock with better use of resources.

Animal genomics can be defined as the study of looking at the entire gene landscape of a living animal and how they interact with each other to influence the animal's growth and development. Genomics help livestock producers understand the genetic risk of their herds and determine the future profitability of their livestock. By being strategic with animal selection and breeding decisions, cattle genomics allows producers to optimize profitability and yields of livestock herds.

Rex Animal Health is one animal genomics company that is on a mission to bring animal health to the 21st century by making veterinary medicine and husbandry data driven. Rex believes that data has the power to transform the animal health industry as it has transformed the fields of finance, weather, and human health. By bringing together data from various sources and time periods, the insights we produce can reshape: The way pharmaceutical companies discover new gene targets and develop drugs, the way veterinarians manage chronic diseases in animals and the way community understands and perceives animal health.

There are some advantages and disadvantages of livestock technology. Sensor and data technologies have huge benefits for the current livestock industry. It can improve the productivity and welfare of livestock by detecting sick animals and intelligently recognizing room for improvement. Computer vision allows us to have all sorts of unbiased data that will get summarized into meaningful, actionable insights. Data-driven decision making leads to better, more efficient, and timely decisions that will advance the productivity of livestock herds.

However, there are some unintended consequences of this technology. In the digitalization of industries, agriculture is often at the bottom of all charts for technology adoption. The cyclical nature of economics in the livestock industry makes it difficult for producers to justify the initial steep upfront costs of implementing these technologies.

Another challenge of the livestock industry particularly as more and more technology is being developed, is that in a dairy herd manager's office, there are often multiple computers and screens each dedicated to a different technology or records keeping program. A major need in the livestock industry is for more integration of these technologies so that there can be one platform that brings together all of this data. There are companies that are working on this and pulling data from multiple sources into one app that summarizes the data nicely so that it can be used to make well-informed decisions. Data integration and facilitating decision-making is true not only for the dairy and livestock management industry but also more broadly for the entire agriculture industry. Having data is not enough – the valuable insights should lead to actionable decisions.

Talking about the future of livestock management, it is worth mentioning that with a domestic market value of over $30 billion annually and 9 million dairy cows just in the US, investors are starting to take a major interest. Tyler Bramble, Portfolio Growth Lead at Cainthus, envisions a cow-centric approach for the future: ‘Today, we manage livestock for the most part around the human schedule. This technology will allow us to manage livestock from a cow-centric approach. Animals will be able to act and go about its day in a more natural behavior and environment that it can today.’

Regardless of all the current challenges, the future is bright for the connected cow.

Text 32. Eight Startups that are Revolutionizing AgTech

Источник: https://www.plugandplaytechcenter.com/resources/8-startups-are-revolutionizing-agtech/

Agriculture is changing rapidly in the modern age. The global population is rising at an alarming rate and consumer preferences are shifting towards organic and sustainably produced goods. To keep up with these demands, the traditional agriculture industry must adopt new technologies to make farms more efficient and automate production. The growing interest in AgTech is reflected in venture capital investments for AgTech startups. According to Pitchbook, $6.7 billion was invested in AgTech startups in the last five years and $1.9 billion in the last year alone. These 8 AgTech startups are paving the way to revolutionize the future of the agriculture industry.

1. Big Wheelbarrow connects wholesale food buyers with local farmers. Big Wheelbarrow makes it faster and easier for buyers to work with small independent growers, regardless of size. Their technology empowers their customers to offer local products to their clients without the time and effort it used to require.

2. Vestaron corporation develops and produces insecticides by employing peptides sourced from spiders in the United States. Its products are used in agricultural, animal health, and specialty non-crop applications, as well as in household insects and commercial pest control applications.

3. Cainthus is developing the world’s most advanced technology for dairy farms today; technology that’s transformational for animals, farmers, and the production of food. Using computer vision and artificial intelligence to identify

health, reproduction, and environmental changes early on, Cainthus translates visual information into actionable data.

4. Rex Animal Health is on a mission to help livestock producers and farmers feed the world by increasing productivity and predicting, preventing, and precisely managing disease in the herd. They have a built up the largest database of clinical, health, performance, and genetic data on these livestock. Also, agribusinesses can use this data in order to understand their supply chain to identify the source of potential food borne illness, find the most efficient producers, set prices in commodities trading, and to understand and assess risk to increase transparency in the food supply chain.

5. Smallhold provides retailers and restaurants with contained-environment vertical farm units that produce large amounts of mushrooms, herbs, and leafy greens with minimal labor. Their current product offering is with on-site mushroom production and can produce up to 120 lbs/week in the space of a bookcase. The mushrooms are certified organic and are competitive with conventional ways of growing.

6. Babylon Micro-farms provides an on-demand indoor farming service to make sustainable indoor farming more accessible than ever before. Their farms grow fresh produce 2 times faster using 90% less water than conventional agriculture, without the use of pesticides or harmful chemicals. Their business model drastically reduces the upfront costs and expertise associated with indoor agriculture, powered by a patented IoT platform that remotely operates the ecosystem of farms.

7. Kiverdi technology uses all natural microbes to transform CO2 and other gases into high-valued nutrients, oils, and bio-based products. Kiverdi's proprietary platform, which extends early NASA research, converts carbon dioxide from diverse industrial and agricultural sources into new materials using proprietary gas fermenting microbes.

8. Cambridge Crops develops natural and edible coatings to extend the shelf life of a wide variety of perishable foods. Their coatings regulate the exchange of gases and slow down bacterial growth. These unique attributes allow for drastic improvements in shelf life for everything from avocados and spinach to meat and seafood. Cambridge Crops' technology is easily integrated into existing packing and processing lines, minimizing the need for supply chain changes or expensive on-boarding. By increasing the window of peak freshness, Cambridge Crops allows food producers, food processors, and retailers to extend shelf lives, reach new markets, and reduce waste.

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Профиль: Финансовые риски и финансовые технологии

Text 1. What Is Financial Risk?

Источник:https://www.smartcapitalmind.com/what-is-financial-risk.htm

Financial risk is the amount of chance that is present with any type of financial investment. Typically, the goal is to secure investments that appear to have a low amount of risk since these are more likely to earn a return. Both individual and corporate investors access the degree of risk present before executing an order to buy shares on any investment market.

Shareholders usually investigate the degree of financial risk present in any investment deal by exploring both the current and past performance of the stock option. The shareholder will also consider any changes in the current financial climate that could either cause the option to increase dramatically in value or cause the option to drop. Knowing this detail will help the investor determine how owning the option will affect his or her overall financial stability.

Corporations also engage in the process of assessing financial risk. In terms of property purchases, there is attention given to the ability to build up equity in the acquisitions, or how to make the most of equity financing strategies. The company will also want to maintain an adequate cash flow, so that even if the acquisition does not appreciate as quickly as projected, the finances of the business remain stable.

As part of competent financial management, the investor will often project both a best case and a worst case scenario. With the best case scenario, the object is to assess the maximum possible return on the investment within a given amount of time. The worst case scenario will focus on a possible loss of most or all of the investment, including how an event of this type would impact cash flow or hinder the investor from meeting all current financial obligations.

What is considered to be an acceptable level of financial risk will vary from one investor to another. Some investors prefer to focus on acquiring financial instruments such as stocks or bonds that have a very low amount of risk. While the returns tend to be modest, they are consistent and considered relatively safe. Other investors choose to go with a finance strategy involving the acquisition of more volatile stock options, in the hopes of earning a greater return in a short period of time. In order to do this, they understand that there is a greater degree of risk present, so the opportunity to lose money is more pronounced.

Regardless of the preferences of the investor, it is always a good idea to assess the financial risk before investing in any stock, bond, commodities, money market, or property deal. As long as the investor understands what risks are present and can balance them against the potential rewards, it is possible to make an informed decision on what to purchase and what to avoid.

Text 2. What Is Global Financial Risk?

Источник: https://www.wise-geek.com/what-is-global-financial-risk.htm

The integration of world economies and financial systems is the result of increased trade. The free flow of ideas, goods, and services have led to the globalization of financial markets. The world's economies are becoming more interrelated through trade and international investments. Global financial risk is the potential for a systemic global collapse.

Systemic risk is the risk associated with the collapse of a financial system or the entire market. The global financial risk of total market collapse would most likely occur as a domino effect. Since global financial systems are interrelated, financial system instability could be created by the collapse of a single element within the system.

A chain reaction, or domino effect, may cause a similar collapse in a closely related market. Theoretically, this linked sequence of events could continue to the point of global financial collapse. The financial instability of inter-related markets may contain the catalyst needed to create a self-sustaining chain of events with catastrophic consequences.

It is impossible to determine the potential sequence of events brought about by the failure of a single industry. Sensitive dependence is a phenomenon common to chaos theory. The dependence of interrelated industries may be difficult to establish on a global scale.

The latest development in tracking global financial risk is through giant databases called global risk maps. The risk exposure of banks and large financial institutions are tracked in an attempt to monitor systemic risk. Tracking systemic risk is not preventing systemic risk. Mitigating global financial risk may be incredibly complex.

The Risk Response Network (RRN) has been developed to respond to complex interdependent risk. Corporations, governments, and regulatory authorities have supplied global decision makers to form a community of Risk Officers. These officers have at their disposal the most advanced risk analysis and risk management processes and tools. Proactive response is expected in times of financial crisis.

Technology and access to better and more complete information may be the answer to global financial risk mitigation. Transparency in the over-the-counter (OTC) sector may broaden access to information and result in electronic trading platforms connected to centralized counterparty clearinghouses. Access to technology might expose underlying problems in the financial markets.

Regulatory efforts are in effect to eliminate OTC markets and set up exchanges to replace them. Some believe that no amount of regulation can overcome the lack of technology or intentional manipulation. In order to replace OTC trading with exchange trading, markets may have to be restructured. Liquidity and volatility issues may be the unintended consequences of excessive regulation. Global financial risk mitigation is a work in progress.

Text 3. What Is Financial Risk Management?

Источник:https://www.wisegeek.net/what-is-financial-risk-management.htm

Financial risk management is a strategy that is aimed at generating value within a firm while also utilizing various types of financial instruments to keep the level of risk in balance with the projected return on investments. This type of risk management is similar to other forms of managing risk, in that the goal of protecting the interests of the firm is central to the specific strategies used to achieve the goal. As part of the corporate governance process, financial risk management often involves elements that both qualify financial transactions in terms of potential return versus risk, while also recognizing the necessity to manage the number of quantity of those transactions.

In many instances, financial risk management requires that financial officers and planners understand how to make use of different investment strategies to achieve the most lucrative end for the company. This means understanding market risk in general, based on what is happening in the market at the present time. It also involves knowing how to evaluate trends within that marketplace, and manage investments so that the return is enhanced while the risk or volatility is minimized. It is not unusual for the strategy of hedging to be employed by financial risk managers, along with any other investment approach that is relevant to current and projected market conditions.

Along with structuring investments so that potential return is high and risk is low, financial risk management also requires that managers monitor market activity on a continual basis. This aids in identifying emerging trends in the early stages, and determining if those trends are likely to affect currently held investments in any way. How the manager responds to those trends will vary. In some cases, the manager may feel an emerging trend will have no effect, or perhaps result in a short-term decrease on the value of one or more holdings, only to reverse and drive the value of those holdings above current levels. A manager may also determine that it is in the best interests of the company to sell certain holdings now, especially if there is indication of a long-term decrease in the value of those holdings.

With financial risk management, understanding the liquidity risk associated with investments, as well as properly assessing the risk adjusted return on capital that applies to those holdings, is key to success. For this reason, risk managers are often well versed in how markets function and how to interpret various events and their effects on markets in general. By properly interpreting market risk and accurately projecting market movements, a competent risk manager can save an employer or a client a great deal of time, money, and frustration.

Text 4. What Are the Different Types of Financial Risk Assessments?

Источник: https://www.wisegeek.net/what-are-the-different-types-of-financial-risk-assessments.htm

Financial risk assessments are used for both personal finance and commercial finance to determine the chances of undesirable events occurring and the expected impact those events might have. In many cases, assessments also include risk treatments, which are used to minimize the impact of undesirable events. Financial risk analysts may perform financial risk assessments for both commercial entities and individuals who may be considering market investments.

When applied to business, financial risk assessments can be used if a company is considering expansion. For example, a parent company might consider purchasing shares in a smaller subsidiary company. In this case, the financial risk analyst might assess the subsidiary company's history and financial outlook and decide if the parent company's investment is more likely to generate capital gains as opposed to losses. If risk is detected, the analyst might suggest avoiding the purchasing of shares or may recommend purchasing fewer, meaning there would be less financial commitment from the parent company than was originally planned.

Operational risk refers to any potential damage that might arise because of a company's day to day operations. These financial risk assessments could include the risk associated with expansion, though they often focus on factors such as basic human errors and costs related to operating in a particular environment. Many companies incorporate operational risk assessments into their monthly or annual financial assessments in order to optimize financial business planning.

Individuals who invest in stocks, bonds, real estate, and other markets often have need for financial risk assessments. In this context, the financial risk analyst may analyze the investor's portfolio, which provides an overview of his or her major financial investments. By analyzing the relevant markets and the performances of the financial instruments in which the individual is invested, the analyst can predict the level of risk. The analyst may then manage the investments to avoid or lessen the impact of risk.

Analysts find that some financial risk assessments are easier to make than others. When analyzing the loss of tangible or physical property, for example, the risk is easy to assess. A building or other piece of real estate may be set at a particular value. This means that the loss of the real estate results in the loss of a particular value.

Other kinds of financial risk assessments may be more difficult to predict. The risk associated with many stocks, which have values that rise and fall depending on a number of circumstances, are often difficult to assess. Risks that have not occurred often in the past, leaving analysts with little statistical data, are also difficult to assess.

Text 5. What Are Quantitative Risk Assessments?

Источник: https://www.wisegeek.net/what-are-quantitative-risk-assessments.htm

Quantitative risk assessments are often mathematical formulas or tools applied to financial figures. The purpose is to determine which courses of action carry the most risk compared to potential rewards. Common users of these assessments include investors and businesses. Though risk is difficult to avoid, mitigating risk can ensure a company does not lose too much capital on investments. Quantitative risk assessments often have applications throughout the business year.

Ratios are among the most common quantitative risk assessments. Ratios use mathematical formulas applied to financial information in order to determine risk. For example, leverage ratios are among the most important for measuring a company's debt risk. A company that finances the majority of its assets with outside debt tends to be riskier than a company that finances operations through internal funds. Ratios can apply to each set of financial statements prepared by a company.

Financial markets often have quantitative risk assessments that apply to entire markets, industries, or individual stocks. The assessments here allow investors to determine the risk associated with monetary investments. For example, market risk is inherent in stock or other securities prices. Investors cannot diversify this risk away form their investments as the risk is what drives potential financial returns. Quantitative assessments such as beta, however, can indicate whether the market risk will lead to greater financial returns.

Mathematical figures are often necessary to conduct or complete quantitative risk assessments. In some cases, the figures themselves may not need to relate to actual finances or monetary amounts. A formula allows a company or individual to determine how many items to select when measuring risk. For example, a company may need to define a sample size for measuring items that might result in higher risk. Measuring risk in the sample helps the company to make inferences about larger data sets.

Risk assessments are not always going to hold true as these formulas or methods can carry some risk in and of themselves. Therefore, a company or individual must select a formula or measurement techniques that result in the least amount of error when computing the level of risk in an investment or other item. For example, using one set of financial statements to assess the risk inherent in a company is not a large sample. Multiple financial statements are necessary to create a trend for the risk analysis. This gives individuals a better idea of the risk involved in a company.

Text 6. What Are the Different Types of Financial Instruments?

Источник: https://www.smartcapitalmind.com/what-are-the-different-types-of-financial-instruments.htm

Financial instruments are securities that both large and small investors can use to gain exposure to the financial markets. Some of these securities are common, such as equity or stock investments, as well as bonds or debt securities. Small investors and institutional investors, including mutual funds, frequently buy and sell stocks and bonds. More complex financial instruments, including derivative contracts, such as futures and options, are often used by professional money managers, including hedge funds.

Stocks and bonds are the most traditional types of financial instruments, although there are sophisticated ways to invest in these securities. When an investor purchases stock, he or she is obtaining an equity stake in that corporate entity that entitles him or her to share in profits and vote on some key events. Buying equity also exposes an investor to risk in that there is little recourse if a stock loses value.

Bonds are a type of debt, and this category represents another type of financial instrument. Companies, local governments, and federal governments might issue bonds as a means to raise money in the capital markets. Investors who buy bonds are lending the issuer money in exchange for receiving ongoing interest payments in addition to a final payment worth the principal amount of the original investment when the bond reaches maturity. Bonds are often considered a safe haven for investing because traditional bonds are relatively secure. There are more risky bonds, known as high yield investments, that pay a higher interest rate but that have a greater risk of default versus a more conservative debt instrument, such as an investment-grade bond.

Futures and options are among the most sophisticated and potentially risky financial instruments, and they are often used by professional money managers. A futures contract is an agreement to purchase or sell, also known as trade, some underlying product such as gold, crude oil, or agricultural items at a future date and at a preset price. Options are contracts that give traders an option to buy other financial instruments, including stocks, at a predetermined price within a given time frame.

Alone, derivatives hold no value. The value of these financial instruments is determined by the underlying security or asset, such as a stock or natural resource. Hedge funds, which are lightly regulated investment funds run by professionals and designed to generate returns that exceed the broader markets, often use derivatives trading to speculate on an anticipated price movement or to hedge, or protect, another trading position.

Text 7. What Is Financial Risk Analysis?

Источник: https://www.wise-geek.com/what-is-financial-risk-analysis.htm

'Financial risk' refers to the possibility for loss greater than gains in a financial venture. Any financial decision involves a certain amount of financial risk analysis, from choosing between investment options to deciding whether to buy a house. Financial risk analysis involves looking at the given circumstances of a financial decision and trying to determine what the chances are that the venture will cause greater financial harm than good. The outcome of financial risk analysis depends heavily on the individual circumstances; both internal and external factors can significantly contribute to the level of risk.

Often, financial risk analysis is involved in business and investment planning. While a person with a relatively simple investment portfolio may be able to perform rudimentary risk analysis alone, many investors rely on investment managers and market analysts to help prepare risk analysis reports. Some of the factors that may go into a risk analysis for an investment might include the total assets and financial stability of the investor, the performance history of the investment, current economic conditions, and external factors such as wars, environmental problems, or impending legislation that might affect the performance of the investment in the future.

When a person decides to open a new business or invest in a young company, many other factors may be used in financial risk analysis. For instance, if a person wanted to open a restaurant, he or she would have to examine data such as market saturation with similar restaurants, whether there are positive factors in favor of success, such as a celebrity chef, and the size of initial capital versus the time it will take to make the venture a success. Proper risk assessment cannot always predict the future, but it can at least help create success deadlines that let investors know when a venture is becoming a liability instead of a potential success.

Financial risk assessment can also help communities make decisions about expansion or new projects. If a city wished to dam a river to help create more usable land, there would be many financial considerations that would be important to examine. In addition to basic issues, such as the cost of construction versus the selling price for the created plan, the community would need to analyze the potential damages in case of a dam failure; the effect the project would have on water supply and water-related tourism, and the possible environmental costs of altering a natural ecosystem.

In many cases, financial risk analysis is performed through the use of probability formulas and fairly complex mathematical calculations. Not surprisingly, a considerable market has been created for financial risk analysis software, which allows the user to plug in potential risk factors and does the calculations on its own. Still, the help of professional risk management advisers can be invaluable, as many have a deep understanding of their particular area of expertise, and may be able to point out a variety of risk or benefit factors that are easily missed by the casual eye.

Text 8. How Do I Choose the Best Financial Analysis Software?

Источник: https://www.wise-geek.com/how-do-i-choose-the-best-financial-analysis-software.htm

Financial analysis is practiced by consultants and accountants who are responsible for determining the financial health of an organization. Professionals who practice analysis are concerned with factors such as stability, risk management, and prospects for growth. Many professionals in this field use financial analysis software to cut cost and improve accuracy of their readings and projections. To choose the best financial analysis software, it can be helpful to consider the features you require for a project, the quality of the software, and which mode of access works best for your needs.

Choosing the best financial analysis software often is a matter of knowing which features you require. Professionals who deal largely with complicated investments that may include a number of different financial instruments and markets can benefit from portfolio software. These are computer programs that allow users to monitor collections of investments at one time. An analyst can compare the behaviors of different investments and choose which are most profitable and which present the greatest risk.

Analysts who work in certain industries might benefit from software that provides them with industry insight. For example, an analyst who serves mainly manufacturing companies might benefit from financial analysis software that enables him or her to monitor the manufacturing industry in real time. Information gathered from this analysis can help managers to understand where they stand competitively. This can assist management in determining pricing and production volumes.

Some kinds of financial analysis software assist professionals who work in banks and other institutions that give out loans to borrowers. These computer programs may help analysts to remain compliant with regulations. Some programs feature interfaces that borrowers can use to apply for loans.

User friendliness and accuracy are two important factors when it comes to the quality of financial software. Analysts often use this software because it can save time, thereby cutting operational costs. For this reason, a program should be easy to learn and convenient to use, otherwise it may not serve one of its main purposes.

Software that does not provide accurate information can harm an organization. You cannot always determine accuracy of a program prior to using it. Many professionals choose to get colleague recommendations. Others use trade magazines and even attend trade shows to learn about the newest software developments.

Two common ways to access financial analysis software are to purchase it or to pay a user fee to access it online. Larger financial operations often purchase software since they can afford to pay technicians to install and update programs. Smaller firms may choose to access software on demand online since it is less committal and can result in reduced cost.

Text 9. What Are the Best Tips for Managing Financial Risks?

Источник: https://www.wisegeek.net/what-are-the-best-tips-for-managing-financial-risk.htm

Financial risk generally comes from one of three places: market instability, financial transactions, and organizational failures. Managing financial risk usually relies on either reducing the chances of incurring financial losses or minimizing the financial losses that happen as a result of a financial risk. Generally, this involves planning operations to increase safety and efficiency, keeping on top of financial records, and purchasing insurance or other means of offsetting necessary financial risk. Overall, the most important part of managing financial risk is to know as much about the risk as possible before exposing an organization to a financial risk.

Market instability, or changes in the environment in which an organization conducts its business, can come from many sources. It can include change in the market price of goods, changes in competition within a market, and changes in the political climate in which the company operates. Financial transactions occur any time money changes hands, whether it is during a sale, a bank transaction, or in the payroll process. Organizational failures can be mechanical failures, failures in management, or failure of an employee to perform his duties. All of these things can cause losses that influence the overall profitability or success in a company.

The most basic part of managing financial risk is identifying the financial risks faced by a business. It is also important for an organization to know how much risk it can take without creating intolerable financial hardships for the company. Based on this information, a company can develop a strategy for managing financial risk. Once a strategy has been designed an implemented, an organization must then monitor and measure the outcome of the financial risk management plan. A company can use information gathered by monitoring the outcome of a financial management plan to make changes to improve its effectiveness in managing financial risk.

The end goal of managing financial risk is to reduce losses by preventing them. Some losses a business might face can be reduced by insuring the company. Losses of this type can include fire, flood, and theft. Taking steps to reduce loss in a company as a result of theft is called loss prevention. Steps to prevent loss from theft can include surveillance, on-site security, and advanced cash management procedures.

In investment, one way of reducing loss is diversification. Diversification is the practice of having more than one type of investment, so if one investment type or market suffers serious losses, the investor will not lose his entire portfolio. One example of this might be investing in oil and bio-diesel fuel. In the event that one fuel method suffers market losses, another will likely prevail in its place.

Text 10. How Do I Choose the Best Financial Management Procedures?

Источник: https://www.wisegeek.net/how-do-i-choose-the-best-financial-management-procedures.htm

Financial management procedures dictate how a company handles the capital that flows through its operations. Owners and executives often set these procedures as part of their overall general management responsibilities. Choosing the best financial management procedures is the result of finding a strong banking partner, creating internal controls, and evaluating current procedures for flaws. In many cases, there is not set of management procedures from which a company can select and implement. The process is organic and depends on the particular attributes of the company itself.

Most business organizations need a banking partner as part of their financial management procedures. The external institution provides some guidance on the procedures necessary to accomplish various tasks. Then, the company must come up with valid processes in order maintain the bank's standards and make sure all tasks get handled in a timely manner. Large organizations often have single individuals at the bank responsible for their accounts. This helps create a semblance of order and design for financial management procedures.

Internal controls are the safety measures a company implements to prevent fraud and other inappropriate employee action. These can be wide ranging, covering a variety of employees, job positions, and tasks. For example, money transfers may require the use of two signature authorizations for certain dollar amounts, usually over a high amount of money. Other times, internal controls prevent certain employees or job positions from accessing financial data or money. Accountants call this segregation of duties, where individuals have specific responsibilities that do not overlap, thus preventing the potential for fraud.

All companies have current procedures that may be subject to abuse or inefficiency. Owners and executives, therefore, must review current tasks and activities to ensure they are effective and prevent abuse. Using the bank agent can help a company select and review procedures that are most likely to cause problems. Directing and controlling activities never stop in an organization, regardless of its size and structure. Accountants are also available for use in the review process.

Some level of bureaucracy is always necessary in financial management and financial management procedures. Though organizations may desire an organic management structure, this system is often ill equipped for tight control of a company's finances. Therefore, owners may implement multiple positions, such as a chief financial officer, controller, accounting manager, and others in order to control financial management. Owners rarely get too involved with the daily financial management activities.

Text 11. How Do I Choose the Best Risk Management Methodology?

Источник: https://www.wisegeek.net/how-do-i-choose-the-best-risk-management-methodology.htm

Risk management is the process of helping an organization to identify risk, assess risk and then address risk. There is more than one way to accomplish this task and reduce risk. In picking one for your organization, it is important to consider the context in which you're doing risk management, as well as the risk management philosophy and risk tolerance of your organization.

Some of the best known risk management methodology programs come from such organizations as the International Organization for Standardization (ISO), the Project Management Institute, various insurance and actuary groups and the National Institute of Science and Technology among others. Each risk management methodology provides a different definition of risk management. They also stress different strategies for how to address and reduce risk. These techniques include trying to avoid the risk altogether, gauging the probability of a given risk, transferring the risk through insurance or other financial mechanisms and financing the costs of the risk within your organization.

It is important to choose your risk management methodology based on your given situation. A different risk management methodology could be needed if your concern is security than if you are involved in heavy industry. You might need a different risk management methodology for financial risk management than for evaluating risk on a project-by-project basis. That’s because you will face different kinds of risks in each situation, such as credit risk and financial market risk in a financial situation or contractual risk in project management.

No matter what risk management methodology you follow, there are certain common risk management principles. One of the first is the notion of risk prioritization. This means that you deal first with risks that are considered to be the greatest threats, either because they would have the biggest impact or because they occur most often. It can be difficult to determine whether high frequency risks are more critical than high impact, or severity, risks. Another common risk management principle is that risk management should always be a key part of decision making and company processes.

A risk management methodology should also focus on how to allocate organizational resources to handle the risks identified. In some cases, risk management can be seen as a way to take advantage of uncertainty. On the other hand, in some organizations, risk management could be considered a cost center and something that interferes with the organization's normal activities. Getting resources for risk management in the former situation could be challenging.

Text 12. What Are the Different Types of Financial Risk Management Software?

Источник: https://www.wisegeek.net/what-are-the-different-types-of-financial-risk-management-software.htm

Financial risk management is the practice of managing investments, such as stocks, securities, and pensions, to reduce the chances of undesirable events occurring. Lessening the damage of undesirable events also is a function of effective risk management. Financial managers and analysts use financial risk management software to accurately calculate risk, potential gains and losses, and to cut back on cost. Some of the most common types of financial risk management software are programs that allow users to create investment portfolios where several investments can be observed at once and software that allows users to monitor the market in real time.

Most analysts who use financial risk management software develop portfolios. A portfolio is a collection of all the investments belonging to an individual or organization. Many experts believe that portfolios allow financial managers to assess risk more effectively since they can gauge the behaviors of all a client's assets. Financial professionals who manage a client's pension for example, might use financial risk management software to compare values of various investments to determine the security of a pension fund.

Many types of financial risk management software have the capability to monitor markets in real time. Some markets, such as currency markets, can experience drastic changes in a matter of minutes. Managers use software to watch for variations in rates and values. In some cases, risk management software might give a user access to a broker. This allows a manager to buy or sell securities as soon as he or she perceives a change.

Some kinds of software help users to remain compliant with regulations. Most markets are regulated by government or global organizations and agencies. These regulations can be complex and are prone to change. Investment professionals, such as hedge fund managers, whose investment strategies often are complicated, can use financial risk management software to plan strategies without having to worry about breaking laws.

For many investment professionals, it's important that risk management software generates clear reports. These reports can be distributed to clients, shareholders, and others who have financial interest in an organization. Many kinds of software include template documents that enable investment professionals to compose reports with ease.

Financial managers can purchase risk management software that they install directly onto their computers. Others pay a user fee for software on demand that a provider hosts from a website. Professionals who own their own software may be responsible for manually checking for periodic updates from the software publisher, though they are believed by many experts to have greater security. Individuals who use software on demand benefit from automatically updated programs, though they must keep up with scheduled payments.

Text 13. How Do I Minimize Financial Risk?

Источник: https://www.wisegeek.net/how-do-i-minimize-financial-risk.htm

Minimizing financial risk is generally necessary for those who wish to preserve their money for themselves and their loved ones. There are many methods of achieving this, beginning with the close inspection of all possible investment vehicles. In addition, individuals can minimize financial risk by choosing fixed income investments, like bonds, which promise regular payments and generally protect the bulk of investment capital. Risk can also be managed in an investment portfolio through the process of diversification, which involves making investments in many different types of assets.

Most people realize that they need to make certain investments throughout their life as a way to make the capital they possess grow. They also understand that practically every imaginable investment carries some type of risk with it, even if the risk is extremely small. For that reason, the skill of managing financial risk is an important one for any investor to possess. It can separate those who enjoy financial success from those who struggle to make ends meet.

Many individuals make the mistake of entering into some sort of financial arrangement without first doing the kind of research necessary to determine the wisdom of the investment. Whether an individual invests in the stock market or decides to buy a house, it is crucial for the person to know as much as possible about every aspect of the investment. Some people have the experience to do this kind of research on their own. For those who are newcomers to investing, minimizing financial risk may entail finding professional help to make these tough money-related decisions.

In terms of investments, financial risk can be lessened by choosing instruments that are comparably safe. As an example, a bond is a fixed income instrument, so named because the investor receives regular interest payments. For those investors wishing to buy the safest possible bond, they can search out bonds issued by governments or corporations with impeccable credit ratings. Investors in such financial instruments can be relatively sure that their capital will be returned intact at the very least.

There are many different types of opportunities available to investors, and dabbling in as many types as possible can lessen the financial risk. This is a process known as diversification, and it prevents investors from being too badly damaged by one underperforming brand of securities. For example, at a certain point the stock market may be struggling, but the bond market may be thriving. At other times, real estate might be outperforming stocks and bonds. An investor with a little of everything can buffer losses with the solid performances of his other assets.

Text 14. What Are the Best Tips for Risk Management for Accounting?

Источник: https://www.wisegeek.net/what-are-the-best-tips-for-risk-management-for-accounting.htm

Risk management for accounting is an approach a company will take when preparing financial information. Almost all business activities carry come level of risk; companies will need to institute principles to avoid taking excessive risk that may damage the company financially. Some of the best tips for this process include taking a conservative approach to recording financial information, avoiding the use of debt for purchasing assets and creating a secure environment for financial information. This approach helps companies complete a risk management for accounting analysis and reduce the potential for major business disruption.

A conservative accounting approach often relates to how a company recognizes income. Most national accounting principles – whether domestic or international – do not provide companies with strict guidelines for recording financial information. Companies can therefore create internal accounting policies that work best for their business practices. Unfortunately, improper risk management for accounting policies can expose the company to unnecessary scrutiny from accounting organizations or government agencies. Companies that record sales aggressively in an attempt to create higher earnings earlier rather than later will often incur more scrutiny. This risky approach can lead to accounting restatements, a major negative for companies in the business environment.

Accountants often help a company manage its debt associated with purchasing and using assets. Companies that over-leverage their assets often face more risk of financial failure. Risk management for accounting often involves the use of a total debt to total asset ratio to determine how much debt the company has compared to other businesses in the industry. This ratio presents the information in a percentage form as to how much of $1 US Dollar (USD) in assets the company finances with debt. For example, a company that finances $.80 USD of each dollar is often a risky business in terms of debt use. Accountants may help the company set a limit for the ratio, such as $.40 USD of every dollar in assets. This ensures the company will not create too much risk for internal and external stakeholders.

Risk management for accounting also includes creating a secure environment for all financial information. Allowing unauthorized individuals access to financial information can result in the company increasing its risk of embezzlement or fraud. Employees can use the information to their advantage and increase business risk to the firm. Companies must separate accounting duties, create user access limits for accounting software or prevent lower-level accounting employees from reviewing sensitive financial information. These actions can help reduce the overall risk in a company's accounting office.

Text 15. What Does a Financial Risk Manager Do?

Источник: https://www.wise-geek.com/what-does-a-financial-risk-manager-do.htm

A financial risk manager analyzes a business' daily functions and works to minimize the activities that could negatively effect a business' bottom line. Financial risk is the possibility that a business cannot meet its financial obligations to its creditors. These creditors could be vendors, the government, shareholders or even a business' employees. A financial risk manager takes all of these possibilities into consideration and makes suggestions or creates processes and procedures to lower the possibility of financial hardship as much as possible.

One of the tools that a financial risk manager utilizes is forecasting, also referred to as hedging. By taking the current economic atmosphere into consideration and comparing it to similar atmospheres in the past, a financial risk manager can create programs or take preventative measures to ensure that a business can meet its financial obligations. The job is not always a welcomed one in a business, because the position often requires a financial risk manager to object to a business' new idea for products or services. If the new idea carries too much risk, such as when it could result in a large loss of funds for the business if the product or service fails, and if the possible profits of the new venture are not enough to make the risk worth it, the financial risk manager can refuse to approve the project.

An example of a financial risk manager is a loan underwriter. If a business or individual approaches a lending institution and requests funding, the underwriter reviews the application, the financial health of the potential borrower and whether the loan will make the bank money or possibly lose money. If the underwriter feels that the probability of the borrower defaulting on the loan is too high, he or she can refuse the loan, thereby lowering the risk of the bank losing money on the transaction. If, however, the underwriter feels that the borrower will indeed repay the loan, then the underwriter will approve the loan, and the bank will enjoy a profit from the transaction in the form of loan fees and accrued interest.

A financial risk manager usually holds a bachelor’s degree in business, such as management or accounting. Many risk managers are accountants and therefore also possess a license and certification as an accountant. There are also certifications available in risk management. These typically require one to hold a bachelor's degree in finance, to pass certain exams and sometimes to have work experience and take continuing education courses.

Text 16. How Do I Become a Financial Risk Manager?

Источник: https://www.wise-geek.com/how-do-i-become-a-financial-risk-manager.htm

In order to become a financial risk manager (FRM), a person must first receive certification from the Global Association of Risk Professionals (GARP). To receive FRM certification, a candidate must pass a two-part exam administered and approved by GARP. Candidates often fail to pass Part I or Part II of the certification exam, and GARP estimates that there are only 24,000 Certified FRM holders in the world as of 2011. After passing both portions of the exam, the candidate must then gain two years of experience in a financial field such as economics, portfolio management, academic research, auditing or risk consulting.

A person can enroll in a course of study through an approved financial institute in order to prepare for the certification exam to become a financial risk manager. They can only register to take the exam through the Global Association of Risk Professionals office in New York. It is often recommended that a person should undergo 150 to 200 hours of study in order to pass Part I of the exam. Part I of the test covers the applicant’s knowledge of quantitative analysis, foundations of risk management, financial markets and products, and valuation and risk modules. This portion of the test often contains hypothetical market risk problems that the candidate must analyze and solve.

Part II of the exam to become a financial risk manager covers market and credit risk measurement and management, operational and integrated risk management, investment management, and current issues in global financial markets. An additional 150 to 200 hours of study is recommended to prepare for this portion of the exam. Part I and II of the exam are administered over an eight-hour period. Candidates are often allowed to use a GARP-approved business calculator when taking the tests. Upon receiving a passing score on both portions of the test and completing two years of work as a financial risk manager, the candidate will receive official certification from the Global Association of Risk Professionals.

GARP also offers a continuing education program for after the candidate manages to become a financial risk manager. Professionals often continue their education beyond FRM certification, in order to keep up with market changes. Financial risk managers are highly sought after by financial firms, because the training and skill sets they possess are so specialized. Because of the difficulty of earning certification, hiring managers are more likely to give preference to a candidate who has attained it. The demand for financial risk managers is expected to grow into the 21st century, as the risks within the global financial markets become more complex.

Text 17. How Do I Get Master's in Financial Risk Management?

Источник: https://www.wise-geek.com/how-do-i-get-a-masters-in-financial-risk-management.htm

People who practice financial risk management are concerned with creating the highest degrees of value in financial instruments, such as stocks and bonds, by reducing degrees of risk. To get a master's in financial risk management, it is important first of all to earn an undergraduate degree in a field such as finance or economics. In most cases, it is also necessary to earn satisfactory marks on proficiency exams and to have letters of reference either from business or finance instructors or from professional contacts. To get a master's in financial risk management, it might also be necessary to compose a statement of purpose.

A person who has earned a master's in financial risk management normally can expect to work in the financial industry for a financial services firm or advisory firm. This kind of professional might also work for a non-financial business where he or she can advise financial management about their investments. It is also relatively common for a person with a master's in financial risk management to pursue a doctorate degree in a related field and to teach financial risk management courses at the undergraduate or graduate level. Academic financial risk management specialists might also perform research and publish and present papers.

In most cases, a person who wants to get a master's in financial risk management should get an undergraduate degree in a field such as economics or finance, though it might also be possible to get into a graduate program with a background in a field such as mathematics, statistics, or engineering. Regardless, a person who wants to enter a program in financial risk management should be able to perform complex mathematical calculations and be able to use financial software. It is also important to have a strong understanding of different financial instruments and to have at least a basic understanding of market and credit risk. If you already have completed an undergraduate degree, you should research the requirements of different programs then take necessary classes to get any essential credits you might be missing.

An individual who wants to get a master's in financial risk management almost always needs several reference letters. In most cases, it is a good idea to have at least three different references. Most schools accept academic references, such as from finance or mathematics professors. If you have been out of school for some time, however, and you fear that your academic references are no longer relevant to your strengths, you should be able to choose professional references. Regardless, it is important that your references are able to speak to your dedication to this field, your professional seriousness, and your potential to become a valuable contributor to the field of financial risk management.

Text 18. What are the Different Types of Risk Management Classes?

Источник: https://www.wise-geek.com/what-are-the-different-types-of-risk-management-classes.htm

Different types of risk management classes address business accidents and liabilities; management fundamentals and tools; and specific risks related to the financial and public sectors. Risk management is typically a process of business, financial, or investment decision-making requiring an individual to identify and then analyze risks. Following that, the process involves either accepting or alleviating them. Risk management classes address this two-step process, making them valuable for current business or financial professionals, or those aspiring to enter careers in those fields of interest.

Individual risk management classes address key areas of financial and business liabilities. Depending on the focus of their studies, some students may take business classes in analysis techniques and tools, while others concentrate on identifying and assessing financial risk. Still other classes deal with a variety of industry-specific and public safety risks.

Certain kinds of risk management classes are common to many business certificate and degree programs. A program for business risk management, for example, may include management fundamentals, enterprise risk management (ERM) essentials, and cyber or technology risk management. In a financial program, the curriculum may include background and key concepts in financial services risk management, operational risk in financial services, and developing and managing regulatory framework in banks. Courses for an information technology (IT) program would focus heavily on identifying and assessing cyber threats and vulnerabilities, installing high-level security measures, and mitigating technology risks.

Some of the first things students learn in these classes are how to identify, address and assess risks. Businesses face several categories of risk, which is why management is essential. The primary categories include the following: financial, strategic, operational, technology, and compliance issues. Several sub-categories of risk include commercial, employee, health and safety, environmental and natural disasters, and economic and political instability.

A variety of risk management courses and formats are available. Some are self-contained courses to supplement workplace training programs, granting each attendee a certificate. Other times, they can be non-certificate courses. In addition, risk management courses are often part of the primary curriculum for business administration certificate and degree programs. Students may also choose this study as a specialization within their Master of Business Administration (M.B.A.) degree programs. Most of these options are accessible in either traditional settings or through online training.

Individuals who take risk management classes, achieve certificates, or earn business degrees with concentrations in this area improve their chances for career advancement. While the majority of students in risk management classes already have a business background, others have plans to pursue careers in business or financial fields. Demonstrating skill and expertise in this area makes such candidates attractive in high-level business and financial sectors.

Text 19. How Do I Choose the Best Financial Risk Management Course?

Источник: https://www.wisegeek.net/how-do-i-choose-the-best-financial-risk-management-course.htm

A professional who practices financial risk management is responsible for managing the financial instruments, such as stocks and shares, of a firm or business. The goal of this professional is to help the business or firm generate the most value from these instruments by avoiding potential risks. A financial risk manager also may prepare strategies for reducing the impact of risks that are potential or unavoidable. In order to choose the best financial risk management course, it can be best to know which degree or certification you need to practice in this field and to consider factors such as the cost of taking the course and the ease of accessing the course.

Degrees and certification are not normally required in order to practice as a financial risk manager. Many employers, however, do prefer job candidates who have a significant amount of training in managing market or credit risk. For this reason, aspiring professionals in this field often choose to pursue academic degrees that allow them to demonstrate proficiency in preferred skills.

Students who are already enrolled in academic degree programs often choose the financial risk management course that allows them earn a degree or which allows them to stay on the proper degree track. Programs normally provide students' access to academic advisers who guide them toward the best decisions. Factors that these students consider often include the concentration or focus of their degrees as well as the required credits in order to earn the degree.

The financial risk management course may be the one that allows you to spend the least amount of money while acquiring the education you desire. Courses that are not part of academic degree programs tend to be the least expensive and are normally designed solely to provide students with practical training. Many students who attend academic degree programs take out student loans which must be paid back after graduation. Others find that they have access to grants or scholarships, which may pay for all or part of tuition and which does not need to be repaid.

Courses that are part of academic degree programs, and therefore housed in schools, colleges, and universities, often require that students appear on campus regularly to attend classes, seminars, and other activities. Students who are not seeking academic degrees may find that courses are available that require students only to attend once a week. The best financial risk management course is often the one that allows you the greatest ease of access so that you can concentrate on other obligations, such as work or family life.

Text 20. What Are the Different Types of Risk Management Training?

Источник: https://www.wisegeek.net/what-are-the-different-types-of-risk-management-training.htm

Risk managers have opportunities for careers in the world's major corporations, governments and nonprofit institutions. It is a critical financial task at large organizations to identify risks and address risk in order to achieve strategic goals and avoid disastrous business accidents, property damage and other perils. To grow in the profession and maximize opportunities, risk managers can participate in risk management training, including online training, on-the-job experience, classroom work and industry meetings.

One of the ways for risk managers to attain risk management training in the middle of their professional careers is to work toward risk management certification. In some cases, a risk manager's employer can pay for the risk manager to earn certifications from the various accredited professional organizations that provide them. These programs are often offered in classroom settings and can require time off from work and travel.

If a risk manager is unable to travel or miss work, risk management training programs are often offered online as well. With these online training programs, typically a risk manager can choose the pace and the timing of his or her education. He or she can expect to be required to pass an exam upon the completion of the risk management training program as they would in a classroom course.

As with other professions, risk management is also something that can be learned at the college level. Various colleges and universities offer risk management training programs and undergraduate and advanced degree programs. Risk management courses can be taken as a concentration in another undergraduate major or as a risk management degree. Advanced university work can be done toward an M.B.A. with an insurance or risk management focus or toward a degree in such topics as actuarial sciences.

A professional risk manager can also acquire risk management training by attending industry conferences and seminars. Risk management organizations exist to represent risk managers in given countries and regions, and there are organizations for risk managers who work in specific industries, such as hospitality, financial services and health care. Whatever the organization, they generally have regular meetings that feature educational roundtables and keynote speeches. These events also provide opportunities for risk managers to talk with their peers and discuss best practices to identify risks and assess risk.

Another way for a financial professional to gain risk management training is through his or her colleagues. Finding a mentor through a current or former employer or through professional organizations can have tremendous educational value. Mentors can also guide a younger risk manager along his or her career path toward greater success, increasing responsibility and job satisfaction.

Text 21. What Is a Financial Risk Management Certification?

Источник: https://www.wisegeek.net/what-is-a-financial-risk-management-certification.htm

A financial risk management certification indicates that a financial professional has completed a course and may have taken an examination to demonstrate competency. Certifications can be selling points on job applications, especially in highly competitive markets where applicants may need to set themselves apart from others. Training in risk management allows people to advise companies of various sizes on how to identify and manage risks to increase the security of their financial operations. This can help them create strong portfolios and other investment tools to serve their clients and shareholders effectively.

Numerous certifications are available through different bodies, like the Financial Risk Manager® credential from the Global Association of Risk Professionals (GARP). Academic institutions also provide risk management training that ends in certification for attendees. People considering financial risk management certification may want to research the different options available to learn more about the standards used and which appear to be most desirable. The FRM® certification, for example, is highly reputed in many nations around the world and can be a valuable addition to a resume.

In certification classes, students have an opportunity to learn about different kinds of risks and how to address them effectively. Coursework typically includes financial analysis skills so students are familiar with the techniques they can use to evaluate risks and benefits. They also study some pertinent regulations and learn about compliance. This can be valuable for people who intend to work in the financial industry, as they need to be prepared to comply with disclosure and documentation regulations and the financial risk management certification demonstrates that they are ready.

Courses often end with an examination to confirm that attendees know the material well and can work in the field. It is also possible to obtain a financial risk management certification by taking an exam alone. These examinations are usually lengthy and applicants may need to demonstrate that they have experience in the field or have taken a course on the subject before they can take the test. Multi-part examinations covering different kinds of financial risks and mitigation strategies are available from some certifying bodies.

Financial advisers and other professionals who advertise that they hold a financial risk management certification should be able to provide information on it. This includes the name of the certifying agency, which allows customers to confirm the professional is in good standing with the organization, and to look up the standards to determine the value of the credential. People falsely claiming certifications may be subject to legal penalties for misleading consumers and abusing the name and reputation of a credentialing organization.

Text 22. The Risks of Farming

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Farming is risky. Farmers live with risk and make decisions every day that affect their farming operations. Many of the factors that affect the decisions that farmers make cannot be predicted with 100 percent accuracy: weather conditions change; prices at the time of harvest could drop; hired labour may not be available at peak times; machinery and equipment could break down when most needed; draught animals might die; and government policy can change overnight. All of these changes are examples of the risks that farmers face in managing their farm as a business. All of these risks affect their farm profitability.

While farmers have always faced risk, farming has over the years, as a result of market liberalization and globalization, become increasingly risky. Smallholder farmers have become especially vulnerable. A casual approach to farming, even if it is for household food consumption, is no longer viable. Farmers need to acquire more professional skills, not only in basic production but also in farm business management. Among these are risk management skills.

Skillful farmers and other business people generally do not become involved in risky situations unless there is a chance of making money. Higher profits are usually linked with higher risks. These risky but potentially profitable situations need to be managed as carefully as possible. Good risk management involves anticipating potential problems and planning to reduce their detrimental effects. Simply reacting to unfavourable events after they occur is not good risk management.

In order to succeed, farmers need to generate more profit and become competitive. They must have a good understanding of the farming environment and be skilled at managing risk. By dealing with risk more effectively, better farming opportunities arise.

Extension workers can help farmers improve their risk management skills. They can help farmers recognize and understand their problems and assist them in making better farm management decisions.

Text 23. Production and Marketing Risks on Farms

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

The most common sources of risk in farming can be divided into five areas: production, marketing, financial, institutional and human.

As to production and technical risk, crop and livestock performance depend on biological processes that are affected by the weather, and by pests and diseases. Low rainfall or drought may lead to low yields. Hail or heavy rains could damage or even wipe out crops. Outbreaks of pests or diseases could also cause major yield losses in crops and livestock.

When farmers plant seeds and fertilize their land they do not know for certain how much rain will fall, or whether there will be a hail storm. They do not know if there will be a problem with pests or diseases. But still they must decide whether they are going to plant their crops or raise their livestock. The resources they spend to plough, plant and fertilize their crops or to care for their livestock may not be recovered. This is why there is risk. Farmers produce without complete certainty about what will happen to their production.

Another source of production risk is equipment. A farmer's tractor may break down during the production season resulting in an inability to harvest in time, thus affecting yields. Similarly, if the farmer uses shared or hired traction or other equipment, will it be available when needed? If the farmer is using a new technology, will it perform as expected? Will it actually reduce costs and/or increase yields? If seeds do not germinate and day old chicks die what will be the impact on production and farm family income? The farmer can never be completely certain.

Regarding marketing risks, it is worth mentioning that the main marketing risks are prices and costs. Changes in prices are beyond the control of any individual farmer. The price of farm products is affected by the supply of a product, demand for the product, and the cost of production.

– Supply of a product is affected by a combination of production decisions made by farmers as a group and by the weather and other factors that influence yields.

– Demand for a product is affected by consumer preference, consumers' level of income, the strength of the general economy, and the supply and price of competing products.

– Cost of production of a unit of product depends on both input costs and yield. This makes it highly variable. Although input costs tend to be less variable than output prices, when combined with yield variations the cost of production becomes a serious source of risk.

Sometimes price movements follow seasonal or cyclical trends that can be predicted. Many times, however, supply or demand will change unexpectedly and, in turn, affect the market price. When farmers plant crops or commit resources to raising livestock, they do not know for certain what prices they will obtain for their products. In situations of low rainfall, production of crops is often reduced and, as a result, prices rise.

Text 24. Financial, Institutional and Human Risks on Farms

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Financial risk occurs when money is borrowed to finance the farm business. This risk can be caused by uncertainty about future interest rates, a lender's willingness and ability to continue to provide funds when needed, and the ability of the farmer to generate the income necessary for loan repayment. Smallholder farmers who borrow money at high interest rates may have particular difficulty making debt repayments. Lower than expected prices, combined with low yields, can make debt repayment difficult and even lead to the sale of the farm.

Institutional risk refers to unpredictable changes in the provision of services from institutions that support farming. Such institutions can be both formal and informal and include banks, cooperatives, marketing organizations, input dealers and government extension services. Part of institutional risk is the uncertainty of government policy affecting farming, such as price support and subsidies. The risks farmers face are often a result of decisions taken by policy-makers and managers. Subsidies, food quality regulations for export crops, rules for animal waste disposal and the level of price or income support payments are examples of decisions taken by government that can have a major impact on the farm business.

Human and personal risk refers to the risks to the farm business caused by illness or death and the personal situation of the farm family. Accidents, illness and death can disrupt farm performance. In many countries labour migration away from rural areas is a common occurrence. Migration can cause labour shortages for the farm. Political and social unrest can also limit labour availability. The spread of diseases has had a serious impact on labour availability and productivity in some areas. When farmers plant their crop or commit resources to raise livestock they cannot be certain whether they will have enough labour to manage the farm enterprises.

Production, marketing, financial, institutional and human risks exist on most farms. They are frequently interrelated. The ability to repay debts depends on levels of production and the prices received for produce sold. Financing of production depends on the ability to borrow capital and the ability of the lender to supply capital in time. The different types of risk often need to be considered together.

Text 25.Risk Management in Farming

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Decision-making is the principal activity of risk management in farming. All decisions have outcomes or consequences. Early in the cropping season farmers must make decisions about what crops to plant, and what seeding rates and fertilizer levels to use. The yield and prices obtained will not be known with certainty for several months, or even several years in the case of perennial crops and livestock.

In only a few cases are farmers certain of the outcome of their decisions. This usually occurs when the decision is easy and there is only a single outcome. For example, if farmers decide to take short-term loans, they know what will occur; banks will charge them interest at a specific rate. In this case, farmers know exactly the consequences of their decisions.

In most situations, however, the outcome of a decision cannot be predicted, as there is more than a single possible outcome. Farmers often find that their decisions turn out to be less than perfect because of changes that take place between the time the decision is made and the time the outcome of that decision is finalized. It may be that the outcomes themselves depend on the decisions of others and on future events that lie beyond the control of the farmer.

For effective decisions to be taken, farmers must have all the necessary information regarding input prices, output prices and yields, as well as other technical data. The more complex the risk, the more difficult it becomes for farmers to make an informed decision. Farmers have to find ways of dealing with risk and protecting themselves from the uncertainties of the future.

Sometimes the risk may be so small that one does not give it any consideration. This is particularly the case when there is a long history of a consistent relationship between the decisions taken and the outcome. For example, if a farmer has a long, successful working relationship with his or her hired labour force and the situation has not changed significantly, there will be little risk of labour not being available when needed.

Sometimes the risk may be very great and the farmer will need to give it careful consideration. For example, being the first farmer to adopt a new seed or livestock variety may create a wide range of risks, each of which could potentially bring about losses or gains. Before deciding to apply the new technology the farmer should take time to investigate and understand the nature of the risks and the degree of risk involved.

Where there is little or no risk, decisions are generally easier to make. The greater and more complex the risk, the more difficult it becomes to make an informed decision. It is helpful to consider the fact that farmers do not only make active decisions to do something. Refusing to choose or to make a particular decision is, in itself, a decision that has outcomes and consequences. So it is important that the farmer understands risk and how it affects his farming business. This puts the farmer in greater command of the factors that influence the household, farming and livelihood systems.

Text 26.Decision-making Process in Risk Management

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Farmers, like others, generally have at least a basic set of goals and objectives in life. Some may have thought these through very carefully. Others may have only a vague or general idea of what they want to achieve. Either way, every farmer grows crops or raises livestock for a reason. It may be for household food consumption. It may be for profit. It may be because the farmer has no alternative source of income. Or it may be for any combination of these or other reasons.

Decisions about the farm are made in the context of the farmer's goals and objectives. They guide and influence the decisions the farmer makes. Because decisions are made to achieve goals and objectives, it is helpful for farmers to understand the essential elements of decision-making.

The basic decision-making process includes the following stages. The goals are set; farmers look at the different ways to achieve the goals; they evaluate the different alternatives; select the best alternative; plan for implementation; and review and evaluate the consequences of the action. This is often called the decision-making cycle.

Farmers have to find ways of dealing with risk and protecting themselves from decisions taken today without knowing what may happen tomorrow. Risk management strategies are used to reduce the chance of a 'bad' outcome occurring. Farmers who try to manage risk should follow another sequence of steps. They need to identify the possible sources of risk; realize the possible outcomes; decide on alternative strategies available; assess the consequences of each possible outcome; and evaluate the trade-offs between the cost of the risk and the gains that can be made. Here is the sequence of steps to be followed by farmers in managing risk.

1. Identify possible sources of risk (price, pests, yield, labour).
2. Identify possible outcomes that could occur as a result of weather, price changes (low income, crop and live stock production).
3. Decide on alternative strategies available (packaging, pest control, production plan and new technology).
4. Assess consequences or results of each possible outcome for each strategy.
5. Evaluate trade-offs between the cost of risk and gains that can be made.

Farmers differ in the degree to which they accept and estimate risk. They base decisions on a number of factors. Some farmers are willing to accept more risk than others. Often farmers' attitudes regarding risk are based on their personal feelings rather than information presented to them to help them make more rational decisions.

Attitudes concerning risk are also associated with the financial ability of the farmer to accept a small gain or loss. It is unlikely that a large-scale commercial farmer would be badly affected or forced out of business from a small loss of $300 in one year, a relatively insignificant loss for the farmer. But it is unlikely that a small-scale farmer with a low income would be able to sustain such a loss. Consequently the farmer would be less willing to risk such a loss.

Text 27. Farmers' Attitudes Toward Risk

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Farmers may be divided into three types: risk-neutral; risk-takers and risk-averse.

The risk-averse farmers try to avoid taking risks. They tend to be more cautious individuals with preferences for less risky sources of income. In general, they will sacrifice some amount of income to reduce the chance of low income and losses. A risk averter does not refuse to accept any risk at all. However, the risk-averse farmer would seek to be compensated for the risk taken by receiving a higher return than would normally be obtained if there were no risk.

Risk-takers are people who are open to more risky business options. Unlike the risk-averse, risk-takers choose the alternative that gives some chance of a higher outcome, even though they may have to accept a lower outcome.

When faced with the choice, risk-taking farmers tend to prefer to take the chance to make gains rather than protecting themselves from potential losses. Even so, risk-taking farmers are still influenced by the return they could receive. Risk-neutral lies between the risk-averse and risk-taking positions.

It is useful for the farmers and those who provide support services to know their attitudes towards risk. In this way, they are more conscious of the motivation behind the risk management decisions made. While most farmers tend to be risk averse, attitude concerning risk is not fixed. Many factors influence it. Thus in one situation a farmer may be risk averse, and in another situation the same farmer may be a risk-taker.

The following are some of the factors that may influence a farmer's attitude towards risk.

– Farmers who operate under subsistence conditions tend to be the most risk-averse. The provision of food for their dependants is an overriding priority for many of them. Activities with a monetary reward are frequently sacrificed in favour of meeting the objective of producing their own food.

– Market-oriented farmers who are not willing or able to withstand the possible financial losses associated with a risk also tend to be more risk-averse. This is often true for smallholder farmers. In effect the relationship between the input costs and the value of output from the farm influences the farmer's attitude toward risk.

– Family commitments and responsibilities can also play a role in attitudes toward risk. A person without family commitments may be more willing to take risks. Similarly, older people are likely to take less risk.

– Past experience may also influence a farmer's decisions. The effects of particularly good or bad years in the past influence decisions to be made today. Again, this may be related to age; a younger person may not yet have had many experiences on which to base decisions.

Text 28. Farm Records for Decision-making

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Good risk management decisions depend on accurate information, which, in turn, requires reliable data. Good information is one of the most useful assets a farmer can have to help make rational risk management decisions. There are many sources of information available. The most appropriate place to look for information depends on the type of risk the farmer has to manage.

All farmers who are able to do so should keep farm records of their farm business. Farmers who are unable to do this should consider getting assistance. Farm records are the best source of historical production data. These can be supplemented and complemented by off-farm information, especially market and weather information. However, off-farm information is not very useful by itself. Farm records are needed to make well-informed management decisions.

Farm records provide a record of past decisions made by farmers regarding their farm performance. These records include data and information about crop yields, livestock production, cost and income. Farm records give an indication of the assets used on the farm. They also give an indication of the capacity of the farmer to produce and sell farm products. If these records are kept accurately, they will show the variations in the level of production and the prices experienced by farmers over time.

Farm records help farmers to examine their past decisions and the results of those decisions. With these records farmers are able to reflect on their decisions and assess their risk preferences. The information collected on past trends should help them to take better farm management decisions.

Farm records also provide a picture of the risks that farmers have faced in the past. They give an indication of the risk management decisions taken and the consequences of those decisions. Such information can help identify any changes that should be made in the future regarding risk management.

Answers to many questions related to risk can be found in farm records:

– What is the likelihood of dry years or drought? What is the effect of drought on yields? How variable have yields been between years?

– Which crops have performed best? What has been the performance of the livestock kept?

– What has been the effect of crop rotations? Could a change in rotation produce more desirable results?

– What cultural practices, tillage systems and timing of field operations have been used? With what result? Would a change produce more desirable results?

– What percentage of produce is sold at harvest? Are crops sold early to repay debts?

– How effective is the marketing strategy? What has been the impact of price changes on farm profitability?

While farm records provide useful information about what has happened in the past, they provide very little information about what will happen in the future.

To obtain this information farmers must look at additional sources collected by other organizations or people that might allow them to better understand past trends and predict future trends. However, there is no information that allows farmers to predict with complete certainty what will occur in the future.

Text 29. Off-farm Information for Decision-making

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Off-farm information is, just as it sounds, information that is obtained from sources other than the farm. Such information is vital for good farm management decisions.

A farmer can find information from many sources including: other farmers; agricultural suppliers; traders; extension services; private/commodity advisory services; agricultural statistics publications and broadcasts (e.g. radio); farming magazines and newsletters.

It is your job as extension workers to advise farmers where they can best find the information they need.

Most countries produce and publish historical information (statistics) about yields and prices of various crops. This information is often useful for farmers to compare with information collected from their own farm records. Farmers should be assisted by extension workers in accessing this information. Such a comparison can help farmers see the effectiveness of their farm management decisions, by determining how their farms compare with other farms in the vicinity. However, they must compare like with like. There is no point in comparing the performance of their farm with that of farms in different agro-climatic areas.

Farmers should think about the kind of information they require and then find appropriate and reliable sources for that information. They may require simple supply and demand information and market prices or more complex comparisons or projections as to future market trends. In some countries, highly sophisticated, Internet services may be available with up-to-the-minute prices or complex marketing information. Farmers in many countries are increasingly accessing price information through the use of mobile phones.

Farmers may have to pay for information. In such cases they should treat that information like an input on their farm and apply the principles of marginal cost and return. Farmers should not pay more for information than the value that the information adds to their profits.

Finally, farmers should also reflect on the quality of the information they can obtain. Some sources of information may be more accurate or reliable than others. If farmers find that the information does not lead to better decisions with desirable results, they should reconsider their information needs and sources.

As to other Information, farmers may also require more than just market and production data. They may need information to help them select new technologies, understand legal and contractual issues, and better sustain the farm environment.

Such information might include: tax legislation; import/export regulations; environmental legislation; resource conservation; food safety; water quality; animal health; farm programmes and policies.

All of these areas could affect decisions made by the farmer and influence risk. Again, it is the role of the extension worker to identify the sources of this information and convey them to their farmers.

Text 30. Strategies to Reduce Production Risk – Risk-reducing Inputsand Risk-reducing Technologies

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Production risk stems from the uncertainty regarding the factors that affect the quantity and quality of farm produce (e.g. weather, disease, pests). It also arises with the introduction of new technologies. Several strategies can be used to reduce production risk.

Risk-reducing inputs are production inputs that improve the chances of better quantity or quality of farm products. Fertilizers and compost are used to reduce the risk of low yields. Pesticides and Integrated Pest Management (IPM) practices are used to reduce the risk of crop damage. Irrigation is used to reduce the risk of low rainfall.

Not all inputs necessarily reduce risk. For example, even if fertilizer is used, the crop still depends on rainfall, which may or may not be favourable. When soil moisture levels are low, using fertilizer can still result in low yields.

Farmers, however, do not experience only one kind of production risk at a time. They often experience the risk of unfavourable weather, pests and weeds at the same time. Using a single risk-reducing input, such as drought-resistant seed will not prevent low yields caused by pest and insect damage.

To determine whether an input will reduce the risk of low yields, farmers must look at a number of factors at the same time. They should think about the effect the input is most likely to have on their crop, given other factors that also affect production. For example, hybrid seeds may increase yields in years of good rainfall but produce poorer yields than traditional varieties in years when the rain is poor. Farmers must ask themselves whether the income expected by using the input is high enough to compensate for the increased risk involved. Essentially, farmers must weigh up the costs and benefits of using an input as a riskreducing strategy.

As to risk-reducing technologies, farmers can reduce risk by learning about and applying new technologies and practices designed to address specific risks common to their area of production. For example, new varieties of seed are being developed and livestock are being bred with certain characteristics, including the following:

– drought-resistant seed for maize;
– bird-resistant seed for sorghum;
– disease- and pest-resistant seed species;

– disease-resistant livestock species;
– livestock bred to provide better productivity;
– irrigation for high-value crops;
– crops and livestock bred specifically to improve marketability.

In many countries there are examples of how genetic technology has created an economically viable opportunity to address some of the risks in livestock production. For example, programmes have been developed to provide higher quality cattle to local farmers to make it possible for them to access markets that offer higher prices.

Text 31. Strategies to Reduce Production Risk – Selecting Low-risk Activities and System Flexibility

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

There are two more strategies that can be used to reduce production risk in farming. Regarding selecting low-risk activities, one way to reduce production risk is to choose a farm enterprise that has a lower risk. In these situations farmers choose reliability over potential profitability. A farmer may forego an enterprise that has a high potential for income but also carries a high risk for loss, and choose instead an enterprise which is less profitable but also less risky. For example, some smallholder farmers may prefer a drought-resistant variety of sorghum or millet to highyielding varieties that could fail in a drought.

Risk is often associated with a lack of familiarity with a variety. Although the yield of an improved variety may be more stable than those of local varieties, farmers may not have the knowledge and experience of growing the improved variety. This lack of experience could lead the farmer to assess the risk of cultivating the new variety as being too high. Farmers are usually aware of the differences in the yield variability of crops associated with the different soils, husbandry practices and other factors on their farm. Because of the many differences, one farmer may consider a particular activity high-risk while another may consider it a low-risk activity.

Another strategy to reduce production risk is system flexibility. Farming system flexibility is an important strategy for risk management. A flexible farming system makes it possible for the farmer to make quick or short-term changes in production and sales.

Farmers who sell cash crops may also reduce risk by using available funds to enable them to change to another enterprise if the price of the main cash crop falls.

By keeping their farm systems flexible, farmers are able to make decisions in response to changing circumstances. While working with general production plans, they should keep their options as open as possible in order to respond to opportunities and risks as they occur.

It should be noted, however, that flexibility is not possible with all enterprises. For example, tree crops are generally inflexible. The enterprise cannot be changed easily and quickly. However, coffee farmers, for example, can respond to low prices by heavy pruning – hoping that yields will be good when prices are again high.

Text 32. Methods to Reduce Marketing Riskin Farming

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Marketing risk exists because of the variability of product prices and the uncertainty of future market prices that the farmer faces when making the decision to produce a commodity. Several methods can be used to reduce price variability or to set a satisfactory price before the crops or livestock are ready for sale. They are spreading sales, direct sales, contractual agreements to sell produce and buy inputs as well as forward pricing.

As to spreading sales, if the farmer is producing a crop that can be easily stored after harvest, parts of the crop can be sold at different times during the year. The farmer can watch for changes in the market and sell when prices are most favourable. This particularly applies to food grains and for seasonal produce that can be stored (e.g. apples, potatoes and onions). However, storing produce has risks, entails high costs and sometimes loss. Livestock sales can also be spread throughout the year if managed properly in terms of feeding, calving and other livestock husbandry operations. This strategy may or may not increase income for the farmer but it reduces risk and provides the added benefit of ensuring a regular cash flow throughout the year. Again, in all cases farmers need to balance the costs and benefits.

As to direct sales, it is worth mentioning that for some farmers, selling directly to final consumers may be a way to enhance profitability and reduce risk. Small-scale farmers near population centres may especially benefit from direct sales to final consumers. However, the farmers need to be sure that they can sell everything taken to market. Otherwise they may end up worse off than selling to traders. They also need to be sure that the higher prices they will get from retail sales will cover the extra costs they will incur.

Regarding contractual agreements to sell produce and buy inputs, it is important to tell that price uncertainty could be greatly reduced if farmers could make advance contracts with buyers of products. Contractual agreements can be made with a private individual or company. The farmer often knows in advance the prices that will be received. For example, a livestock feed-mill may contract to buy a farmer’s grain at an agreed price or a tobacco company may do the same for the tobacco crop. Some companies that buy produce from farmers at harvest time also sell inputs to farmers.

Marketing contracts can be either verbal or written agreements between farmers and buyers. The contracts often set the price for produce sold and the quality of the produce expected.

As for forward pricing, it is a practice where the buyer and producer agree on a price for the sale of crops or livestock in advance of delivery. An agreement is reached to deliver the crop at an agreed price, quantity, quality and time. This practice enables farmers to reduce the risk that the price they receive for their output might not cover production costs.

Forward pricing is particularly relevant for highly specialized or perishable products, and is also common for niche products although it is not widely used by small-scale farmers at present.

Here are some forms of pricing arrangements used by larger commercial farmers in more developed countries.

– Cash forward contracts are the agreements that are based on an exchange of produce at a specified future time. They allow farmers to establish a price for later delivery. The contract specifies the price, quantity and quality of produce to be delivered at an agreed post-harvest date. The contract also indicates the penalty to be paid if the farmer fails to deliver.

– Deferred pricing contracts are the contracts where the price is determined later at some specified date. Ownership is transferred before the price is set.

– Deferred payment contracts are the contracts where the current price and delivery of the produce is set but there is delay in the receipt of payment. It transfers ownership to the buyer at delivery but allows the seller to set the price later.

– Minimum price contracts provide farmers with a floor price for duration of the contract. They offer the farmer protection against a drop in price below a minimum level, while still leaving the final pricing until a later date.

– Futures contracts are the agreements that are made for a specified future time. The risks are transferred to another business that is more willing to accept them. Here the contract is sold and bought instead of the actual produce.

Text 33. Strategies to Manage Financial Risk in Farming

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Financial risk occurs when money is borrowed to finance the operation of the farm business. This risk is caused by uncertainty about future interest rates and repayment schedules, changes in the loan collateral, and the ability of the farm to generate the cash flow necessary for credit repayments.

In some countries small farmers have become bankrupt as a result of indebtedness. Farmers may purchase expensive inputs on credit, but with the failure of rainfall and consequent low yields may be unable to repay their loans. The failure to assess the financial risks associated with lending has a direct impact on their livelihoods. In some cases farmers have even committed suicide. This emphasises the risk of farming and the need for extension workers and farmers to be aware of the need for appropriate risk management.

The three aspects that need to be considered in managing financial risk are listed here.

– The availability and cost of credit and the repayment schedule.

– The farmer’s liquidity or ability to generate cash flow.

– The farmer’s ability to maintain and increase capital.

In the face of this, there are a number of strategies to manage financial risk. They are credit, liquidity, leasing assets, etc. As to credit, many factors influence a farmer's decision to borrow money, including: attitude toward risk; the size and type of farm operation; the farmer's relationship with input suppliers and output purchasers; the willingness of lenders to provide loans at conditions acceptable to the farmer. Increasing the capital available to farmers through lending enables them to expand their farm businesses but this, in turn, obliges them to repay outstanding debts and creates the risk of loan default. Increased debt raises the likelihood that farmers would be unable to meet their financial obligations in a year of low returns. Highly indebted farmers operate in an environment of greater financial risk.

As for liquidity as a financial risk management strategy, it is the ability of the farmer to raise cash. What can a farmer do if an unfavourable event happens? Does the farmer have ready cash or other assets that can be easily converted to cash to cover his or her financial obligations? Assets tied up in land and machinery are the most difficult to convert to cash, while stored inputs or products are easier to convert. Cash held at home or in a bank provides the best protection.

In the case of non-cash assets, conversion to cash is generally done by selling the asset. High liquidity means that the farmer can fairly easily convert assets to cash without the assets losing much value in the transaction. It is often very useful to maintain high levels of liquidity to provide a financial cushion against the risk of low income or increased debt. However, if all farmers in an area have to sell stored crops at the same time, the price will fall and the liquid assets will be less valuable.

As a risk management strategy, the farmer should start by selling assets that are most easily converted to cash. Less liquid assets should be sold only if and when additional cash is needed.

Regarding leasing assets, it is worth mentioning that assets are hired or rented out to another farmer for a specified period and at a specified price. The asset remains the legal property of the owner. Farmers can lease land, machinery, equipment or livestock. Leasing assets generates additional income and spreads the cost of paying for and maintaining the asset. It also allows farmers to use equipment that might otherwise not be profitable to buy.

Text 34. Other Financial Risk Management Strategies in Farming

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

There are a number of strategies to manage financial risk in farming. We have already described such financial risk management strategies as credit, liquidity and leasing assets in the previous text. Now let's have a look at managing the phasing of investments, contingencies and insurance.

As to managing the phasing of investments, this refers to decisions made by some farmers about the timing of the purchase of assets. Rather than buying all the necessary equipment at one time, the farmer may spread the purchases out over time – over the year or even over several years. In this way, farmers can limit (or perhaps even avoid) debt and at the same time build equity.

Regarding contingencies, they are often included in farm enterprise budgets as a way of building risk into the business decisions of the farmer. They are a deliberate overestimation of costs to account for the risk of unexpected increases in the cost of inputs, materials and capital items. Contingencies can generally be used in three ways when drawing up an enterprise budget: to cover cost increases; to cover costs (often a variety of small items) that have not been specifically identified but which the farmer knows are likely to arise; to cover the cost of unexpected items that may have been overlooked in the original estimation.

In each case, the farmer knows from experience that there is a possibility (therefore a risk) that this additional cost will occur. Based on that experience, the farmer can add some cost as a contingency to those costs anticipated over a growing season or year. In practice, in the case of cost increases, a contingency allowance is calculated as a percentage of the specifically identified cost (e.g. labour, ploughing, fertilizer) and is then added to that cost. The other contingency items are often included as a separate cost entry calculated as a percentage of the total costs. The amount included is usually determined by the experience of the individual farmer. It is not usually just a random amount.

Including a contingency item in a farm budget is a useful planning tool that shows the direct impact of an unfavourable event such as product price decreases, yield failure and cost increases on farm profit. If the calculation shows that the impact of the unfavourable event is too great, the farmer may not want to take the risk and will have to make some other plan for the farm. If the farmer goes ahead as planned, including the contingency and the unfavourable event occurs the farmer is covered. The farmer knows what to expect. If the event does not occur, the farmer enjoys additional gains.

Another financial risk management strategy is insurance. Some farmers, usually the 'better off' more commercial farmers, can insure their farms against major risks, which have a low chance of occurrence but may have very adverse consequences. Such events include: the death of a farmer or a family member; sickness and accidents that disable the farmer; fires or other hazards that destroy capital items; loss of crops by hail, storms and floods.

The farmer usually pays an insurance company (private or public) to provide protection against the consequences of these major risks. If the unfavourable event occurs, the insurance pays out compensation in terms of the insurance agreement. Crop or weather insurance is a simple risk management strategy. What is covered is clear and the cost is immediately known. However, farmers need to make careful calculations to determine the impact of the cost of the insurance (i.e. the premium) on their net income. It is rare that insurance is offered to smallholder farmers and affordable for them to use.

Text 35. Strategies to Manage Institutional Risk in Farming

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Institutional risk refers to unpredictable changes in the provision of services, such as the supply of credit and purchased inputs, and information from both formal and non-formal institutions. It also refers to uncertainties concerning government policies that affect farming. There are a number of strategies to manage institutional risk.

Talking about traditional institutions and social arrangements, it is worth mentioning that the customs and organization of traditional societies tend to provide the individual family with a measure of security against risk. As part of a survival strategy the close bonds between community members have resulted in mutual assistance and self-help when required.

Generally, the more fortunate and able members of the community are obliged to help their kinsmen or neighbours in times of need. This may relieve the situation in cases of sickness, injury or death of an individual member; however, it is less effective in situations where the entire community suffers. For instance, failure of rainfall or an attack of crop pests may affect all community members in the same way.

As to producer group, when farmers have sufficient trust in each other there is scope for them to work together informally as a producer group in order to reduce some of the risks associated with credit mobilization, the purchase of inputs and marketing. Groups for credit and marketing purposes can produce: economies of scale in input procurement, loan administration and marketing of produce; capital accumulation through savings and credit mobilization; timely delivery of services.

The risk reducing function of farmer groups comes from the pooling of capital of individual farmers into a common fund, collecting and disseminating information to its members, and bulk buying and marketing.

Producer groups also serve to provide information to their members on the sources of additional financing, the potential prices of produce sold, the cost of inputs purchased, and the quality of those inputs and final products. Information of this kind shared with their members enables them to better cope with the many risks affecting the farm household system.

The first step in the process of group formation is for farmers to understand the benefits of working together and to show commitment to coordinate their activities.

As for cooperatives, it is important to mention that forming and participating in more formal cooperative organizations also provides farmers the opportunity to benefit from volume sales of produce, bulk purchases of inputs and supplies, and the mobilization of credit.

Cooperative marketing involves: consolidating loads to facilitate bulk buying by traders or bulk transport; sharing transport to reduce costs; negotiating jointly with buyers; purchasing inputs collectively to reduce costs; mobilizing savings and credit, with members providing mutual guarantees.

Credit for individual farmers is more easily accessible through cooperatives and at lower transaction costs. Loan default and the costs of collecting delinquent loans can similarly be reduced when individuals are jointly liable for group loans. However, cooperatives and similar groupings are sometimes the source of risk for farmers, e.g. when the managers or officers misappropriate the funds.

Text 36. Strategies to Manage Human and Personal Risk in Farming

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

Human risk refers to the risks to a farm business caused by illness and the personal situation of the farm family. It also covers issues that relate to hired workers.

Let's start with human resource management. An aspect of managing risk for larger farmers is good human resource management. This includes:

– selecting casual workers with suitable skills and experience;

– ensuring workers are employed according to the relevant law (including fair pay);

– regular communication;

– ensuring the safety of workers;

– providing adequate supervision and discipline.

Now let's move on to labour planning. Another aspect of human risk management involves strategies to guard against unexpected changes in the availability and productivity of labour. Careful labour planning, such as using a seasonal labour calendar, ensures that farmers know exactly what and how much labour is needed at various times during the production season.

Finally, let's consider labour productivity. To address labour productivity risks larger farmers may replace hand labour with animal power, tractors or motorized implements. Different production programmes including changing farm enterprises and enterprise mixes may also be looked at. Intercropping, improving farm layout, introduction of labour-saving technologies and similar actions can all contribute to a risk management strategy.

Text 37. Risk Management Strategies: The Need for Combinations

Источник: http://www.fao.org/3/i3229e/i3229e.pdf

All of the strategies described in the previous texts are aimed at generating greater security for the farmer. However, it is for the farmer to decide if the benefits gained outweigh the direct or implied cost of the strategy. Making this decision involves a number of steps:

– Identify the most appropriate strategy.

– Determine the degree to which risk may be reduced (i.e. the benefit).

– Identify the cost of implementing the strategy.

– Weigh up the costs and benefits and decide whether or not to implement the strategy.

It is important to note that some aspects of costs tend to be more important than others in choosing between risk management strategies. Also the various kinds of risk to which a farmer is exposed do not occur in isolation. Over the years a farmer will experience the consequences of many risks. It is therefore necessary to consider all of the risks involved and develop an integrated approach to manage them.

Often a risk management strategy to cover one risk may increase another. Take, for example, a farmer who decides to diversify his crop to cover production risks. The choice of crops could increase marketing risks because, although the new crop is likely to be profitable, there may be a higher risk of price fluctuations.

Farmers should develop a broad range of strategies that take into account the advantages and disadvantages (benefits and costs) of each risk management option individually and in combination.

Key questions that can help a farmer make these decisions:

– What risks is the farmer facing? What is the likelihood of these unfavourable events occurring? What are the consequences of these risks?

– What risk management strategies are available to the farmer?

– What effect do the risk management strategies have on the events or consequences faced?

– What are the economic benefits and costs of the options?

– How do these benefits and costs vary for each of the farm enterprises?

– How do the best risk-reducing options fit together? How do they affect one another in terms of costs and benefits and in terms of creating new risks?

When farmers explore these and similar questions, they will be in a better position to decide on the range of risk management strategies that are most effective for their farm. These strategies should take into account their household and farm goals, their attitude toward risk and their unique family, household and farm situations.

38.03.01 – Экономика
Профиль: Цифровой учёт и налогообложение

Text 1. What Is Digital Accounting?

Источники: https://fullyaccountable.com/what-is-digital-accounting/, https://lerablog.org/business/economy/finance/accounting/what-is-digital-accounting/

Digital accounting refers to the creation, representation, and transfer of financial information in an electronic format. Instead of using papers, all accounting transactions are conducted in an electronic environment.

The concept actually originated from the need to establish a more efficient taxation system. Digital accounting surfaced in 2003 as a project of the Federal Government to modernize the Tax and Customs Administration (PMATA). Then came the Electronic invoice (NF-e) and the Digital Bookkeeping System (Sped) in 2009. In 2015, the Digital Bookkeeping System Tax, Social Security, and Labor Obligations was introduced.

To clarify a misconception, digital accounting doesn’t eliminate the role of an accountant or dismiss the importance of accounting routines. It rather values and empowers accounting professionals by making their work more efficient.

Computers and technology have transformed the accountancy sector. Digital accounting – carrying out financial management and reporting in an electronic format – is the new norm.

Advancements in technology mean that accountants can report on and interpret data much faster and more efficiently. This has changed the face of accountancy, allowing digital accountancy firms to enter the sector, offering a broader range of services than traditional accountants.

The cloud technology has had a significant impact on the way accountants work. Accountancy platforms now have capabilities far beyond basic bookkeeping. They can communicate with other apps to create a business platform that your organisation can use to manage your operations. The platforms can also be accessed remotely on different devices, meaning you can do accounts-related tasks in real time. For example, you can scan receipts on a smart phone and upload them straight into an expenses app.

With many organisations using accountancy software to do their own bookkeeping, it has freed up accountants to focus on advisory services such as business planning. Accountants are becoming strategic partners to their clients, offering greater value by providing insight and advice to help with business growth.

Your business may still use spreadsheets and hand-written ledger cards to record financial transactions. If so, you will have to move to a digital system as the Government introduces measures for all businesses to file their accounting information digitally.

The Making Tax Digital initiative aims to simplify the tax administration system and phase out paper record-keeping.

At the moment, VAT-registered businesses above the £85,000 threshold must submit their VAT returns electronically. The Government was going to introduce other measures in 2020, but they have been temporarily postponed because of the coronavirus pandemic.

Future measures include accounting records being kept in a digital form and tax returns will be submitted electronically from HMRC-approved accountancy software.

Text 2. Advantages of Digital Accounting

Источник: https://lerablog.org/business/economy/finance/accounting/what-is-digital-accounting/

Digital accounting offers many advantages for your business over manual accounting methods.

– Real-time visibility:Rather than having to wait until the end of the year to see your accounts, digital systems let you see your financial position in real time. As information is put into the system, it updates your records so you can access reports as and when you like.

– Improves planning capabilities:You can take a proactive approach to business planning thanks to the real-time visibility digital accountancy software offers. You can adjust forecasts as you need to rather than at the end of the year, reducing the chance of issues impacting your business.

– Increases productivity: Accountancy software lets you access reports with one click, significantly reducing the time it takes to produce them. It also streamlines procedures and automates routine tasks.

– Accessibility:Cloud-based accountancy software can be accessed from different locations and devices. It means you are not limited to being in the office to work on or view your accounts. Having all your financial data in one place also makes it faster and easier to find information and produce audit trails should you need them.

– Better security: Your organisation has to comply with strict regulations relating to data, such as GDPR (General Data Protection Regulation). Digital accounting software provides several layers of security to keep your data safe, such as encryption and firewalls.

Text 3. Why Your Accountant Needs to Be Digitally Savvy?

Источники: https://fullyaccountable.com/what-is-digital-accounting/, https://lerablog.org/business/economy/finance/accounting/what-is-digital-accounting/

Technology has transformed the financial industry. In the past, business owners had to hire accountants that would record and process financial data manually, costing them more time, money, and effort, as well as human errors. Today, automation in digital accounting has allowed business owners and their accountants to complete functional tasks more quickly and accurately, as well as interpret and report data more efficiently. This way, business owners can focus on their strategic roles and handle complex issues, such as ensuring better cash management.

If you've bought into using a digital system for your accounting needs, you'll need an accountant who understands technology. Technology can help advance and grow your business, so your accountant needs to have a digital mindset to support your needs.

Your accountant should be able to advise on the best software and apps for your business, ensuring they meet regulatory requirements and produce valuable management information. Your accountant will also need to have the digital tools in place to scale up according to your growth requirements.

The accounting staff will need to be trained to help you meet the requirements of the Making Tax Digital initiative. They should also be able to help with upgrading your accounting systems for the new tax reporting system.

Digital accounting will continue to evolve as new technologies emerge. Accountants will adapt their working methods and offer you more enhanced services over and above financial reporting. Make sure your business uses their experience and advice to help develop strategies to grow your business.

Text 4. Benefits of Digital Accounting. Part I

Источник: https://fullyaccountable.com/what-is-digital-accounting/

Let's discuss the benefits of digital accounting.

– Accurate and Scalable: The most sought-after feature of software and machines is that they aren't prone to committing mistakes. Providing accurate results and staying free from errors, automated software and services are much more reliable than traditional accounting practices. In contrast, human error is inevitable when we compile data. Accuracy is extremely important because businesses rely on data to make critical decisions. Imagine taking a poor business decision based on inaccurate accounting data that causes the business to fail. Digital accounting solutions help avoid that.

Apart from accuracy, a digital accounting system has also proved popular among entrepreneurs due to its scalability. For a startup, managing accounts manually should be okay in the beginning but as the business grows, the accounting system will require massive upgrades to support the increase in the scale of operations. Hiring too many professionals to handle the increased accounting needs can prove costly. A digital accounting system is an inexpensive way to scale your accounting practices during the growth stage. When you have reliable accounting software, all you need is a simple software upgrade to address the growing needs of your business.

– Remote Access: Another major benefit of a digital accounting system is that it provides you with remote access to your company's financial data. This means that professionals need not be at the office or carry their laptops everywhere to access critical information. As cloud-based solutions, digital accounting software packages allow you and other employees to log in to the system from anywhere and at any time to track results and data.

This is particularly helpful for cash flow management. If your cash flow position is unstable, you might be going towards bankruptcy. That being said, cash flow is the lifeblood of your company. For efficient cash flow, decision-making plays a crucial role. With a cloud-based accounting solution, you can analyze your cash flow remotely and make quick decisions regarding payments, investments, etc. By monitoring cash flow online, you should develop a better relationship with your business's finances. In other words, you should have better control over the inputs and outputs of your accounting system at the end of the month, the end of the week, or even the end of a particular business day. Analyzing financial projections should then be clear and secure, and you can rest assured that the money will be available when payments are due. Real-time access to cash flows also puts you in a much better position to decide on the financial future of the company. You are likely to make accurate predictions and make rational long-term decisions.

– Easy Invoicing and Payment Tracking: Without keeping up with invoicing and payment tracking, there's no way to minimize delayed payments from your customers. There might be too many distractions keeping you from following up with debtors. This can adversely impact your cash flow position. A digital accounting system happens to be the best solution to the problem as it automates the process of sending invoices and payment requests.

Text 5. Benefits of Digital Accounting. PartII

Источник: https://fullyaccountable.com/what-is-digital-accounting/

Let's continue considering the benefits of digital accounting.

– Convenience and Improved Pace of Productivity: Ease of use is another incredible advantage of switching to a digital accounting system. As opposed to manual accounting practices, accounting software applications are super easy to operate, offering comfort and convenience to users.The underlying purpose of accounting is to maintain a record of business transactions on an annual, quarterly, or monthly basis and analyze those numbers and data to make business decisions. In a manual accounting process, an accountant may have to spend hours or even days gathering information for the past year and creating a cash flow statement and other financial statements from it.

A digital format, on the other hand, provides you with the comfort of running different automated financial tests on easily accessible data, allowing the accountant to set up the financial statements within minutes. Professionals can save a lot of time compiling and presenting the same reports and numbers, thereby accelerating the processing of online transactions. This, coupled with better decision-making, translates into high efficiency and increased productivity. By automating many of the accounting functions through digital accounting, you can dedicate more staff to other essential functions such as business development or sales. This means you should be able to generate more revenue with the same amount of resources.

– Better Integration and Syncing: One of the biggest challenges associated with manual accounting systems is poor compatibility with other tools used in your business. The best digital accounting solutions offer amazing flexibility in terms of integrations with other business tools such as the point of sale system, payroll, website order fulfillment, and more. The cost of these integrations is often zero or negligible. These applications comprise ecosystems of hundreds of business applications that enable data sharing freely.

On top of that, integration services such as OneSaas, IFTTT, and Zapier can extend the number of programs your accounting program can connect with for some cost. When you integrate a digital accounting program with another online business application, both can update each other in real-time, daily, or on-demand by automatic syncing of data. This is an incredible replacement to the hectic export-import routine used to manually transmit data from one platform to another. That’s the reason why manual accounting processes fall behind, leading to incomplete versions of data in different programs. The simplest of errors like incorrect postal addresses can result in unhappy customers and lost sales.

The automatic data syncing with digital accounting solutions means that you only need to update an address or email in one place and the change will be automatically implemented to other programs. As your business grows, these integrations will become more and more important. The simplicity of future business processes will depend on them. However, not all accounting software offers high flexibility in terms of integrations and offer two-way data syncing. Some will only pull data or push data, while others will do both. So, be sure to examine these features when choosing an accounting application.

– Bank Reconciliation Made Easy: You might be doing remarkably well in manually recording the day to day transactions, but figures must also remain consistent with those in the bank statement. Digital accounting solutions come with good reconciliation tools that make it easy to track errors in transactions and processing as well as to detect theft and frauds.

Text 6. Benefits of Digital Accounting. PartIII

Источник: https://fullyaccountable.com/what-is-digital-accounting/

Let’s have a look at some more benefits of digital accounting.

– Security and Agility: While paper-based accounting records aren’t totally secure (can be stolen or destroyed by fire outbreaks or natural disasters), data security becomes a bigger concern when it comes to digital accounting. The problem with storing and managing data in-house is that unless you have solid data recovery measures in place, you can lose all your data in case of a system crash or failure. Imagine losing accounting data obtained through years of hard work in a flash. Cloud-based accounting solutions are a tremendous solution. These solutions come with cloud storage backed by multiple data centers for data backup. Many rely on SSL technology for data encryption like those used to secure financial information in banks. With a digital accounting solution, you should be able to retrieve or backup your data even if things go wrong.

– Facilitates Tax Preparation: Manual accounting practices make it extremely difficult to gather tax-related documents and prepare for the filing of the upcoming returns. It also leads to poor financial tracking, making it difficult to set aside funds for tax payments. Not preparing for the tax filing as the deadline draws nearer can put you in serious trouble. While you can't avoid the tax burden, a digital accounting system can simplify the preparation and filing process for you. With a solid financial tracking system, digital accounting not only helps you arrange and separate funds for tax payments proactively but also simplifies the calculations for tax. This should exempt you from agonizing stress associated with taxation. Poor financial tracking specific to manual accounting procedures also means you can miss out on possible tax write-offs and available deductions available for your company. To avoid overlooking payments that be used for tax deductions, consider switching to a digital bookkeeping and accounting system.

– Specialized Functions: The ever-advancing tech industry seems dedicated to creating an app for every business function. Hundreds of niche applications have been developed to cater to different industries, from farming to retail to architecture. Depending on the complexities involved in your business, you might be able to find a digital accounting solution that works better for your business than others. Online retails, for example, involve hectic inventory management. You may want to choose an accounting platform that comes with an efficient inventory management system. In other cases, your accounting program can connect to other specialized apps.

– Allows You to Obtain Real-Time Advice: More and more accounting experts are breaking open from tax services and seizing the opportunities to provide real-time advice to entrepreneurs. With a digital accounting system, your data remains up to date. This puts you in a great position to seek financial advice. Using readily available data, a financial expert can analyze the numbers and offer real-time advice on the easiest and fastest way to improve them. While some accountants can charge by the minute, some require a fixed fee for quarterly or monthly consultations and phone calls to counsel you in growing your business.

Text 7. Common Features of Agriculture and Farm Accounting Software

Источник: https://www.softwareadvice.com/accounting/agriculture-software - comparison/#evaluation

If you're a farm, ranch or other agricultural entity, you need accounting software that has more functionality than what's found in a basic system. For example, you need to be able to track inventory for perishables and livestock, including births, deaths, birth weights, weaning weights and more. You also need to be able to keep track of inventory in multiple units of measurement depending on the type of crop or commodity you're selling. If you have more than one farm or plot, these needs are magnified tenfold.

With features for things like inventory management, asset depreciation, purchase orders and budgeting, agriculture and farm accounting software is designed to cater for these specific needs. Talking about common features of agriculture and farm software one should understand that as well as the core ag modules like payroll, accounts receivable and accounts payable, farm bookkeeping software may have some or all of the following features:

– Crop/livestock inventory management: Agricultural software should track the additional data needed for farms and ranches, including seeds planted, fertilizers and chemicals used, livestock parents/birth weights etc. This will in turn support PTI compliance and feed into the sales and grower accounting systems.

– Warehouse management: Farming accounting software should also manage the inventory for fertilizers, chemicals, seeds, heavy equipment, the receiving, pallet and case labeling, re-packing and pick ticket management.

– Ag ratio analysis: Grower reports analyze the percentage of crops planted to yield produced, so you can price accordingly, identify best practices and increase yields for future seasons.

– Breeding & growing calendars: Agriculture is a highly seasonal industry, and so much depends on the time of year, the age of the animal or crop and the products used to support its growth. A farming software solution may include a calendar to track actions like planting, fertilizing, spraying for pests, harvesting, gestation, births, weaning etc.

As to Farm Accounting Software prices, it is worth mentioning that budgeting properly for farm accounting software is just as important as finding the right system, so buyers need to ensure that they know all of the costs associated with their farm accounting software, and when they must be paid, beforehand. Here are some typical accounting software pricing models that you will run into during your research:

– Perpetual license: With these products, you pay one cost upfront and own the software for as long as you want to use it. These systems are almost always on-premise systems that you install directly onto a computer or server, which are becoming increasingly rare due to the growth in popularity of web-based products.

– Flat subscription fee: More common among smaller accounting offerings, buyers here pay a flat monthly or annual subscription fee to use the software. Some vendors have one set fee for their accounting system, while others have different tiers with a higher fee as you add more functionality.

– Contingent subscription fee: Buyers here also pay a monthly or annual subscription fee, but this fee is contingent on how many users are going to be in the system or how many employees are going to be paid through a payroll module.

Besides the license cost, there may be also be fees for implementation, maintenance, training and data migration. Be sure to ask each farm accounting software vendor about their specific pricing model.

Text 8. Evaluating Agriculture Accounting Programs

Источник: https://www.softwareadvice.com/accounting/agriculture-software - comparison/#evaluation

Before evaluating your options, you must determine what type of buyer you are. We've found that more than 90 percent of buyers fall into one of these three categories:

– Small business buyers. These small farms are on the verge of upgrading basic systems, like QuickBooks, to support more sophisticated agriculture-specific functions like forecasting, product management and ratio analysis. As ranches and agriculture entities reach a certain size and require advanced functionality to grow, businesses will need to upgrade their systems.

– Enterprise buyers. These buyers represent farms and agriculture organizations that need the functionality of a full enterprise resource planning (ERP) suite for a large entity. Seamless integration is usually more important than specific features; however, there is considerable differentiation in both of these areas, and buyers should examine both. Sage and Microsoft Dynamics are two of the largest vendors for ERP and offer sophisticated systems.

– Best-of-breed buyers. These buyers need stand-alone software solutions for specific functions. For instance, while agriculture organizations need systems for core functions like payroll, they also need programs with specific features for inventory management or crop/livestock ratio analysis. These buyers may seek a product that has deep functionality in one of these application areas rather than a full financial planning suite.

As to evaluating agriculture accounting programs, it is worth mentioning that agriculture-specific solutions should be able to handle the wide variety of agriculture costs.

Providing crop break-even analysis in consideration of fertilizer, chemicals, seed and rent on land by individual field, acre or bushel is crucial for a precise agricultural accounting resource.

The appropriate solutions package will also come equipped with farm industry standard ratios to gauge financial efficiency with respect to the agriculture industry.

When evaluating these systems, buyers should consider the following:

– Does the system support agricultural inventory types?

– Are the appropriate industry standard ratios included in the software?

– How many different farm operations can the program support?

– Can the system forecast based on hypothetical environmental conditions?

Text 9. Top 3 Most Reviewed Agriculture & Farm Accounting Software Systems

Источник: https://precisionagricultu.re/top-10-most-reviewed-agriculture farm-accounting-software-systems/

Here are top 3 most reviewed agriculture and farm accounting software systems.

– Blue Skies Accounting (BSA):It is designed specifically to provide easy but thorough bookkeeping for agriculture producers. It takes a visual approach to accounting and integrates with Windows and Microsoft Office. The system is ideal for a number of industries, especially those where cost accounting is important. Today, the system is used by small to mid-sized farms, ranches, labor contractors, nurseries, vineyards, general contractors and accountants and bookkeepers in a variety of fields. AgData easily handles large payroll, multiple companies and diverse cost centers. It can be networked, and its ease of use makes it a favorite teaching and live management tool on university farms.

Cost Accounting defines enterprises to match a grower's selection of ranch, field, crop, variety, herd or management contract option. It also generated specific P&L statements for each enterprise. Labor costs are integrated automatically when payroll is used. The core of BSA includes General Ledger, Cost Accounting and Payroll, with GL and Payroll offered as stand alone. Option modules include AP, AR, Check Reconciliation, Budgeting, Labor Contractor Invoicing and more. For businesses or the self-employed who are looking for a scalable, comprehensive financial management system that is simple to learn and to use, BSA provides a unique fit.

– Intacct Financials and Accounting System: It is a Web-based financial accounting software system with a broad set of functionality for small to mid-sized businesses. Founded in 1999 in San Jose, California, Intacct now serves over 30,000 users. The system is meant for a wide variety of industries as a horizontal accounting system.

Intacct can support applications for core accounting, time and expenses, revenue management, project accounting, order and billing, purchasing, global consolidations, multi-currency management, and financial reporting. Intacct is web-based Software-as-a-Service (SaaS) and can be accessed on demand through a browser over the Internet. Oracle is the database for Intacct, while the applications and data are hosted in IBM e-business Hosting Centers. Disaster recovery functions are provided by Sungard.

– BillQuick: Itoffers some of the most flexible time billing and accounting solutions on the market, both in terms of functionality and deployment. Available as a stand-alone solution, self-hosted or a cloud service, BillQuick offers comprehensive business accounting, project management and business intelligence in a system flexible enough to support a variety of industries, including construction, architecture, engineering, accounting, consulting, graphic and interior design and more.

Increase revenue by reducing your overhead with more accurate time tracking. That, with simplified billing and project accounting is available to professionals working from a PC, via the web or on a network. Exchange data via email, hand-held computers and smart phones. This deployment flexibility can support various smartphone platforms, including the iPhone, Blackberry and Android. The solution also comes with over 400 customizable report templates and more than 150 invoicing templates.

This flexibility extends to BillQuick's integration with third-party accounting software, in which BillQuick complements a company's existing accounting program. BillQuick has certified partnerships with Microsoft, Intuit, MYOB Australia and more to ensure that you can easily extract, customize and present accurate information.

This scalable, highly configurable software solution leads to better client communication, faster billing and, ultimately, lowered administration costs. The Software has been in the business for 16 years, has over 300,000 users worldwide and is a 5 Star award-winner from the CPA Technology Advisor for the last seven years in a row. For a complete professional services solution complete with accounting and customer management functions, businesses should look into BillQuick.

Text 10. Income Taxation in Agriculture in the UK

Источник:
https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/CA/APM/WP(2018)30/FINAL&docLanguage=En

The agriculture sector in the United Kingdom accounts for 71.6% of land usage in 2018. Taxes from agriculture are collected by the central government as agriculture is mostly exempt from paying local taxes. For tax purposes, in general agriculture is treated the same as other businesses, however some tax concessions for agriculture and forestry exist. Concessions specific to agriculture provide tax relief for the capital taxation in inheritances encouraging the transfer and continuity of agricultural businesses between family members. Farmers also benefit from flat rate VAT schemes and income averaging provisions. The income averaging scheme is not only provided to the agriculture sector but farmers out-number the other groups able to benefit from the provisions. Intensive horticultural producers are able to claim back excise duty on heavy oil used for heating glasshouses and all farmers pay a special reduced excise tax on diesel fuel for use on-farm.

As to income taxation, owner-operators pay income taxes on farm profits subject to the normal progressive rates. However, farmers can average profits over two or five successive years when either the (average) profits of the earlier year(s) are 75% or less than the other or last year, or there is no profit in one of the years. In the averaging, profits are calculated after the deduction of net capital allowances (mostly the depreciation of capital assets according to rates determined by the taxation authorities less any proceeds on disposal of assets). Although not exclusive to agriculture, farmers (involved in the following activities: farming, market gardening or the intensive rearing of livestock or fish) use the averaging mechanism more than artists and writers, who are also entitled to average their incomes, simply because there are a larger number of farmers. The government aims to support farmers by smoothing fluctuating profits using the tax system to enable better business planning.

Special rules apply to 'hobby' farmers in their ability to offset losses in agriculture against income from elsewhere; losses incurred by hobby farmers and market gardeners are not permitted to be set against income from elsewhere after five consecutive years of losses. Farm businesses arranged as companies are charged corporation tax on their profits and are not eligible to benefit from averaging. While the majority of farms are run as owneroperator businesses, there are a number of farm businesses arranged as companies, usually with tax minimisation in mind.

Farmers may also benefit from Herd Basis, which allows for treatment of livestock kept for the sake of the product (e.g. milk or eggs) or offspring (breeding livestock) as capital assets rather than trading stock, and any profit from the sale of the herd is not taxed as trading income. To qualify farmers must elect to use the herd basis mechanism when they commence keeping animals. Once in place the herd basis must be used for as long as the farmer continues to keep animals of the class specified under their herd basis application. However in the case where a herd or a substantial part of it (20% or more) is compulsorily slaughtered the farmer can claim the herd basis for tax purposes.

Current income from the occupation of forestry (both the cost and revenue sides) is not taxable. However, profits from the rental of commercial woodland are taxable.

Text 11. Property Taxation in Agriculture in the UK

Источник:
https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/CA/APM/WP(2018)30/FINAL&docLanguage=En

Agricultural land and associated buildings used for production are exempt from the annual local property tax levied on other business assets (business rates).

Agricultural Property Relief (APR) provides tax relief from inheritance tax (the capital tax levied on transfers on death) for the agricultural value of land and property (rather than the market value of the land) at a rate of 100% (i.e. the land is not taxed) if owner-occupied, or by 50% if tenanted under the normal long-term letting arrangements. The tax relief is generous provided that the land is being farmed. If farm buildings have a development value, APR will not apply but Business Property Relief (BPR) may be possible. This mechanism encourages the business continuity of inherited agricultural operations.

Individuals disposing of assets for a gain may be subject to capital gains tax (CGT). The amount of CGT paid will depend on the type of asset being disposed of, the individual's overall income, and any reliefs available including the individual's annual tax-free allowance (the Annual Exempt Amount). Gains made on disposals of agricultural property are generally charged to the main rates of CGT (10% and 20%). Where used for the owners' trade, agricultural property is largely treated the same as any other business asset on which reliefs may be available. Capital gains realised by farms structured as companies are subject to corporation tax.

To encourage the preservation and protection of national heritage relief from inheritance tax and CGT is available to owners of heritage properties in certain cases. Land (including woodlands) and buildings, works of art and other objects can all qualify as national heritage. Under the 'Conditional Exemption Tax Incentive Scheme' landowners meeting certain criteria can claim conditional tax exemptions. Separate exemptions also apply to the value of commercial woodlands.

Text 12. Taxes on Goods and Services in Agriculture in the UK

Источник: https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/CA/APM/WP(2018)30/FINAL&docLanguage=En

The standard rate of VAT is 20%. Almost all agricultural output (i.e. basic foodstuffs) has a VAT rate of zero. Farmers can choose to operate under the regular value added tax regime (but with output zero-rated, which implies that they can claim back tax paid on inputs). Alternatively, they if they are not VAT-registered they can use the Agricultural Flat Rate Scheme, under which they are not required to account for VAT, submit VAT returns or make claims for VAT paid. Instead they can charge a flat rate of 4% on their sales of goods and services to VAT registered customers. The flat rate is not VAT but compensates farmers for not being able to claim back input tax on items they purchased for their businesses.

Farmers whose primary activity is to buy and sell animals, or those who are engaged in an activity once removed from farming (e.g. they process farm produce) or those with non-farming activities generating incomes of more than GBP 85 000 are not eligible to join the Agricultural Flat Rate Scheme.

Another administrative simplification option is for farmers to choose to participate in the Flat Rate Scheme, which is available to all VAT-registered businesses with turnover under GBP 150 000. Under this scheme there are sectoral flat rates including an agricultural rate.

For fuel for agricultural uses there is a special low rate of excise tax (GBP 110 per 1 000 litres of red diesel, compared with GBP 579.5 per 1 000 litres for road diesel). This is worth approximately GBP 0.66 billion per year.

Horticultural growers can claim back the repayment of excise duty on heavy oil used for heating to grow horticultural produce.

Vehicles used for agriculture, horticulture or forestry are exempt from annual vehicle tax. This includes tractors, agricultural engines and light agricultural vehicles used off-road and limited use' vehicles used for short journeys (not more than 1.5 kilometres) on the public road between land occupied by the same person.

The Climate Change Levy (CCL) is an environmental tax on energy supplies to industry, commerce, agriculture, local administration and a number of other services. It is intended to encourage the efficient use of energy by effectively increasing its price and is part of the United Kingdom's efforts to reduce greenhouse gas emissions.

The levy covers different forms of energy including electricity, gas, LPG, coal and coke. Oil-based fuels are exempt as they are either liable to road fuel duties or to other excise duties. In April 2019, the CCL rates charged on energy were increased. To ease the CCL's impact on energy-intensive business sectors a number of exceptions to the regime are in place. By entering into a climate change agreement (CCA) with the Environmental Agency businesses can pay a reduced rate on CCL charges. A CCA is a voluntary agreement to reduce energy use and CO2 emissions. Businesses with CCAs receive a reduction of 90% of the CCL rate paid on electricity bills (increasing to 93% in 2019), and a 65% reduction on all other fuels (increasing to 78% in 2019).

The British National Farmers Union (NFU) has a CCA which its members growing crops in green or glasshouses can sign up to so as to receive CCL discounts in return for meeting agreed energy efficiency targets. The CCL tax discount is available until March 2023 for those producers achieving the targets.

Text 13. Method of Income Calculationin Agriculture in the UK

Источник:https://edepot.wur.nl/23200

The agricultural industry is taxed in the same way as other industries. There are no special income calculating methods. Legally unincorporated businesses are not required to produce a full set of accounts, but only required to prepare a statement of profit or loss for the Inland Revenue. Income tax is assessed according to a scheduler system, based on the nature of its source, for example:

A. rents receivable from UK real estate;

B. repealed;

C. interest on government stocks taxed at source;

D. income from trades and professions; interest and other income classed into various cases:

- case I: Profits of trade;
- case II: Profits of a profession or a vocation;
- case III: Interest received gross;
- case IV: Income from foreign securities;
- case V: Income from foreign possessions;
- case VI: Other annual profits;

E. employment income;

F. dividends received from resident companies.

The two most important schedules are schedule E, which covers income from employment, and schedule D, which includes income from trade, profession, business and other annual profits. Income from farming and market gardening are chargeable under case I (profits of a trade) in schedule D in the same way as income from other trade (NILF, 2002). Schedules affect the expenses one can deduct from one's income and also when tax has to be paid. They also distinguish investment income from earned income. Schedule A is also important, as it taxes landlords' incomes from letting agricultural estates. Some special rules apply to the agricultural assessments here.

When determining the taxable profits of a business such as a farm, only revenue expenses may be deducted and capital expenses are prohibited as a deduction. Within a partnership, the profit is divided between the partners (EFAC, 2000). An individual's taxable income is calculated by first ascertaining his total income (i.e. the total of schedules A to F). Total income comprises income from all sources, after allowable deductions from each source of income have been made, less certain other specified deductions. Personal deductions are then subtracted from this amount to arrive at the final figure of taxable income (IBFD, 2004). Examples of expenses that cannot be deducted from profits are: depreciation, losses on the sale of capital items such as plant and machinery, payments relating to capital items and the proportion of expenses relating to personal use. An adjustment will also be made to include the market value of any produce used by the farmer and his family.

Text 14. Stocktaking in Agriculture the UK

Источник:https://edepot.wur.nl/23200

Stocktaking forms an integral part of the accounting process and is undertaken to match revenue expenditure against sales income. Stocks of crops and animals which have not reached their intended sales stage are carried forward at cost, so that the cost incurred prior to the accounting date can be set against the sales revenue when this is in a subsequent accounting period. Where the net realized value of an animal, which has reached a recognized marketing point is less than its cost, then the net realizable value is substituted so that stocks are carried forward under the standard United Kingdom accounting convention of 'the lower of cost and net resalable value'. Where the farmer's costs are not precise enough to identify the costs which are carried forward (forage crops consumed by animals are particularly difficult to cost) then a 'deemed' cost may be used. This is expressed as a percentage of the market value of an animal or harvested crop at the date of the accounts.

The deemed cost for cattle is 60% of open market value and 75% for pigs and sheep. A herd would normally form part of the farm's trading stock, but a farmer may make a herd basis election in respect of one or more production herds, which has the effect of excluding herd from stock and treating it as a capital asset. Production herds for this purpose are herds kept mainly for their produce such as for milk, wool, eggs and calves. The herd for this purpose only includes mature animals, i.e. those that have produced their first young. The costs of purchase of the herd and additions or improvements to the quality of the herd are not allowed as trading expenses. When an animal is replaced, the proceeds are included in the trading account, but the cost of a replacement animal, of a similar quality, is allowed against profit. Consequently, if the herd is maintained at the same numbers and quality, the value of the herd for tax purposes will remain unchanged.

Immature animals are still included in livestock on the trading account and stock valuation. If they produce young which are added to the herd, they are 'sold' into it at the cost to the farmer who has reared the animal up to maturity. If the numbers in the herd are substantially reduced (by at least 20%), the profit or loss on the animals, which are disposed of and not replaced, is tax-free. If fewer animals are sold, the sale proceeds are included in the trading account and the original cost of the animal (or the one it replaced) is deducted to arrive at the profit to be charged to tax. An election once made in the herd cannot be withdrawn (EFAC, 2000).

Interest paid by an individual is allowable as a general deduction from income if it is:

- loan interest, whether annual interest or not, but excluding interest on a bank overdraft; or

- a qualifying purpose, i.e. the acquisition of an interest in a partnership or the acquisition of machinery and plant for use in a partnership or employment (IBFD (International Bureau of Fiscal Documentation), 2004).

Forestry is entirely outside the scope of taxation (although subject to some capital gains and inheritance taxes). There is a system of grants available, which encourages the necessary planting, but grants and proceeds of sales following felling are not taxable. Closing down the trade can also involve exceptional income tax because unrealized profits, which may exist in the form of stocks, will be cashed. For accounting purposes, these are normally valued at the cost of production and often well below market values. Losses on the cessation of trade can be set back against profits of the previous three years (EFAC, 2000). Social security contributions are not deductible for income tax.

Text 15. Capital Gains Tax in Agriculture in the UK

Источник:https://edepot.wur.nl/23200

A capital gain is calculated by deducting the acquisition or base cost from the disposal value. If the disposal value is less than the acquisition cost, no capital gain arises, but either a balancing charge or allowance arises. The acquisition or base cost is indexed by reference to changes in the retail price index from March 1982, or from the date of the acquisition. Assets owned before 31 March 1982 acquire a new base cost, which is their fair market value at that date. The so-called indexation allowance is calculated up to April 1998. Taper relief in 1999 replaced indexation. Taper relief reduces the amount of chargeable gain according to the length of time the asset has been held after 5 April 1998.

A capital loss incurred by a company may be offset against capital gains in the accounting period or in future accounting periods; it may not be carried back or set off against profits.

Gains on specific assets (land, buildings, fixed plant, etcetera) may be rolled over into the cost of acquiring other similar replacement assets, provided all the proceeds from the disposal are re-invested.

A number of exemptions and reliefs apply. Exemptions include a basic annual exemption, which for 2003-2004 is €11,6181 for an individual and €5,809 for a trust, the tax-payer’s sole or main residence, racehorses, deemed disposal on death, government stock, qualifying corporate bonds (being loan capital denominated in sterling and not convertible into share capital, timber (standing or felled) sold by the occupier of the woodland or forest and gifts to charity (IBFD, 2004).

Capital gains tax is levied at the income tax rates, the chargeable gain being treated as the top slice of taxable income and taxed at the rates of 10%, 20% or 40% according to the extent to which the gain falls within the relevant income bracket (IBFD, 2004). The tax on capital gain is calculated independently from tax on dividend and savings.

Acquiring the right to produce is regarded as a capital expense and similarly the disposal of the right in quota is a capital receipt by the vendor. This capital acquisition is not deductible in computing the profits in an accounting period in which the transaction takes place.

Milk quota in possession since 1983 will be fully taxable at sale as capital gain (also without deduction of costs), because it was allocated free of charge thus having no base value, but Taper Relief will apply to this type of asset. Where any quotas have been purchased since 1983, the acquisition cost will be allowable expenditure, but this will be allocated to the entire quota on a pooled basis with deductions strictly in accordance with the proportion sold. Other livestock quotas are also taxable on the same basis, as there is no attribution of cost or deemed devaluation of the land, which can be deducted. Sugar beet quota has only recently been allowed to be traded and is treated in a similar way as other quota (EFAC, 2000).

When disposing of a farm, there are a number of exemptions from capital gains tax that can be applied. Firstly, there are the regular exemptions explained above. With regard to the sale of land, it is unlikely that any capital gains will arise because the value of land in 1982 was comparatively high when indexation was added to this value to arrive at the base value. However, if land is sold for development and above agricultural value, there may be substantial capital gains tax to pay. The sale of a small part of the land (under 20% of the total value of the estate and under €28,571) can be deducted from the original cost of the remaining land without the need to calculate any gain at the time (EFAC, 2000). There is no capital gains taxation upon death.

Text 16. Value Added Tax, Excise Duty, Environmental Taxes in Agriculture in the UK

Источник:https://edepot.wur.nl/23200

The standard VAT rate is 17.5%. A reduced rate of 5% applies to supplies of fuel and power used in homes and by charities. A zero rate applies to supplies of a number of commodities, such as foodstuffs, books, newspapers and children's clothing (IBFD, 2004).

Also, many of the supplies made by farmers will be zero-rated. Zero-rated products for farms can be divided into four main groups: food for human consumption; animals to be slaughtered and animal feed; live animals; seeds and plants.

Farming businesses can reclaim 70% of the input tax on the repair and maintenance costs of a farmhouse provided some conditions are met. Farmers can also apply to a flat rate scheme as an alternative to VAT. A farmer registered under the flat rate scheme does not account for VAT and can therefore not reclaim input tax. However, it is possible to add a flat rate addition (FRA) on goods and services sold to costumers who are registered for VAT. The flat rate addition is 4%. This addition is not VAT but acts as compensation for losing input tax on purchases. The flat rate addition is part of the business takings and should be included in sales. For the customers, the flat rate addition can be reclaimed on their VAT returns if the goods or services are for business use. A farmer cannot join the flat-rate scheme if the value of his non-farming activities is above the VAT registration threshold (NILF, 2002).

As to excise duty, there are special low rates of it on fuel for agricultural use and concessions on farm vehicle annual taxes (OECD, 2005). The tax rate on 'red' diesel, for exempted agricultural vehicles is 6.21 eurocent/litre. Ordinary white diesel is taxed at 78.34 eurocent/litre.

Regarding environmental taxes, there is a Landfill Tax, which is levied per tonne of material delivered to the refuse site. The current rates for Landfill Tax are divided in two rate levels: the lower rate (for inactive material) is €240 per tonne. The standard rate €26 per tonne, rising by €4 per annum until €51 in 2010. The climate change levy is applied as a specific rate per nominal unit of energy.

There is a separate rate for each category of taxable commodity:

– electricity = €0.0063 per kilowatt hour;

– gas supplied by a gas utility or any gas supplied in a gaseous state that is of a kind supplied by a gas utility = €0.0022 per kilowatt hour;

– any petroleum gas, or other gaseous hydrocarbon supplied in a liquid state = €0.0141 per kilogram; or

– any other taxable commodity = €0.0171 per kilogram;

– furthermore there is a Pesticide Tax under negotiation. No exemptions for agriculture are present.

Text 17. Income Taxation in Agriculture in the USA. Part 1

Источник:
https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/CA/APM/WP(2018)30/FINAL&docLanguage=En

Under the current income tax structure, depending on how it is organised, a farm business can be taxed under the federal individual income tax or corporate income tax. State level tax treatment is the same as federal, meaning a business taxed at the federal level as a corporation would also generally be taxed as a corporation at the state level.

Farms can be organised as the following forms of businesses: C corporations, sole proprietorships, partnerships, limited liability company and subchapter S corporations. Farms may also choose to form a Limited Liability Company (LLC) which the Internal Unclassified Revenue Service (IRS) treats as either a corporation, partnership or as an entity separate from its owner for income tax purposes.

Most agribusinesses are large corporations and are taxed under the corporate income tax structure. In 2017, only 2% of family farms operated as C corporations.

Sole proprietorships, the most common form of farm organisation, are taxed at the individual level. According to the 2017 Agricultural Resource Management Survey, sole proprietorship comprises 89% of all farms. Partnerships and subchapter S corporations are also taxed at the individual level with income from farms passing through to the individual partners or shareholders for taxation purposes. Partnerships comprise about 6% of farms while corporations account for about 4% (2% subchapter S corporations and 2% C corporations). Therefore, about 97% of all farms are taxed under the individual income tax rather than the corporate income.

Farmers benefit from both general tax provisions available to all taxpayers and from provisions specifically targeted to farmers. In general, income from farming is taxed more favourably than income from many other businesses. Some of the specific provisions that are responsible for this treatment include the current deductibility of certain capital costs, capital gains treatment of proceeds from the sale of farm assets, cash accounting, and farm income averaging. These and other provisions reduce the farm income tax base, allow some farm income to be taxed at reduced rates, and contributes to smoothing annual income variations.

National subsidies for soil, groundwater or environmental protection, care for wild animals or forests are sometimes tax-free for the farmer. For example the Conservation Reserve Program (CRP) targets the removal from environmental sensible land from production. Payments from CRP are not considered as part of rental income. However, CRP is used in net income to calculate Self-Employment taxes but it is not subject to federal income taxes.

Capital Gains Treatment for Assets Used in Farming. Under certain conditions income generated by the sale of assets used in farming businesses is not subject to income tax and is instead taxed as capital gains or losses. Among the farm assets eligible for such treatment are farm land, buildings, machinery and livestock held for draft, dairy, breeding, or sporting purposes. To be eligible livestock must be held for a minimum amount of time (the required holding period) before income generated from the sale is eligible for long term capital gain treatment and is taxed at a lower or zero rate. By planning farmers can move income to the most favourable tax rates.

Current Deduction for Development Costs. Another feature of the federal income tax that applies specifically to farmers is the ability to deduct the cost of developing certain farm assets in the tax year when the costs are incurred or paid. Examples of preproductive development costs include raising dairy, draft, breeding, or raising livestock to their age for mature use, caring for orchards and vineyards before they are ready to produce crops, and clearing land and building long-term soil fertility by applying lime, fertiliser, and other materials.

Text 18. Income Taxation in Agriculture in the USA. Part 2

Источник:
https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/CA/APM/WP(2018)30/FINAL&docLanguage=En

Cash Accounting. While businesses are generally required to use the accrual method of accounting for tax purposes, most farm sole proprietors are allowed to use the cash method of accounting. A large number of farm partnerships and small business corporations also are allowed to use the cash method. Only corporations (other than a family corporation) that had gross receipts of more than USD 1 million for any tax year beginning after 1975 or a family corporation that has gross receipts of more than USD 25 million for any tax year after 1985 are required to use the accrual method of accounting. The main advantage of using cash accounting relates to the mismatch of incomes and expenses in different tax years since it is always beneficial to receive a benefit sooner rather than later.

Current Deduction for Soil and Water Conservation Expenditures. Since 1954, farmers have been allowed to claim immediate federal income tax deductions for certain types of expenditures on soil and water conservation or for the prevention of erosion of land used in farming. Examples of expenses have included levelling, grading, terracing, custom furrowing, planting windbreaks, and constructing, controlling, and protecting diversion channels, drainage ditches, irrigation ditches, earthen dams, watercourses, outlets, and ponds.

Income Averaging. Under the current law, a farmer can elect to shift a specified amount of farm income, including gain on the sale of farm assets except land, to the preceding three years and pay tax at the rate applicable in each year. The current income shifted back is spread equally among the three years. If the marginal tax rate was lower during one or more of the preceding years, a farmer may pay less tax than without income averaging. This helps to reduce the potential higher taxes that might otherwise occur as a result the combination of variable farm income and a progressive tax rate structure. The 2017 US Tax Cuts and Jobs Act (TCJA) retains this provision.

In addition to targeted provisions, farmers and agribusinesses benefit from various general provisions including the tax treatment of capital investments which have been modified by TCJA to effectively allow the write-off of capital purchases in the first year of purchase. Capital purchases include breeding livestock and milking sheds as well as farm equipment.

Under section 179 of the TCJA the amount of capital purchases that can be immediately deduced is increased to USD 1 million (from USD 510 000). In additional until 2022, businesses making investments above the section 179 limit can deduce 100% of the difference between their investment and the USD 1 million limit in the first year of purchase (‘100% bonus depreciation’). This measure applies to new and used farming equipment bought and put into use after September 2017. The bonus depreciation percentage will be phased out starting from the end of 2022, by 20% each year until it is completely eliminated by 2027. Allowing a large share of investment to be recovered in the first year of the investment and thereafter at an accelerated rate reduces the tax rate and encourages additional capital investment.

According to Economic Research Service (ERS) the new section 179 provisions are unlikely to have a major effect on the majority of farms because most make investments in depreciable capital assets that are below the previous maximum thresholds of section 179. In 2009-2016, less than 1% of farms made investments above the USD 1 million limit.

Text 19. Property Taxation in Agriculture in the USA

Источник:
https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/CA/APM/WP(2018)30/FINAL&docLanguage=En

At the state and local level, annual property taxes are of the greatest significance.

Local property taxes in particular are generally associated with provision of community services, particularly education, so that lower tax rates for less dense uses of land, such as agriculture, may be related to lower use of those services per taxable land unit.

All states have adopted some special assessment programme designed to reduce the amount that farmers are required to pay in state and local property taxes. The most common type of programme is known as the ‘use-value assessment’ whereby property taxes are based on some version of the hypothetical value of land if it were to remain in agricultural use in perpetuity. This can provide significant property tax relief, lowering farm operating expenses and reducing the potential that financial pressures could force some farmers to sell their land for development purposes. In 2018, foregone federal estate tax revenue from the ‘special use valuation’ programme for farmers is estimated as being USD 59.7 million according to the ERS.

Federal estate tax applies a unified tax rate structure to gifts and transfers of money and property at death. The taxes have been amended numerous times (and were even repealed for one year in 2010), most recently by the 2017 US Tax Cuts and Jobs Act (TCJA) which maintains the basis structure of the tax. A progressive rate is applied above the threshold level of USD 11.18 million as amended (and doubled) by the TCJA. There are additional rules that reduce gift and estate tax in small family business; special use valuation of farm land and instalment payment of estate taxes. Although these provisions apply to both farms and other small businesses, in their application the primary beneficiaries of the special use value provision are farms.

Generally, the value of a property for estate tax purposes is the fair market value at the date of death. For real property devoted to farming or other closely held business, special rules apply and the value of the farm is set to its use value. To qualify for this use value, the property must:

– be transferred to a qualified heir;

– must have been used as a farm for five years during the last eight years;

– the decedent or a member of the decedent’s family must have participated in the farm business;

– the value of the qualified real property must equal at least 25% of the estate; and

– the combined value of real and other business property must be at least 50% of the gross estate.

For most farms, the special use value is 40-70% lower than the fair market value.

Also farmers are able to donate part of their land to an easement on which development is restricted. The value of the proportion of the land under the easement is then excluded from the value of the property, creating extra tax savings.

Text 20. Tax Incentives for R&D and Innovation in Agriculture in the USA

Источник:
https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/CA/APM/WP(2018)30/FINAL&docLanguage=En

The United States offers tax incentives for R&D or the introduction of innovation. There are three provisions: a deduction from taxable income for research expenses, a tax credit for increasing research activities, and an exemption for donations to charitable agricultural research organisations. These tax credits for R&D are retained under the 2017 US Tax Cuts and Jobs Act however after 2021 R&D expenses must be recorded in the balance sheet and depreciated over a five year period.

The deduction for research expenses allows businesses to elect to deduct from taxable income the entire amount of eligible R&D expenditures in the year which they were incurred. These costs include salaries for researchers, operational costs and costs for materials and supplies used for the research experimentation.

Under the tax credit businesses are allowed to reduce their federal income tax by an amount equal to 20% of their qualified R&D expenditure over a certain threshold (based on a complex calculation). Alternatively, simplified credit allows a credit equal to 14% of research expenses in excess of 50% over the average qualified research expenditures for three prior years.

Qualified research expenses must be experimental for the purposes of discovering information that is technological in nature and used in the development of a new or improved product, process, formula or invention. Eligible expenditures are limited to direct wage and salary, supplies, costs for equipment and from 65% to 100% of contract research expenses. The credit is not refundable. However it can be carried forward for 20 years to reduce future tax liability.

A variety of farming and food manufacturing and processing activities are potentially eligible for the credit. However in 2008 only 0.1% of the credit was received by firms involved in agricultural production. The credit primarily benefits large corporations with about 87% of the credit going to firms with over USD 50 million in assets in 2008.

Thirty-six states offer tax credits for R&D expenses too and as of 2005 the average effective rate of the various state level credits had reached 6% of qualified R&D expenditure.

Text 21. Comparison of Agricultural Income Taxation in Some European Countries

Источник:
https://www.researchgate.net/publication/283224346_Exploring_agricultural_taxation_in_Europe

This text compares the agricultural income tax systems of 10 countries.

In the Netherlands, agricultural production generally takes place on family farms, mainly partnerships. Only about 4% of the holdings is a legal person, mainly found in horticulture under glass. Consequently, personal income tax is the main system for the taxation of agricultural income in the Netherlands, which is also the case for most of the other countries, where agricultural production also tends to take place on family farms, usually as one-man business.

In the UK the private partnership is the main business form. Personal income tax is therefore generally the main tax system.

In the Czech Republic, the legal person is important. Although only 11% of the farms are a legal person, they use about 73% of the agricultural land; consequently the corporate income tax is the main system for Czech farmers.

In Denmark, an additional scheme is available for the taxation of business and professional income (company scheme). The purpose of the company scheme is to give self-employed individuals the opportunity to choose a fiscal scheme that includes the same fiscal advantages as those existing for legal companies. When taxed in the company scheme, the income is in principle determined according to the normal tax rules. It is possible to save part of the income in order to activate it in later years.

In Poland, most farmers have private agricultural holdings (family farms), so they do not pay income tax, but only pay an agricultural property tax.

In Hungary, a wide range of tax systems is available for farmers. The taxation of Hungarian farming is rather complicated due to the various forms of agricultural production:

– for a small number of farms (but producing a large share of the agricultural production), the corporate income tax is relevant;

– farmers do not have to include the agricultural income if the revenues from agriculture are less than €2,384. Many families produce both for their own consumption and selling on markets. These families benefit from this arrangement, especially since the agricultural production can be shared among several family members or other relatives, over the age of 16. This agricultural production only provides a small additional income;

– small-scale farmers whose farm is the main source of income may file a signed simplified declaration statement indicating the annual revenues, stating that they had no income from small-scale agricultural production during the tax year. No tax is due;

– other agriculture small-scale producers can choose for flat rate taxation, if their revenue is not more than €15,894. The farmers are then taxed on gross income less an estimated deduction for expenses, which is 85% for crop production and 94% for food production.

For the other categories of family farms in Hungary, either the normal personal income tax or the entrepreneurial income tax and entrepreneurial dividend tax apply.

In Belgium the main business form is the one-man business. Therefore the personal income tax is applied as the main tax system.

In France and Germany the main business forms are the one-man business and partnership, so the personal income tax is the main tax system.

In Spain the one-man business is the main business form in agriculture. Therefore the personal income tax is applied.

Text 22. The Methods of Agricultural Income Calculation in Some European Countries

Источник:
https://www.researchgate.net/publication/283224346_Exploring_agricultural_taxation_in_Europe

The methods of income calculation are very diverse among and sometimes within the countries. Accounting, simplified accounting, per unit valuation and estimation are applied. Per unit valuation implies that the profit is assessed on the basis of the number of animals or ha, for example. If an estimation method is applied, the profit is estimated either based on norms (for example profit as a percentage of the revenues) or estimated by the entrepreneur.

The application of the assessment based on norms differs among the countries. This is due to the differing rules for application and the fact that not all systems are equally favourable. However, irrespective of how advantageous a system is for the average farmer, not all farmers will benefit from a system of normative assessment of taxable income, because of the large spread in profitability.

In Belgium, a large percentage of the farmers apply the Barema system which is based on average figures. The choice between the systems is free, although if the administration can prove that the actual income is substantially higher than the profit estimated under the valuation method, the valuation method is not allowed.

In the Czech Republic, a large share of the land is cultivated under corporate income tax. Consequently, the facilities available under the personal income tax (lump-sum assessment and estimation) are not of a great importance. Furthermore, the norms for the lump-sum assessment do not seem to be very beneficial for farmers.

The main assessment method in Denmark is based on accounting. The small group of farmers with no accounting obligation is free to choose.

Of the French farmers, 60% applies the per unit valuation method. Small farmers can choose freely between this option and accounting and base their choice mainly on which of the facilities is the most favourable one.

In Germany, the per unit valuation method is only available to small farmers. For some farmers it is beneficial, for others it is not. The average income calculated based on the norms seems to be somewhat higher than the actual income.

In Hungary, the flat rate taxation for small farmers results in an income that seems to be comparable with the actual income. The simplified entrepreneurial tax is not feasible for farmers. Many small farmers benefit from the favourable facilities that exist. In many cases no tax will be due on the agricultural income.

In Poland, most farmers only pay agricultural land tax. When comparing the family farm income with the actual amount of taxes paid, this system seems on average rather favourable.

In the UK, there are no special accounting rules. Only a profit and loss account has to be provided in the case of unincorporated businesses. So, no fixed income calculation method is applied.

In Spain, most farmers apply the estimation method. This method is not allowed for the larger farmers, but most farms in Spain are small and the threshold for using the per unit valuation method is at a rather high level. Farmers using the per unit valuation method seem to benefit from this method.

In the Netherlands, no estimation of the agricultural income is applied and for all farms, large or small, accounting is obliged. This supports the competitive position of Dutch Agriculture since it encourages structural development. If favourable measures for smaller farmers exit, farm enlargement is discouraged. For farms that are able to generate an income above the estimations or per unit valuation standards, the accounting rules lead to a higher taxable income than under the estimation scheme. For less efficient farms, the opposite applies. In many of the examined countries, the norms are based on averages, automatically leading to over- and underestimation for an individual farm. Since the use of the norms usually is a free choice, most farms will over a longer period benefit from that facility, otherwise accounting would be a better option. Analyses based on the FADN-RICA database also indicate that in most countries the norms for the normative assessment produce lower assessed incomes than the actual ones. Consequently, the amount of tax paid is expected to be lower if the estimation is applied, leading to a competitive advantage.

So, estimating the fiscal income is both positive and negative for the competitive position of farmers.

Text 23. Overview of Taxation of Agricultural Income in Some European Countries

Источник: https://www.researchgate.net/publication/283224346_Exploring_agricultural_taxation_in_Europe

Summarizing the most important features of agricultural taxation per country gives the following overview:

– The Netherlands: Farmers usually form partnerships. Favourable facilities for the assessment of the income are the averaging facility and favourable rules for loss transfer. Using the agricultural allowance and the reinvestment reserve can reduce taxable capital gains. The Netherlands offers a large number of investment incentives, which are both general and environment-related. Additional interesting allowances for farmers are the self-employed person’s allowance, labour relief, and the co-operation allowance. The general allowances and rates are moderate for the partnerships;

– Belgium: The main business form is the one-man business. Most farmers (60-70%) use the per unit valuation scheme. Capital gains on land are exempt for farmers under the personal income tax. Using the rollover relief can reduce the taxable gains. Taxation of EU subsidies might be reduced if the separate tax rate is used. The carry back of losses is not allowed. Belgium offers investment incentives for small entrepreneurs and for energy-saving investments. It is possible to transfer part of the profit to the co-operating spouse. The general allowances and rates lead to fairly high taxation of the one-man businesses;

– Czech Republic: The holding is the most prevalent business form. Personal income tax provides lump sum estimation and estimation by the entrepreneur. With regard to the assessment of the income, carry back of losses and deduction of capital losses is not allowed. Investment incentives for certain kinds of agricultural machinery are offered, in addition to a more general incentive for investments in machinery and cars, for example. The tax rates of the holding are moderate;

– Denmark: Partnerships are common in agriculture. Denmark offers the beneficial company scheme and an allowance for capital gains. However, carry back of losses is not allowed. Investments in R&D can be extra depreciated. The rates and allowances are rather high;

– France: Farms are usually one-man businesses. The quotient system reduces the tax burden in years of high incomes. Additionally a deduction for risks can be made and a number of facilities to reduce taxable capital gains exist. On the other hand, agricultural losses cannot always be offset against other losses. An investment reserve is offered to stimulate investments. If an accounting office is used, the taxable profit is reduced by 20% (up to a certain threshold). The rates and allowances lead to an average tax burden for the one-man businesses;

– Germany: One-man businesses are most common. Different methods for income assessment: net worth comparison, net income, per unit valuation. Germany offers a beneficial investment reserve. In certain cases smaller farms are allowed to depreciate faster. An agricultural income allowance exists. The rates and allowances are slightly above the average;

– Hungary: Most common is the one-man business. Accounting is obliged, but for small-scale producers estimated income is based on norms / simplified entrepreneurial tax: only turnover is accounted. Carry back of losses is not allowed. Newly acquired assets can be depreciated faster. Small-scale producers receive a small tax credit. The small one-man businesses have very favourable facilities;

– Poland: For most farmers, only agricultural property tax is relevant. EU subsidies are therefore not usually taxed;

– Spain: One-man businesses are most prevalent. Three systems, depending on turnover: bookkeeping, simplified bookkeeping and estimation based on norms. An optional tax rate for capital gains can be applied. On the other hand, capital losses cannot be carried back. Spain offers investment credits for environmental investments, R&D and export activities. The tax rates and allowances for the one-man business are rather unfavourable;

– UK: The partnership is widespread in the UK. Both taper and rollover relief reduce taxation on capital gains. Averaging of incomes reduces taxation on high incomes. Capital losses can only be offset against capital income. Extra capital allowances exist for energy saving or water efficient investments. The first year capital allowance is higher, which leads to advanced depreciation. The rates and allowances for partnerships are fairly favourable.

Text 24. Overview of Other Agricultural Taxes in Some European Countries

Источник:
https://www.researchgate.net/publication/283224346_Exploring_agricultural_taxation_in_Europe

This text gives an overview of the relevant taxes other than income taxes. For each country, the following highlights are relevant:

− The Netherlands: Agricultural land is exempt from real estate tax. The rental value of the home is included in personal income for personal income tax. Real wealth tax no longer exists, but taxation of wealth is currently a component of the personal income tax. Business assets are exempt. For the inheritance tax, the continuation value is used for the valuation. In 2007, 75% of the continuation value will be exempt. Transfer tax is not usually levied on agricultural land. Transfer of business real estate to children is exempt. The agricultural arrangement can be applied to avert full VAT taxation. Environmental taxes are levied on ground water, energy, waste and fuel. Glasshouses are partially exempt for the use of energy. Additional polder tax is levied;

− Belgium: Rental value of immovable property is fiscal income. The family home is exempt from real estate tax. Family businesses are exempt from inheritance tax under certain conditions. In certain cases, a lower rate of transfer tax is applicable to land and dwellings. The agricultural arrangement can be applied to avert full VAT taxation. Additional taxes are levied on the use of water, ground water, energy and manure. Flanders has an additional provincial tax and a tax on empty or neglected buildings;

− Czech Republic: Land is taxed, but agricultural land is exempt for the first five years of agricultural usage. For the tax on buildings, some buildings are exempt. Large exemptions exist for close relative in case of inheritance. For smaller farms, VAT relief is available. No environmental taxes are levied;

− Denmark: Land and owner-occupied dwellings are subject to real estate tax, although agricultural land is subject to a tax reduction. The valuation of the property in the case of a gift can be plus or minus 15% of the market value without leading to taxation. Spouses are exempt from both inheritance and gift tax. Small farmers are less frequently required to file their VAT administration. Denmark levies environmental taxes on energy, herbicides and pesticides. Heavy energy industries like pot plant producers have their CO_2 tax refunded;

− France: Real estate tax is levied, but land is exempt. Wealth tax is levied. For the inheritance and gift tax, only 80% of the value of the principal residence is taxable. A lower rate of transfer tax is levied if a tenant buys rented land. VAT arrangement is available for small producers. Several environmental taxes are levied on water, energy, waste and fuel;

− Germany: Real estate tax is levied. A large exemption for business property exists for the inheritance and gift tax. Transfer tax is only levied on land and transfers between relatives. Transfers in case of inheritance or gift and small transfers are exempt. Using the fixed arrangement can avert full VAT administration. Taxes are levied on electricity and fuel, but in general the rates are lower for agriculture;

− Hungary: Land and buildings are subject to real estate tax, although small plots of land are exempt. For gift and inheritance tax, exemptions exist for both agricultural land and family farmers. In certain cases of land concentration, no transfer tax is due. Small producers can use a fixed arrangement for VAT. No environmental taxes are levied;

− Poland: Land, buildings and fixed assets are subject to real estate tax. Farms are exempt from gift and inheritance tax under certain conditions. No transfer tax is levied in the case of social insurance programmes. A facility exists to avoid VAT administration. No environmental taxes are levied;

− Spain: Payment of real estate tax might be suspended under certain conditions. Wealth tax is levied. Businesses and dwellings (up to a limit) are exempt from gift and inheritance tax. Transfers to relatives are sometimes exempt from transfer tax. Small-scale farmers can avoid VAT administration. No environmental taxes are levied;

− UK: Agricultural land and buildings are exempt from real estate tax and farmhouses have a lower valuation. Both the agricultural and business property relief prevent taxation of inheritances. Gift tax does not exist. Property transfer tax is only levied on land and is not levied in case of inheritance. Using the fixed arrangement can avert VAT administration. Additional environmental taxes are levied on energy and landfill.

Text 25. Tax Exemptionsin Agriculture in Developed Countries

Источник: https://elar.urfu.ru/bitstream/10995/49118/1/jtr-2016-2-3-179-192.pdf

Agricultural sector because of its specificity is under special control of the state. Annually subsidies to this sector count billions of dollars. This is confirmed by the example of the European Union, where agricultural policy received considerable attention.

Despite the domestic subsidies and the allocation of funding from the EU funds, each state provides a number of measures stimulating agricultural production due to the nature of the production cycle, social significance, the aggravation of food risks, and other factors. Thus, agriculture in the global tax practice is seen as a specific object to which various tax exemptions and preferential regimes are applied.

Generally in the structure of taxes paid by agriculture in developed countries, there are national taxes – corporate income tax, value added tax and local – land, agricultural and others.

Agriculture, as a rule, has a preferential indirect taxation: VAT, sales tax.

There are different approaches to the establishment of VAT rates for farmers (for example, in a number of EU countries it depends on the level of the farmer’s income), but mostly rates range depends on the type of product and its social and economic significance: reduced rates applied to agricultural and food products.

Thus, the agricultural enterprises in Germany, France are fully exempted from VAT. In China agricultural outputs, produced and implemented by farmers on their own are not taxed. In the US, in some states food is not subject to sales tax, or taxed at a reduced rate. Preferential regime for farmers is that when buying raw materials, plant and equipment for agriculture, this is not taxed.

Income corporate tax in most cases refers to national taxes, therefore, the order of payment and rates are set by federal legislation in all countries. Within the framework of direct taxation this tax applies different mechanisms and forms of incentives for the agricultural sector. The procedure of tax base reduces or tax exemption is widely applied.

For example, Australian milk producers on the hottest period – summer and early autumn – are exempted from paying certain taxes and pay for others in smaller amounts (overall decline of about 35%). Income less than 18 200 thousand Australian dollars per year is not taxed, and the rate of income tax is reduced to 28,5% for companies with an annual taxable income less than 5 million Australian dollars. Also in India, individuals' income less than 200 thousand Indian rupee is not subject to income tax.

China has an exemption from corporate income tax (growing vegetables, cereals, oilseeds, pulses, sugar crops, fruits and nuts, breeding of new varieties of crops, livestock and poultry, as well as primary processing of products produced) and a 50% reduction of tax rate's basic of 12,5% (growing flowers, tea and other plants, which are the materials for the manufacture of beverages and flavors, as well as primary processing of products produced). Peasants are exempted from agricultural tax, slaughter tax and tax on special agricultural products; in addition, all kinds of rural deductions were abolished: the accumulation fund, the social fund, and fund administration at the village level.

In France livestock cooperatives and consortia of cooperatives are exempt from corporate tax. In Italy, during the first 10 years since the establishment of agricultural cooperatives for the primary processing of agricultural products are exempt from paying tax on income of legal entities and local income tax.

Text 26. Preferential Regimes in Agricultural Taxation in Developed Countries

Источник: https://elar.urfu.ru/bitstream/10995/49118/1/jtr-2016-2-3-179-192.pdf

In several countries of the southern EU (Spain, Portugal) and the former Eastern bloc (Poland, Romania, Hungary) there is a special preferential tax regimes for agricultural incomes. In addition, in some countries additional tax exemptions are applied for small farms and young farmers.

Poland is a country with the most favorable tax system for farmers in the EU. Farmers do not pay taxes on received agricultural income. Taxation provides only 'rural tax' to their arable land. In 2015, its rate was about 3,4 Euros per hectare.

In Romania and Hungary the lowest tax rate of 16% is applied for farmers.

Spain applies preferential tax treatment for farmers with an annual income from agriculture less than 250 000 Euros. It provides for the payment of VAT at the reduced rate, the fuel surcharge and the individual income tax. Also a reduced tax rate is applied for young farmers and producers with small farms.

Some European countries apply to farmers a tax mechanism as a non-taxable income. So, Portugal exempts from tax the income from agriculture, which is less than 22 600 Euros. In Cyprus, the non-taxable income is 19 500 Euros. The United Kingdom has established a tax-free threshold of 10 000 British pounds. The Netherlands – 4600 Euros.

Germany offers a choice of income – the general or the simplified system for small agricultural enterprises (not more than 200 acres of farmland, or 50 head of cattle). Tax-exempt income is 7 664 Euros.

In Sweden, the profit (income) of farmers is taxed at a reduced rate of 28.97%, for young farmers it is reduced to 14,89% and for older farmers to 10,21%.

The use of tax deductions system is also widely applied in practice of agricultural taxation. For example, in Germany, in addition to the deductions applicable to all citizens, there is a special deduction for individuals receiving income from agriculture and forestry. In Australia, individuals and legal entities, engaged in activities on land cultivation and animal husbandry have over 10 years the right to deduct the cost of telephone lines and ground clearance, to prevent the erosion of land costs in the year of expenditure.

In Canada, when making investments that improve the quality of land, its value is subtracted from the taxed income of the farmer.

Accelerated procedure for depreciation of fixed assets. In agriculture, this procedure is stipulated in almost all countries. For example, in Australia they apply seven depreciation rates: 33.33%, 20%, 15%, 10%, 7.5%, 5%, 2.5%; tax authorities publish guidelines for the use of these rates, but the decision to use a particular rate is taken by the company itself. In India, the depreciation of the equipment is classified in three categories and amounts 25, 40 and 100%.

Among other tools used for agricultural tax regulation can be emphasized an opportunity to change the tax period. In France, farmers with a certain level of income have a right to establish for themselves the production cycle, which does not coincide with the calendar year, and in the US they have the ability to pay tax once every three years (with the average income). In Canada – average income for the five-year period in order to protect farmers from sharp fluctuations in earnings inherent in the data sectors and in such a way to regulate the distribution of income by years for tax purposes.

Text 27. Land Tax in Developed Countries

Источник: https://elar.urfu.ru/bitstream/10995/49118/1/jtr-2016-2-3-179-192.pdf

In the majority of countries land tax is local. Methods of calculating land tax are different, but in general they are different types of a cadastral method.

The tax rate for agricultural land is much lower than the tax rate for non-agricultural land (as a rule, does not exceed 1% of the value of the land). In land assessing it is taken into account its suitability for agriculture, relief, productiveness, availability of infrastructure.

Laws in many countries also use other methods of providing benefits for land tax:

– complete exclusion of agricultural land from taxation (for example, in the UK and China; melioration cooperatives in Italy, in Czech Republic up to 10 hectares, if it is handled by the owner);

– reduction of a tax rate (in Italy for agricultural cooperatives, located in mountainous areas, the land tax rate reduced by 50%; in Czech Republic significant tax benefits can be provided to those areas of farmland, where the productivity is significantly lower than normal);

– an alternative to the payment of land tax. In some states of the USA there is a possibility to apply a reduced rate of income tax or a tax credit;

– exemption from the revaluation of land value (lands, where are made drainage, irrigation works, planting of fruit trees, in France, for example, temporarily are not revaluated).

Tax on sale of land plots shall be paid in a number of countries in addition to the land tax. As a basis for its calculation they use the actual sale price of the plot. In China they pay an additional agricultural tax, tax on agriculture (the use of arable land), on an increase of the land value (on a progressive scale from 30 to 60%), tax on livestock (keeping and breeding of cattle).

The Australian Government in order to finance projects of grain research corporation has approved a special tax on farmers. Each year, the principal organization of the grain industry in Australia – Australian grain producers (GPA) – sets its size: usually it is not more than 0,5% of the gross value of grain produced by farmers.

Main parameters of the tax regulation of agriculture in developed countries show a significant number of similarities: tax policy in countries agriculture uses the entire arsenal of direct and indirect taxation, agricultural producers pay both federal and local taxes. Hereby, if the federal taxes in agricultural sector are unified, local taxes may vary considerably and are determined by the tasks of the region, its specific geographical and climatic situation, and the national mentality.

Text 28. Overview of Changes in Taxation of Agricultural Producers in Russia

Источник:https://cyberleninka.ru/article/n/overview-of-changes-in-the-taxation-of-agricultural-producers-in-russia

Agriculture is one of the most important priority sectors of the national economy, which provides the country’s food security. Due to the fact, that agriculture directly affects the economic security of the state, it needs to be paid a lot of attention. And this industry has a lot of problems. They are: a rather wide range of fuel prices and lubricants, low profitability of agricultural production, low innovative and digital technologies level, poor living conditions of the rural population, as well as dumping food supplies from abroad.

To neutralize the above negative facts, governmental support for agricultural producers and for newly created agricultural organizations is required. One of the difficult moments in the activities of agricultural organizations is the general taxation regime and the large tax burden. Although there is a preferential tax regime prescribed in the Tax Code of the Russian Federation. Switching to the unified agricultural tax (70%) special conditions must be met. Not all participants in the agricultural sector can fulfill the special conditions prescribed in the Tax Code. As an example, we can cite the statistics for the Belgorod region. There was 5053.6 million rubles of the federal support allocated, and only 80% (4028.9 million rubles) was realized. After analyzing this situation the Ministry of Agriculture in the beginning of 2020 changed the government support program, in order to consolidate such areas as: 'unified subsidy', 'subsidy for increasing productivity in dairy cattle breeding' and 'unrelated support'. These directions will be implemented through compensatory and incentive subsidies.

At the present stage of the Russian economy development agricultural producers have a unique opportunity in planning their tax obligations, so they can choose a taxation regime. It can be general or special preferential. In order to take advantage of this taxation system, it is needed to be an agricultural producer. The category of agricultural producers includes peasant farms and individual entrepreneurs, whose type of activity is production, processing, and sale of livestock products, crop production, and fisheries. At the same time, production or sale activity is not obligatory – all companies and other forms of entrepreneurial activity that provide services in the field of agriculture are classified as agricultural producers.

It is needed to check the limitations and conditions for the application of unified agricultural tax (UAT) for a more detailed study and identification dependence of the tax level on the efficiency of activities. Taxpayers using this system are exempted from paying income tax (individual entrepreneurs from personal income tax), and also partially from property tax. Along with exemption from income tax, there is an obligation to pay a unified tax from the difference in income and expenses. The main limitation that exists in the application of the UAT is the limitation of income from nonagricultural activities. Thus, the percentage of revenue from sales of agricultural products in the total amount should be at least 70%.

Due to the amendments to the Federal Law of November 27, 2017 No. 335-FL 'On Amendments to Parts One and Two of the Tax Code of the Russian Federation and Certain Legislative Acts of the Russian Federation', which entered into force on January 1, 2019 entrepreneurs using the unified agricultural tax have an obligation to pay VAT to the budget. Until 2019, VAT was not provided for persons using the unified agricultural tax. Due to the last changes, companies and individual entrepreneurs using the unified agricultural tax will have to draw up all the necessary documents as payers of value added tax. It should be noted that this kind of documents includes a book of purchases and sales, invoices for counterparties, and a VAT declaration.

Text 29. Effects of VAT on Agricultural Producers in Russia

Источник:https://cyberleninka.ru/article/n/overview-of-changes-in-the-taxation-of-agricultural-producers-in-russia

As agricultural producers need to pay VAT, it is necessary to realize how such an innovation will affect agricultural producers.

Analyzing, first of all, the negative aspects of innovations, it should be noted that an increase in the tax burden and, consequently, reporting volume especially for small or micro businesses in the field of agriculture could play a decisive role in reducing production or selling it to larger agricultural producers, which may subsequently negatively affect the competition market. In addition, it is worth noting that the unified agricultural tax is a unique taxation system, whose purpose is to develop national agriculture. But the additional control that will be exercised in relation to agricultural producers as persons paying VAT will strengthen control over agricultural businesses, and thereby will contradict the essence of the unified agricultural tax.

The expected positive effects of the VAT introduction for agricultural businesses should be mentioned separately. The market demand for products of domestic agricultural producers is a fairly stable value, therefore, the introduction of VAT will increase demand slightly or not affect the value of demand for agricultural products at all.

There are certain conditions under which persons paying the unified agricultural tax could be exempted from VAT, they include:

– Notifications for getting an exemption from VAT and about the start of work using special regime should be related to one calendar year.

– Compliance with the limit on revenue from agricultural activities. A gradual decrease of limits is planned [Declaration of the Agricultural Tax for 2019]. For example, to exempt from VAT in 2019, the threshold value of revenue for 2018 should have been not more than 100 million rubles, excluding taxes.

– Filling notification of VAT exemption for the unified agricultural tax, which is submitted inclusively until the 20th day of the month, from which the payer begins to use his/her right not to pay the tax.

– Those agricultural producers who sold excisable products within three calendar months before the notification will not be entitled to VAT exemption.

It should be noted that if a person paying the unified agricultural tax sells any type of excisable goods or if it goes beyond the limits of revenue established by law, excluding taxes, then the right not to pay VAT is abolished. In the future, these companies and individual entrepreneurs will not be able to receive a second exemption from VAT. Moreover, the termination of exemption from VAT is possible only in cases of requirements and restrictions violation.

The unified agricultural tax in 2019 under general conditions was paid at a standard rate of 6%. At the same time, in the constituent entities of the Russian Federation from January 1, 2019, any value of the tax rate up to 6% can be established. The size of the tax rate depends on: the type of agricultural products (or works / services); the amount of income from doing business in the field of agriculture; places where an entrepreneur carries out activities; the number of employees of the company or individual entrepreneur.

Variation of rates allows agricultural producers to find a balance between the burden and the amount of tax revenue. Certain regions of the Russian Federation have already introduced reduced tax rates for the unified agricultural tax. For example, in the Moscow Region, a zero tax rate is established until December 31, 2021. Moreover, in the Kemerovo region the rate of the unified agricultural tax is 3%, and in the Belgorod region – 6%.

Text 30. Unified Agricultural Tax in Russia

Источник:https://cyberleninka.ru/article/n/overview-of-changes-in-the-taxation-of-agricultural-producers-in-russia

An important issue in applying the unified agricultural tax is property taxation. In recent years, an amendment to the Tax Code regarding the property tax has been made as a key change in the unified agricultural tax system. Property which is directly involved in agricultural activities could be exempted from taxation. This property includes assets that are involved in the production, processing, sale of agricultural products or in the provision of services.

Property used in agricultural activities can be divided into two groups. The first group includes property which is directly used for production. For example, sowing equipment, buildings in which animals are kept, etc. The second group includes auxiliary property: equipment garages, warehouses, etc. The right not to pay the property tax is applied to both groups.

Property assets and assets related to agricultural activities must be accounted separately. However, a situation may arise when the company simultaneously uses the property for agricultural production and for other activities. In this case, it becomes impossible to account these assets separately. In 2018, a letter of the Federal Tax Service was published. The document gives the following explanation: in cases when agricultural businesses use the property for other entrepreneurial activities, but at the same time for its intended purpose, the property is not taxed. In addition, there is no need to pay the property tax if the assets are mothballed, consequently, temporarily not involved in the main business.

Other innovations include: the right to pay the unified agricultural tax is granted to those who have vineyards; sellers of wines of their own production, and other alcoholic beverages containing grapes, including grape must; regulated tax revenues to the budget at the place of production of the relevant product, or its processing; fishery and fishing companies may take into account expenses of participation in the auction for the purchase of a share in the total volume of quotas for catching (producing) aquatic biological resources.

The tax receipts to the corresponding budget at the place of production of fish products or their processing have been fixed. Fishing and fish production businesses can take into account the expenses incurred during the auction to buy out a part in the total volume of quotas for catching (extraction) of aquatic biological resources.

Studying the governmental support of agricultural producers in foreign countries, we should mention the developed subsidies to agriculture. But in the Russian Federation, there are quite a few methods of state regulation of agricultural producers.

The methods of state regulation of agribusiness in Russia are constantly under control of the Government. Undoubtedly, the Government of the Russian Federation establishes new rules of farming, which should help to intensify the activities of agricultural producers. Distribution of the unified subsidy developed by the Ministry of Agriculture in 2020 in order to increase its volume for some regions is one of these methods.

Nowadays, 72 constituent entities of the Russian Federation are subsidized and only 13 are not subsidized. The total amount of budget allocations has increased from 675,260 to 717,866 billion rubles. Not all regions have increased subsidies, for example, the Murmansk region has received smaller subsidies this year compared to the previous year (2019 – 32 million rubles, 2020 – 15 million rubles). The subsidies have increased in Dagestan (+6.626 billion), Sakha (Yakutia) (+4.691 billion) and Kamchatka Krai (+3.739 billion).

Another important method of stimulating agricultural producers is concessional lending, which is carried out by JSC Rosselkhozbank under the Program of State Support for Agricultural Businesses, approved by the Government of the Russian Federation dated April 26, 2019 No. 512.

38.03.02 Менеджмент
Профиль: Международная логистика и экспорт продукции АПК

Text 1. What Is Logistics?

Источник: https://www.wise-geek.com/what-is-logistics.htm

Logistics, in its most basic definition, is the efficient flow and storage of goods from their point of origin to the point of consumption. It is the part of the supply chain process that plans, implements and controls the flow of goods. It can also be seen as the management of inventory, in rest or in motion. The word '*logistics'* was first used in the military service to describe the process of supplying a war zone with troops, supplies and equipment. The term is now used more commonly in the field of business.

A recent US study found that logistics costs account for almost 10% of the gross domestic product. The process itself covers a diverse number of functional areas. Involved in logistics are transportation and traffic, as well as shipping and receiving. It also covers storage and import/export operations.

The concept of logistics can be applied to specific areas of business. Acquisition logistics, for example, covers everything involved in acquiring logistics support equipment and personnel for a new weapons system for the military. This includes identifying, designing, defining, developing, producing, delivering and installing the new weapons system.

Another area is Integrated Logistics Support (ILS). This is a management function that provides funding, planning and controls to assure that the system meets the expected requirements. ILS is also expected to make sure the price of the goods is reasonable and the product is of the required quality.

A lot of businesses that deal with supply of goods or services have their own logistics department. For example, a company supplying photocopying paper around the world will have a logistics team. The manager will oversee or delegate to his staff the process from the point of origin. The team will deal with the acquisition of paper from the paper supplier all the way to the customer who requests the paper. The supplier and buyer may be located in different countries.

It is the logistics team who must make sure that products can be obtained at a reasonable price. They then have to make sure the product is shipped on time and will arrive when expected. The logistics team also has to deal with importing and exporting contracts, and possibly also with the customs department. The process at times can be a lengthy one, but once in place should run smoothly.

Text 2. What Does an International Logistics Manager Do?

Источник: https://www.wise-geek.com/what-does-an-international-logistics-manager-do.htm

An international logistics manager handles the distribution, shipping, and storage of goods. They keep these goods moving through the supply chain while working with suppliers, manufacturers, retailers, and consumers. Those working in this field typically have a college degree and previous employment with proven success in international logistics. Those working as an international logistics manager must have experience with customs brokers, international freight companies, and other third party logistics providers. The duties of an international logistics manager may also include ensuring compliance with local, national, and international trade policies.

Most international logistics managers have an extensive knowledge of the modes of transportation, location specific export regulations, and supply chain management. This knowledge may be acquired through several years of experience in logistics or through a formal education. Some managers working in this position have earned a bachelor's degree in logistics management, international business operations, supply chain, or other related fields of study. International logistics managers must be able to do long-term strategic planning and have strong management skills. Other essential skills for this position include the ability to multitask and maintain flexibility in a sometimes high-pressure, quickly changing work environment.

Previous experience with the many complex aspects international logistics is important for anyone working in this position. An international logistics manager must have experience working closely with freight forwarding companies, managed trade services, and customs brokers. Managers also provide operational support to help resolve issues with freight payment service providers and freight billing issues. In the US, they work closely with NAFTA (North American Free Trade Agreement) lead logistics analysts in identifying specific areas and projects that will provide the greatest strategic value. Knowledge of how to apply for and renew export licenses is also one of the duties of an international logistics manager.

Ensuring that import and export operations comply with all local and international laws regarding trade, shipping and storage of inventory is another important function of an international logistics manager. One of the ways a manager may do this is to conduct regular trade risk assessment audits of all the decisions in a company or organization. International logistics managers may also create and implement procedures for closing or minimizing gaps in trade compliance. Ongoing training in domestic and foreign customs regulations and international commerce is essential to successfully function in this job. An international logistics manager requires an understanding of the processes of international trade and commerce in order to respond to potential problems that might affect worldwide logistics operations.

Text 3. What Are the Different Types of Logistics Degree Programs?

Источник: https://www.wise-geek.com/what-are-the-different-types-of-logistics-degree-programs.htm

Different types of logistics degree programs are typically related to studying the process flow management of goods and services. Some global logistics programs might integrate the role of technology in transporting goods across foreign countries. The transportation focus of logistics degree programs is primarily on the vehicle system used to transport products or materials. Typically, supply chain management degree programs provide an understanding of the broad concepts in logistical strategies.

Generally, there are different levels of education that represent logistics degree programs. A certificate program in logistics might offer an informal, yet extensive range of studies in basic concepts. During this program, students may earn a logistics certificate in the flow and storage of products from manufacturing to consumption.

Those who prefer a formal education in logistics have the option of enrolling in two-year, undergraduate, and graduate degree programs. Most two-year degrees offer a foundation for entry-level positions in logistics. Undergraduate degree programs may offer a broad understanding of logistics and prepare students for work in middle management positions.

Graduate logistics degree programs are typically appropriate for professionals with years of experience working in logistics. By enrolling in a graduate level program, students might learn additional management and technical skills. Such programs can strengthen students' capacity to move into senior executive leadership roles.

Whether two-year, undergraduate, or graduate, logistics degree programs usually teach students one of several areas related to this field. Most degree programs involve planning, implementation, monitoring, and control of processes that ensure the uninterrupted flow of goods and services. Typically, students learn how each step in the process is important to maintaining quality and meeting customer needs. Usually, these formal degree programs might cover global, transportation, or supply chain management aspects of logistics.

For logistics degrees with a global focus, programs may include one or more area of logistics. One degree area could focus on the import/export process of products and materials with foreign countries. Another degree area could focus on logistical techniques that might differ from one country to another. Students might also learn common business practices in countries that may affect the logistical flow of goods and services.

Learning about transport vehicles that travel over land, air, or sea are typical courses for a transportation degree. Overall, this degree program covers courses that teach the efficient, physical movement of materials, goods, and services. Students may learn how trains, trucks, airplanes, and ships factor into optimizing the operational functions. Some courses may also cover multi-modal systems, where more than one type of transportation vehicle is used.

Supply chain management may involve studying theories related to the entire logistical process, including global and transportation. Basically, students will study each function of supply chain management that includes inventory control and logistical planning. Most courses also cover general business skills in economics and information systems.

Text 4. What Are the Different Types of Logistics Jobs?

Источник:https://www.practicaladultinsights.com/what-are-the-different-types-of-logistics-jobs.htm

Employees in logistics jobs manage the flow of materials within a company or organization. Those in logistics jobs are involved in the overall integration of information, inventory, material handling, packaging, transportation and warehousing. There are various types of logistics jobs that exist, including logistic managers, logistic engineers, logistic analysts, logisticians and logistics coordinators. Logistics jobs also include transportation managers; storage and distribution managers; production, planning and expediting clerks; and shipping, receiving and travel clerks.

A logistics manager oversees a company's distribution, forecasting, planning services and warehousing. These employees manage employees in lower-level logistics jobs. Logistics managers also plan and direct logistics systems, and they are in charge of day-to-day logistics operations.

Logistics engineers design and analyze logistical processes and come up with solutions for projects. For example, a logistics engineer might evaluate and analyze the overall effectiveness of a company's current logistical processes. He or she might then provide feedback to logistics managers or other company leaders.

A logistical analyst evaluates the supply chain processes to identify any changes that would be beneficial to the company. These employees might also be in charge of route activity, such as electronic bills, invoicing and tracking shipments. A logistician analyzes and arranges the logistical functions of an organization. He or she essentially is responsible for the life cycle of a company's product from start to finish, beginning with the product's acquisition and ending with the final disposal of resources.

A logistics coordinator helps route and expedite movement of shipments in shipping docks and airline, train and truck terminals. These workers take directions from customers and help arrange the pick-up of shipments for delivery to the loading platform.

A transportation manager is in charge of planning, directing and arranging the transportation within an organization. These employees might also be responsible for the activities of a company that offers services in the transportation industry. Storage and distribution managers oversee operations involving storage and distribution within a company.

Production, planning and expediting clerks gather and expedite the movement of materials and work between different areas within a company while adhering to the production schedule. These clerks might also evaluate work, production and shipment schedules. Shipping, receiving and traffic clerks verify the records of shipments, both incoming and outgoing. Clerks might also prepare items that are eventually going to be shipped and might arrange, address, stamp and ship materials themselves.

Text 5. How Do I Choose the Best Logistics Software?

Источник:https://www.wisegeek.net/how-do-i-choose-the-best-logistics-software.htm

In business, logistics describes the planning that dictates guidelines for operational processes, accounting procedures and matters related to investment and cash management.

Professionals such as managers and business planners often use logistics software that can help them better organize important documents and design and asses strategies.

To choose the best logistics software, it first can be helpful to determine which goals you hope to achieve so you can choose software with the most beneficial features. It is also a good idea to consider factors related to cost, quality, and methods of access.

Logistics software often is designed to assist professionals in a certain industry. A fleet management professional, for example, might choose a program that enables him or her to plan vehicle routing more accurately and in less time. An individual who works in warehouse management can benefit from software with features that make inventory control processes, such as managing contracts and reordering from suppliers, more cost effective.

It can be helpful to become familiar with options for logistics software made for your industry. By comparing prices and analyzing features of each program, you can get a better idea of how much you should budget for valuable software. Logistics software normally is designed either for financial processes or operational process. A suite might offer both programs.

As a general rule, you may want to choose logistics software that reduces cost and increases profitability in the long term. With this in mind, it may be better to pay a little more for a program that is reliable and which can improve the overall efficiency of your workflow. A program that is not effective or which malfunctions can have a much greater cost.

Many professionals who are not ready to commit to logistics software can use software on demand. This is a model in which a user can access software from a host website.

Users normally pay a subscription fee, though some sales based software providers charge a percentage of revenues.

Managers of smaller organizations that do not hire in-house computer technicians also benefit from this model since all security and performance upgrades are performed by a provider.

Finding the highest quality software can be difficult because features or formats that might benefit one user might not be as valuable to another with different concerns. Many professionals prefer to get recommendations from colleagues in the same industry. Trade publications and websites often publish in depth studies of software models.

Text 6. Logistics and Supply Chains in Agriculture and Food

Источник: https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

During the recent two decades, goods flow has been tremendously increased, even though the amount of goods remains at the steady state. Increased variety of goods, the just-in-time delivery system, low load rate, specialization and centralization of production systems, globalization of marketing and seasonal variations are among the main challenges of logistics system which may lead to the necessity of developing effective logistics in the agricultural sector. Effective logistics and technologies are a critical success factors for both manufacturers and retailers. Effective logistics requires delivering the right product, in the right quantity, in the right condition, to the right place, at the right time, for the right cost and it has a positive impact on the success of the partners in the supply chain.

Food chain logistics is a significant component within logistics system as a whole. The food sector plays a significant role in economy being one of the main contributors to the GNP of many countries, particularly in developing countries. According to the European Commission (2010), the food and drink industry is one of Europe's most important and dynamic industrial sectors consisting of more than 300,000 companies which provide jobs for more than 4 million people.

The current trend in food value chain is characterized by three overriding features:

a. greater concentration of farms, food industries, and wholesalers into smaller number with large sizes;

b. the evolution of integrated supply chains linking producers and other stakeholders; and

c. ever increasing consumers demand for food quality and safety (food that is fresh, palatable, nutritious and safe) and animal welfare. However, to date, the linkage between logistics systems of the stakeholders in the agriculture and food supply chains is rather loose and fragmented. Even within individual firms, the vertical and internal integration as related to freight and logistics is loose, and therefore they are both economically and environmentally inefficient and not sustainable. In this regard, effective and efficient logistics will be a critical success factor for both producers and retailers.

In addition to the increase in transport of agricultural and related goods in the recent decades, empty haulage is common in agricultural sector and the load capacity utilization level of vehicles is very low (it varies between 10 and 95%). Therefore, efficient use of vehicles could be among the methods to reduce transport work and attenuate negative environmental impact.

Within the agri-food chain, meat chain became societal interest and area of attention by researchers because of animal welfare, meat quality, and environmental issues as transport and handling of slaughter animals are associated with a series of stressful events for animals, compromising their welfare and meat quality. About 365 million farm animals (45 million cattle, 95 million sheep, 225 million pigs, and 300 000 horses) are transported per year within the 15 member countries of the European Union (EU).

The resulting transport intensification leads to environmental degradation by contributing to air pollution, global warming, ozone depletion, resource depletion, congestion and traffic accidents, particularly in the densely populated areas. The aforementioned constraints in the agri-food chain necessitate the development of innovative logistics system taking into consideration, road and traffic conditions, climate, transport time and distance, and queuing at delivery points to:

– strength the economic competitiveness of stakeholders in the food supply chain;

– maintain quality or adding value of food and improve animal welfare;

– attenuate environmental impact.

Text 7. Logistics Services in Agriculture and Food Chains in Developed Countries

Источник:
https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

The role of production and supply chain management is increasing worldwide due to the growing consumer concerns over food safety and quality together with retailer demands for large volumes of consistent and reliable product.

In developed countries, product losses (post harvest losses) are generally small during processing, storage and handling because of the efficiency of the equipment, better storage facilities, and control of critical variables by a skilled and trained staff.

Recently, the concept of agricultural and food logistics has been under development as more effective and efficient management system is required for the food production planning, physical collection of primary produce from fields and homesteads, processing and storage at various levels, handling, packaging, and distribution of final product.

In the food supply chain many stakeholders such as farmers, vendors/agents, wholesalers, rural retailers and suppliers and transporters are involved. At all levels, information flow and management of produce is essential to maintain the food quality throughout the chain. The flow of input resources from farms to consumers needs to be described in detail and the constraints in each sub-process needs to be identified to develop appropriate solutions for logistics related problems.

It is important to note that lack of packaging facilities may be one of the constraints in the logistics system of small-scale farmers during the transition from subsistence to commercial farming. Significant post-harvest losses occur when especially vulnerable crops and fruits are subjected to mechanical damage.

Therefore, management of packaging should be taken into consideration in the development of agricultural logistic systems.

Text 8. Logistics Services in Agriculture and Food Chains in Developing Countries

Источник: https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

The development of smallholder agriculture in developing countries is very sensitive to transport strategies. Many isolated farmers have little opportunity to escape poverty, as their potential marketing activities are hampered by inadequate or poor transport facilities. The rural transport planning must address the needs of people, as much as possible at the household level. Such well planed transport system enables smallholders make the transition from subsistence to small-scale commercial farming. This helps them to harvest and market crops more efficiently, reduces drudgery and, by facilitating communication, helps stimulate social integration and improve quality of life. Availability of road infrastructure (that includes feeder roads, tracks, and paths), storage facilities and transport services increases mobility and encourages production.

As to typical transport activities of a small-scale farmer, rural transport is usually classified into on-farm and off-farm transport. On-farm transportation includes: a. transportation within fields (collecting harvested crops to one point for processing in the fields and temporary storage; distribution of fertilizers and seeds; transporting of firewood, timber and water); b. transport of agricultural products from fields to homesteads; c. transport of agricultural implements from homesteads to fields and vice-versa; d. transport of seeds and fertilizers to the fields; e. transport of implements between different plots, etc.

Off-farm transportation includes: a. transport of agricultural products including animals to local markets; b. transportation to grinding mills; c. transport of industrial products (commercial fertilizers, implements, seeds, etc.) from markets to homesteads; d. transportation to health centres and schools, religion centres; e. transportation to towns and bigger market.

In agricultural systems of developing countries, animal power is used to replace human power and facilitate transport tasks. Animals are used to pull carts or sledges and as pack animals. At least ten species have been so domesticated, and their (absolute) capabilities depend primarily on body size. In relative terms, pack animals can carry 12 to 30 % of their body weight and can pull horizontally 40 to 60% of their body weight. These values depend on species, but field observations have returned higher values, probably at some cost of animals' well being.

In rural agricultural transport, in developing countries, special emphasis should be on collection, packaging, storage and distribution of agricultural primary products. Among the urgent tasks that formulated by the General Assembly of United Nation in 1986, regarding transport and related infrastructure in developing countries, were improving and expanding the storage capacity, distribution and the marketing system; and development of transport and communications. Training of farmers (producers) may reduce loss due to harvest and temporarily storage, while other stake holders (for example, service providers) should take the responsibility to minimize loss. Loss in processing, storage and handling is high because of poor facilities and frequently inadequate knowledge of methods to care for the produce. Post-harvest losses run up to 40% varying from 15 to 25% on farm and 10 to 15% in trade. The high losses in developing countries represent not only a severe economic loss for the regions but also a major loss of nutrients to already malnourished populations (FAO, 1989).

The challenges of rural transport may be promoting the application of the concept of rural logistics; developing rural infrastructure (storage and packaging facilities, collection points and centres); developing efficient and effective management of product and information flow; developing strategies to promote best transport services. Some of the main issues that require immediate attention are: encouragement of private entrepreneurs to take the responsibility of service provider in storage, packaging and transport services; development of collection centre systems to promote marketing possibilities by facilitating coordinated transport services. Constraints associated with the flow and storage of produce and services in food and agribusiness exist in developing countries include lack of adequate storage facilities and knowledge of handling; poor processing, management and transport services.

In the absence of coordinated product delivery system, farmers themselves transport most of the produce, either as head loading or using pack animals, to both nearby and long distance markets. There are many constraints of such transport conditions: amount of produce that can be transported by head loading or pack animals is limited; transport time and distance is long; drudgery on farmers; spoilage of produce during transport, etc.

These constraints may result in reducing production and marketing opportunities for farmers, and, consequently, shortage of food for consumers. The reduction of spoilage and damages that could improve the marketing value of the produce may necessitate the availability of adequate processing, packaging and storage facilities and management for each varieties of produce.

Text 9. Logistics in Abattoir Chains

Источник:
https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

From effective logistics management point of view, an integrated approach from farm-to-table is required for effective control of food hazards which is a shared responsibility of producers, packers, processors, distributors, retailers, food service operators and consumers (Sofos, 2008). This is important issue, because the increase in world population and improvement of living standard increase the meat consumption and, especially in developed countries, consumers prefer food with no additives or chemical residues; food exposed to minimal processing; safe and economic food (Sofos, 2008; Nychas et al., 2008).

The increasing interest in transparency of food supply chain leads food industries to develop, implement and maintain traceability systems that improve food supply management with positive implications for food safety and quality (Gebresenbet et al., 2011; Smith et al., 2005). As animals stressing may damage meat quality, and lead to more contamination with pathogens, humane treatment of animals is getting more attention (Sofos, 2008). Tracking slaughter animals from birth to finished products and tracking food shipments are becoming area of focus recently (Smith et al., 2005). This helps to control the risk of animal disease, to reduce risk of tampering, to generate detail information on country of origin and animal welfare in the global food supply systems (Smith et al., 2005).

Animal identification and traceability as well as meat processing and distribution are some of the issues related to meat safety challenges (Sofos, 2008). In the process of establishment of animal identification and tracking systems, countries should take the following into consideration. Selection of appropriate technology and precision requirements, maintenance of confidentiality, payment of costs, premises number and animal identification number, livestock feed and meat safety (Sofos, 2008).

Underfeeding and stress of slaughter animals starts earlier than loading for transport to abattoir and continues at different steps until the time of slaughtering. Especially, the way non-ambulatory animals are managed at abattoirs has been reported as the ugliest aspects of pre-slaughter handling. Gregory (2008) indicated that, in US, about 1.15% of cattle waiting in pens at abattoirs in 1994 were downer animals and it was reduced to 0.8% in 1999. Recent study in a developing country, Ghana, indicated that about 7% of cattle waiting at abattoirs were downer animals (Frimpong et al., 2011).

Text 10. Animal Transport Logistics

Источник:
https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

For animal transport, besides the improvement of vehicles design and handling methods, continuous and accurate measurement and report of stress inducing factors and stress response parameters, and continuous observation of animals are necessary and essential to improve animals' welfare and the quality of meat, the final product.

A complex instrumentation system was developed at the Engineering department of Swedish University of Agricultural Sciences (Gebresenbet and Eriksson, 1998) to carry out the measurements of the parameters mentioned earlier simultaneously and continuously starting from the farms to the abattoir. The on-board instrumentation and the satellite steered position of the vehicles were controlled from the cabin of the vehicle. The instrumentation may be classified into groups: Video cameras for monitoring animal behaviour, Heart rate sensor, GPS for measuring transport route, geographical location, vibration sensors, temperature and humidity sensors, emissions, and information transmission from vehicle to stationary database.

Although long distance transport and poor handling are stressful and compromise animals' welfare, there is tendency to reduce the number of abattoirs due to specialisation and centralisation. Since such long distant transport has a negative impact on animal welfare, meat quality and environment in the form of emissions emanating from vehicles, studies are undergoing to identify means of reducing the transport distance, transport time and animal stress in animal supply chain and meat distribution (Bulitta et al., 2011). Especially loading and unloading during transport for slaughter are identified as very stressful activities for animals.

Gebresenbet and Ericsson (1998) made a continuous measurement of heart rate on cows from resting conditions at farm throughout the trip to abattoirs up to the point of stunning. The authors reported the performance of heart rate in relation to various activities from farm to stunning point. The typical output result is that the heart rate increased from about 45 bpm (beats per minute) to about 108 bpm during loading (separation of the animal from its group and forcing the animal to clamp the ramp into the truck). After loading, the heart rate falls and stabilized as soon as the animal was tied and maintained its position in the pen. The heart rate again raised as the vehicle started its motion. Another high heart rate peak occurred when animals met unfamiliar animals from other farms, and the final rise in heart rate was during unloading.

It is important to note that the heart rate profile confirmed that loading and unloading activities are the most events that compromise the welfare of animal during transport. Bulitta et al. (2011) modeled and analysed how cattle heart rate responds to the stressful loading process and indicated that heifers' heart rate rose exponentially from its mean resting value (80+6 bpm) to a peak value (136+35 beat per minute) confirming that loading is very stressful process for animals.

Two possible strategies for improving animal welfare during transport from farm to abattoirs are:

– Minimising stress-inducing factors through improving animal transport logistics and handling methods. These include improving animal handling throughout the logistics chain, improving the loading and unloading facilities, improving the driving performance and slaughtering activities at abattoirs.

– Minimising or avoiding animal transport by promoting small-scale local abattoirs or developing mobile or semi-mobile abattoirs.

In both alternatives effective logistics is an important aspect to logistics chain of farm-abattoir system which encompasses all activities from loading animals, transport from farm to abattoir, unloading at the abattoir, operations in the slaughter chain from lair age box to chill room for carcasses.

Text 11. Logistics in Milk Supply and Dairy Product Distribution

Источник:
https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

Milk is an important agricultural produce that livestock keepers use for both consumption and market. The marketing of milk, surplus to family and farm needs, improves farm income, creates employment in processing, marketing and distribution and contributes to food security in rural and urban communities (Gebresenbet and Oodally, 2005).

In developing countries, demand for milk is expected to increase by 25% by 2025. In such developing countries smallholders are the main producers of milk. Dairy imports to developing countries have increased in value by 43% between 1998 and 2001, and over 80% of milk consumed in developing countries, (200 billion litres annually), is handled by informal market traders, with inadequate regulation (Gebresenbet and Oodally, 2005).

From transport services point of view, marketing of milk is difficult for producers who are living in scattered and isolated areas. These farmers can only sell butter to the urban areas and the remaining milk products are for home consumption. Delivery of fresh milk from long distance to urban by small-scale farmers is difficult for two main reasons. Firstly, the daily milk produce is relatively small to deliver to urban area and transporting perishable commodity over long distance is difficult. Secondly, milk quality deteriorates as it is transported over longer time without processing. The only available traditional processing is fermentation. To promote marketing of milk for small-scale farmers, it is necessary to develop strategies for on-farming chilling and collection of milk.

In developed nations, transport companies collect the milk from farms to collection points and thereafter transport to dairy plants (Gebresenbet and Ljungberg, 1998). The dairy industry provides a special milk container in which the farmers store the milk before the transporters collect the milk.

Usually tank Lorries and tank trailers are used for collecting milk from farms and deliver to the nearest dairy. The milk supplied to dairy companies is processed and distributed to consumers. The dairy products such as milk, powder, edible fat and cheese are distributed by dairy product distributors. In such a process, the tank Lorries collect milk up to their full capacity and pump to the tank trailer which is usually placed in the best place.

Optimizing the routes of milk collection enables to improve the transport distance and time. Gebresenbet and Ljungberg (2001) measured 60 routes of milk collection which totaled to be about 6357 km.

By conducting optimization experiments on these routes, using LogiX (DPS, 1996), the authors found that the distance could be reduced by 16%. Similar optimization experiment on the routes of dairy product distribution reduced the distance by 22% and time by 24%.

Text 12. Ways of Milk Delivery to the Dairy Industry

Источник: https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

In developing countries individual traders or small scale agencies collect milk from producers and supply to collection centres. Milk may be carried to the collection points as head loads, shoulder slings, on bicycles, on pack animals, animal carts or small boats (Gebresenbet and Oodally, 2005).

Advanced milk collection process found in developing countries begins with the producer delivering milk to a collection point where the volume is measured, or the milk weighed, recorded, and sometimes it is sampled and checked for quality. The milk is later transported, to a larger collection centre where, if possible, it is chilled.

The collected milk is subsequently sent in bulk to a processing plant by truck. The time-delay from milking to delivery at the processing plant often exceeds five hours and is negatively affecting the quality of non-refrigerated milk, which is often rejected by dairy processing plants and is also not acceptable by consumers (Gebresenbet and Oodally, 2005).

In countries like Mauritius, the marketing of the milk is traditionally undertaken by milk retailers who visit several cow keepers, holding special containers with capacity of 300 litres for transporting fresh milk. The retailer fills the container after visiting 10 to 15 producers and then proceeds to the urban areas to deliver to the consumers.

The link between the retailer and the cow keepers is very important as it enables the producers to concentrate on production while the retailer provides a reliable market for the produce. A milk collection system that under-estimated the role of retailers was initiated in Mauritius but failed, because instead of developing policies and effective credit system for the producers and converting retailers into private contractors to supply the factory with milk, the system tried to by-pass them creating a system which was not sustainable (Gebresenbet and Oodally, 2005).

A milk collection initiative in Brazil where a milk collection programme was developed for farmers, most of whom were producing 100 litres per day per farm on average, was found to be successful (Urraburu, 2001).

The important element in the programme was the common cooling tank. Within a year, bulk milk collection production grew from 28% to 70% and included 55 private cooling tanks representing some 55,000 litres per day.

The impacts of the programme on dairy farmers was the dramatic reduction of transport costs, which in some regions fell by 80%, improvement of product quality as the time between milking and conveying milk to the dairy was significantly reduced (Gebresenbet and Oodally, 2005).

Text 13. Logistics in Grain Supply Chain

Источник:
https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

During the recent 20 years, goods flow has been tremendously increased, mainly not due to the increase in the amount of goods, but due to other factors such as specialization and centralization of production systems and globalization of marketing (Gebresenbet and Ljungberg, 2001). Agricultural goods transport is a significant component within such increasing goods transport. For example about 13% of the international sea-borne trade is grain transport (Gebresenbet and Ljungberg, 2001). Grain transport is the main component in agricultural transport in general and it includes grain transports from farm to depot/terminals, between farms, between terminals, from farms and terminals to fodder industries and mills and from terminals to ports for export.

Due to the legal limit of total weight of a lorry, the drivers have to estimate the load weight and it is not unusual that the actual loads exceed the legal maximum loads due to overloading. The case study in Sweden (Gebresenbet and Ljungberg, 2001) indicated that the load rate for grain transport routes is as high as 95% at the delivery point during the harvesting season.

These authors also mentioned that during grain-related transport routes, unnecessary/unjustified motor idling was found to be more than 30% of stoppage time. They also estimated the emission from vehicles during grain transport before and after optimisation of grain transport routes. Air emissions were calculated using the simulation model developed earlier by Gebresenbet and Oostra (1997), where the following parameters were considered: vehicle type, time (loading; unloading and idling); goods type; load capacity utilization level; transport distance; vehicle speed; geographical position of depot and delivery points; routes air emissions from vehicles.

In grain transport systems, back-hauling can be used for the delivery of fodder to farms (Gebresenbet and Ljungberg, 2001). Although the grain transport from farms is concentrated during the harvesting season, there is a possibility to coordinate the delivery of fertilizers and other means of production with grain transport i.e. the farmers can dry their grain and keep it at the farm till the time of delivery of means of production. The intensity of grain delivery at the harvest season causes capacity problems for vehicle resources and transport planning. Planning of production and orders at farm level, to minimize the seasonal effects, would improve the conditions for transport planning and coordination (Gebresenbet and Ljungberg, 2001). In developing countries, grain collectors are responsible for commercialising the grain within the country and exporting surplus. Even though, these grain collectors are considered as informal by the government body in some countries, they served an important role in the grain supply chain. For commercialising grain, it can be collected from individual farmers to a critical size that can be transported cheaply for retail locally, and the surpluses can be exported at premium prices elsewhere (Gebresenbet and Oodally, 2005).

Text 14. Logistics in Local Food Supply Chain

Источник:
https://www.researchgate.net/publication/221928911_Logistics_and_Supply_Chains_in_Agriculture_and_Food

In the agriculture sector, globalization of food production has considerably influenced the food supply system by increasing distance the food has to be transported to reach consumers. This situation not only has increased emissions of greenhouse gases but also has reduced the relationship between local food producers and consumers, affecting local food producers, their environment and culture. In terms of distance, locally produced food can be characterized by the proximity of production place to the consumers and usually there is a limit, e.g. 160 km in UK, and 250 km in Sweden. In addition to geographical distance, locally produced food is also considered as food which meets a number of criteria such as animal welfare, employment, fair trading relations, producer profitability, health, cultural and environmental issues (Bosona et al., 2011). Currently it is observed that customers have been motivated (to purchase the local food) by contributing positively to the ecosystem (a more altruistic reason) and by food quality and pleasure (a more hedonistic reason) (Brown et al. 2009; Bosona and Gebresenbet, 2011).

Here we present the main results of two case studies in Sweden, concerning the investigation of local food supply chain characteristics and developing a coordinated distribution system to improve logistics efficiency, reduce environmental impact, increase potential market for local food producers and improve traceability of food origin for consumers. In these studies, integrated logistics networks were developed by forming clusters of producers and determining the optimum collection centers (CC) linking food producers, food distributors and consumers/retailers enabling coordinated distribution of local food produces and facilitating the integration of food distribution in the local food supply systems into large scale food distribution channels.

In these case studies, after mapping the location of producers and delivery points as well as potential collection and distribution centers using geographic information system (GIS), the best collection points were determined using center-of-gravity and load-distance techniques (Russell and Taylor, 2009). Then detailed collection and distribution routes were analysed using RoutelogiX software (DPS, 2004). The result of the analysis indicated that coordinating and integrating the logistics activities of local food delivery system reduced the number of routes, the transport distance and transport time for the delivery system of local food. Such logistics network integration could have positive improvements towards potential market, logistics efficiency, environmental issue and traceability of food quality and food origin.

Coordination and network integration in local food supply chain increases logistics efficiency, potential market, access to information and reduces environmental impact (Bosona and Gebresenbet, 2011; Gebresenbet and Ljungberg 2001, Ljungberg, 2006; Ljungberg et al, 2007). In the food distribution system of local food producers, logistics is fragmented and inefficient compromising the sustainability of localized systems and this requires improvement. Therefore, forming the best collection and distribution centres for locally produced food is very important. Such location decisions should be supported technically since the location decisions have the dynamic implication over time (Sabah and Thomas, 1995). Therefore, in the process of developing improved logistics systems in the local food supply chain, detailed location analysis (mapping and clustering producers and determining optimum location of collection and/or distribution centres) and route analysis (creating optimised routes for product collection and distribution, simulating route distance and delivery time) are very essential (Bosona and Gebresenbet, 2011).

To sum up, the coordination and logistics network integration in local food system leads towards positive environmental impact by: reducing number of vehicles to be deployed for produce collection and distribution of local food products; increasing the utilization level of vehicle loading capacity; reducing travel distance, time and fuel by following optimized routes where possible; reducing green house gas emissions.

Text 15. How to Define Logistics in Agriculture: Theoretical Bases

Источник:http://www.kgau.ru/new/all/konferenc/konferenc/2013/e8.pdf

The developed logistics industry and market system are the important guarantee of modern agriculture. The research on agricultural logistics is of great significance to speeding up the process of agriculture modernization and improving the competition ability of agriculture (Qi, Yang, Tang, 2008).

In The Art of War, published in France in 1836, Baron Antoine Henri de Jomini (de Jomini, 2007) created the word ‘logistics’ and defined it as ‘Logistics comprises the means and arrangements which work out the plans of strategy and tactics. Strategy decides where to act; logistics brings the troops to this point.’ At the time, ‘strategy’ was military strategy and ‘flows’ concerned all goods, from food to weaponry that needed to be transported to, or close to, the battlefield. Today, logistics not only remains a major concern in any military operation, but has also emerged as a major tool in company management. Based on the development, in October 1998 the Council of Supply Chain Management (CSCMP) proclaimed the following definition, which asserts that logistics management was solely a part of SCM: Logistics is a part of the supply chain process which plans, implements and controls an efficient flow of goods and warehousing, services and relevant information from the point of origin to the point of consumption with the objective to meet consumer needs (CSCMP, 2013).

Zhang and Li (2012) defined agri-food supply chain as a network of business enterprises that are related to food, through which the food is ‘moving’ from production to consumption, including the activities of pre-production and consumption. But where in this definition lies the logistics? There are a number of changes in agri-food industry that initiate a re-orientation of food companies regarding their roles, activities and strategies. For example, demand and supply are no longer restricted to nations or regions but have become international processes.

Furthermore, product assortments have expanded significantly and market requirements on product quality, traceability, delivery services and sustainability are still increasing. The EU’s common agricultural policy focuses on quality not quantity. It helps farmers not just to produce food, but also to protect the environment, improve animal welfare and sustain viable rural communities. The main highlights of EU farm policy from 2013 are (European Union, 2013):

– Enabling farmers to: produce enough safe, high-quality food, contribute to a diversified rural economy and care for the environment and their animals to the highest standards.

– Supporting consumers to make informed choices about their food, through voluntary EU quality-labelling schemes. These labels – indicating geographic origin, use of traditional ingredients or methods (including organic) – also help make EU farm products competitive on world markets.

– Promoting innovation in farming and food processing to increase productivity and reduce environmental impacts.

– Encouraging fair trade relations with developing countries – by reducing EU farm export subsidies, which makes it easier for developing countries to sell what they produce.

To react to these changes and challenges, agricultural and food companies are continuously working on innovations by developing and implementing enhanced quality, logistics and information systems (IS). Most literatures on logistics outsourcing discuss the use of traditional logistics services such as transportation and warehousing. However, very little research is done and known about logistics implications for food supply chain networks. So in spite that the great importance of logistics in industry, business and other branches is generally acknowledged, this problem is not systematically investigated in agriculture (Vanecek and Kalab, 2003).

Text 16. Definitions of Agricultural Logistics. Part I

Источник:http://www.kgau.ru/new/all/konferenc/konferenc/2013/e8.pdf

The main aim of this article is to find the most appropriate definition of agricultural logistics based on deferent definition in scientific literature or to define agricultural logistics based on the existing ones. Searching the existing definition of logistics in agriculture sector was made through different browsers. Here are the definitions made by various authors:

– Li, Li, Chen, Li Li, Qin, Zheng (2012): Agricultural products logistics refers to moving material objects and related information from producer to consumer physically for meeting customer’s needs and achieve the value of agricultural products.

– Daoping, Feng, Lei (2012): The logistics of food crops is a special type of logistics of agricultural products. The production, circulation and sales of food crops matters to state strategic reserve.

– Liping (2009): Agricultural products logistics is a branch of the logistics industry, refers to physical flows of physical entities and related information from producer to consumer that satisfy consumer demand, including agricultural production, acquisition, transportation, storage, loading and unloading, handling, packaging, distribution processing, distribution, and information activities.

– Yao, Cui, Ying, Wei (2009): Agriculture products logistics dynamic alliance provided a suitable mode for agriculture products logistics.

– Zhang, Wang (2011): Agricultural Products Logistics is one important part of economic behaviour, which is to create value and surplus value with the purpose of the act. Modern agricultural products logistics is to use modern science and technology to service in modern society.

– Xu (2011): Based on the understanding of modern logistics, modern agricultural logistics can be defined as: an integrated industrial activities of integrated operation and management relying on advanced computer networks and information technology, integrating the use of modern transport and storage facilities, through a large number of business information instructions, engaged in agricultural transportation, storage, processing, handling, packaging and distribution processing, distribution and information processing. The aim is to optimize the distribution channels of agricultural products, reduce operating costs of agriculture-related enterprises in full range, and provide faster and better service to consumers of agricultural products.

– Li, Zhou, Wang (2012): Taking agricultural products as the core, the agricultural products logistics refers to the organic combination of the entity flowing from producer to receiver and the involving technology, organization, management and other basic functions. It consists of a series of links, such as agricultural production, purchase, transport, storage, loading and unloading, handling, packaging, distribution, circulation processing, information activities, and etc. and realizing agricultural product appreciation and organization objectives in the process.

– Wang (2012): Agricultural products logistics is a branch of the logistics industry, refers to physical flows of physical entities and related information from producer to consumer that satisfy consumer demand, including agricultural production, acquisition, transportation, storage, loading and unloading, handling, packaging, distribution processing, distribution, and information activities. Development objectives of agricultural products logistics is to increase value-added of agricultural products, save distribution costs, improve circulation efficiency and reduce unnecessary losses, to some extent avoid market risks.

– Gan, Zhu, Zhang (2011): It is defined agricultural product logistics is the economic activity from agricultural product producer to the consumers in order to satisfy customers' demands, including the links such as agricultural product production, purchasing, transportation, storage, loading and unloading, handling, package, processing, distribution and information processing.

Be continued in the next text.

Text 17. Definitions of Agricultural Logistics. PartII

Источник:http://www.kgau.ru/new/all/konferenc/konferenc/2013/e8.pdf

The aim of this research is to review the definitions in an agriculture logistics and to provide a comprehensive definition. In the previous text we have already presented some of the definitions of logistics in agriculture that we found in the scientific literature. Let's continue.

– Tan, (2012): Logistics in agriculture are activities associated within the process itself, to improve the quality of agricultural products. The logistical process is improving and ensuring the quality of agricultural products, reducing logistics costs, an optimal allocation of resources, promote the welfare and protection of the environment, strives for the development of agricultural product logistics in the direction of green logistics.

– Federico (2011): Logistics plays a central role in modern agricultural production. The predominance of the logic of commodity trading, expressed by the standardization and international regulation of production, has been promoting the deepening of the territorial division of labor, leading to regional agricultural specialization. The enlargement of the agricultural productive spatial circuits has integrated the flows on a global scale, calling for ever further-reaching logistics in the linking up of the stages spatially separate from production.

– Shufeng, Liya, Wei (2010): Modern agriculture logistics should have 12 functional elements of procurement, supply, storage, transportation, loading and unloading, sorting, packaging, distribution, distribution processing, marketing, recycling, and information control; the task of modern agriculture logistics management should not only put foot on solving to lower the logistics cost, and lessen and avoid the logistics operating risks, but also research how to promote all of function elements to comprehensively play the integrated effects to create plentiful '3rd party profit' of logistics enterprises, and become the source of power of the village lowering agricultural production cost raising agricultural economic benefit promoting the peasants to raise the income and push forward modern agricultural economic development.

The authors of the abovementioned definitions indicate that logistics in agriculture is an economic activity that caters to the optimal, continuous flow in the process, from the producer of an agricultural product to the final consumer. Logistics in agriculture is an effective and efficient system that ensures a smooth and successful process of production of agricultural products. The aim of logistics in agriculture is in increasing production of agricultural products to care for its continuous operation, optimize the cost of production, storage, transport and distribution, increase value-added agricultural products and satisfy consumer.

To sum up, like Delfmann and others (2010), who have defined logistics as a scientific discipline, we came out with the following definition of the term: Logistics in agriculture is a discipline which analyses and models division-of-labour economic systems as time-based and location-based flows of agricultural objects (above all goods and people) in agricultural networks, supplying recommendations for action on the design and implementation of these agricultural networks. Logistics in agriculture tries to configure, organize, control or regulate different agricultural networks and flows with the aim of paving the way for progress in the balanced achievement of economic, ecological and social objectives. The particular approach of logistics is that it interprets economic processes as flows of goods, information, people, assets and other objects in agricultural networks. Logistics identifies, describes and analyses these networks and flows of objects from a multi-perspective viewpoint and creates a foundation for the organisation of these networks and flows geared towards economic, ecological and social goals.

Text 18. Operational Cooperation in International Logistics

Источник:
https://www.researchgate.net/publication/296705994_International_Logistics

If we treat logistics as a method of managing the flow of goods and information, then a very particular case of logistic management will be international logistics. If we consider the four areas of logistic management within the company: operational, financial (closely related to logistic costs) marketing and informational one, then such system of linked companies, located all over the world, where at least one of them is shared, will be called international logistics.

Operational cooperation in international logistics is expressed by activities such as:

– implementation of the same (or similar) concepts (rules) of management by the participants, the companies being the supply chain links on the European scale (e.g. LM – Lean Management, AM – Agile Management, TBM – Time-Based Management);

– using one Shared Service Center, the objective of which will be to strengthen and facilitate functions in such areas as human resources management, IT support, logistics, operations between the customers and the supplier etc. (shared services make it possible to perform business processes in line with unified norms, with lowered risk and costs);

– building and use of partner undertakings with logistic companies, suppliers, recipients of the components and products;

– application of the same or similar concepts of inventory management (e.g. CMI, Co-Managed Inventory, CPFR – Collaborative Planning Forecasting and Replenishment, VMI – Vendor Managed Inventory);

– using the same or similar methods of goods flow management in companies that are participants of the supply chain on the European scale, and not only (e.g. Just-in-Time, Kanban).

– implementation of the latest transport technologies (e.g. transport navigation systems, warning systems, tracking systems, high-speed trains, trucks of maximum transport efficiency, that reach the lowest running costs in the industry with optimal performance of the vehicle, fuel-efficient engines, aerodynamic bodylines, modern and spacious inside of the vehicle, safe and economic aircraft);

– implementing the latest warehousing techniques – modern systems, machines, devices (e.g automatic identification, the ‘goods to man’ systems, automatic monitoring, machine vision, automated high-bay warehouses, the WMS information systems – a programme for management of goods movement in warehouses, unmanned trolleys, robots, automatic machines);

– implementation of uniform measures to assess the logistic supply chain on its entire length;

– implementation of logistic packaging chains;

– construction of vast computer networks;

– implementation of modern communication systems, e.g. videoconferences, the Internet;

– standardization of production and inventory control methods and logistic processes;

– implementation of e-logistics (electronic stock exchange, electronic catalogues, freight exchange, electronic logistic platforms, corporation portals);

– standardization of operational costs balance in all supply chain participants;

– creating logistic centers.

Text 19. Financial Management and Information Cooperation in International Logistics

Источник:
https://www.researchgate.net/publication/296705994_International_Logistics

Joint financial management related to international logistics costs, narrows down to monitoring and control:

– freezing of working capital in inventories – this constitutes the answer to a question of how much it costs all chain participants (companies) to freeze the capital in inventories, as opposed to the possibility to use it in any other, more efficient way – the cost of lost opportunities (only good production planning, based on the orders, or well-prepared forecasts, along with the right information exchange, ensures the minimization of stocks);

– the costs of physical flow in international logistic channels (including the costs of: depreciation of fixed assets involved in logistic activities, work, media and materials consumption, external transport services, taxes and transport insurance etc.);

– warehousing costs in international logistic channels (including costs of storage and manipulation);

– costs of stock depletion (including lost sales and delayed orders);

– costs of international logistic channel deficiencies and mistakes in customer service (these include penalties for the breach of supply conditions and all costs resulting from mistakes in service);

– the costs of information flow (the level of customer service is closely related to the quality of information along the entire depth and width of the international logistic channel);

– implementation of effective logistic activity crediting policy.

The identification of logistic costs for particular links of an international logistic channel is extremely troublesome and difficult. This is caused by the complexity of the problem resulting from the number of varying participants, different as regards their role and place within the channel. Defining and understanding all logistic costs of each link, especially when changes are introduced into one of them, requires carrying out a simulation and detailed system analysis within the entire international logistic channel. Helpful tools in defining logistic costs for all participants of logistic chains are:

– integrated management systems that support the ABC method – the balance of operational costs;

– an Excel spreadsheet that facilitates: a. identification of all participants within both upper and lower part of the international logistic channel, along with the costs incurred by logistic operations; b. carrying out simulations of changes and responses of all the links of the chain;

– services provided by specialized units (e.g. consulting companies, Accounting Service Centers – ASC, or Global Shared Services in Finance-Accounting).

Cooperation regarding information sharing and exchange is particularly important in international logistic channels, where the links are logistic companies, of network or virtual type, or finally enterprises that own intelligent production systems, where a human is replaced by machine data processing (IT technologies of artificial intelligence). Cooperation in the field of information is related, among others, to the following:

– data exchange within all management functions (planning, organizing, motivating, controlling, decision-making and coordinating);

– creating one shared database within integrated management systems or in the Internet;

– data exchange in key functional areas of the company (e.g. sales, distribution, technical preparation of production, production planning and management, production and assembly of products; supplies, storage; tool and repair management);

– using professional logistics platforms;

– making use of the global standards;

– the use of the Global Data Synchronization Network (GDSN), i.e. compatible electronic catalogues storing data on products and producers, enabling secure and continuous data synchronization; this way all trading partners have consistent data in their systems, regarding a specific unit at the same time ;

– exchange of information via EDI.

Text 20. Marketing Cooperation in International Logistics

Источник:
https://www.researchgate.net/publication/296705994_International_Logistics

The marketing cooperation in international logistics is about accomplishing tasks such as:

– creating the image of the company and brand consolidation for products and services, e.g. by participation in different kinds of rankings;

– realization of unanimous policy regarding the target strategy of logistic services via:

a. working out a long-term program, among all participants, i.e. manufacturing, transport and distribution companies, that would indicate the areas for change which might be necessary in the long run;

b. joint cost-reduction programs;

c. monitoring of external factors that have impact on the price, i.e. customers, competition, distribution channel participants, regulatory, ethical and legal matters.

d. using the so-called price positioning affecting the creation of added value for all participants in the supply chain;

e. using expert advisory services;

f. using integrated IT systems that support the decision making in the price policy area.

g. training relevant staff that would be able to maintain the price regime of logistic products.

– finding and exploitation of market niches – among other ways, his may be done by a detailed analysis of:

a. substitution industries – in the broader meaning, the companies compete not only within their own field (e.g. transport industry), but also with the companies that provide substitutes, which would mean companies such as those belonging to the TFL sector (one needs to answer a question, whether there is a place for a new brand product);

b. strategic groups – the term ‘strategic group’ describes a set of companies belonging to one sector and pursuing a similar strategy (e.g. logistic distribution centers for companies such as Ikea, Jeronimo Martins, Netto);

c. supply chain – in the sale of a product, it is crucial to define all supply chain participants until the moment of obtaining the materials, by all sub-contractors, to the final consumer (in this last case, one needs to answer the question, how deep the market is to be – the national, European or global one?);

d. complementary products and services – it is very rare that the products as such have a value to the customer, most often their price depends on considering the entire set of products and services complementary to one another (it is not enough to deliver a product, it needs to be installed, ran, serviced and withdrawn from exploitation);

e. functional and emotional preferences of the customers – in some industries the competition is based mainly on the price and the ratio of the price to the relevance of the product – such industries may be called oriented on the functional preferences of the customers;

f. time – in order to create a new market space, it is not enough to passively adjust the company to the appearing market trends, one needs to forsee the future needs of the customer and assess, how the change in needs would influence the perception of products; this is particularly visible in the IT sector;

– systematic study of transfers of shares in the competitive environment (here one cannot forget to create the legislative possibility of moving the stock between pools offered for private and institutional investors as well as between domestic and foreign investors);

– periodic analysis of the size and structure of demand for logistics – the following types of analyses are usually carried out:

a. market absorption;

b. segmentation and selectiveness;

c. market capacity;

d. market development trends, with particular attention paid to e-commerce,

e. sustainability and flexibility.

– The use of ‘mix’ promotion strategy, depending on the phase of product lifecycle;

– Marketing research on chosen European and non-European markets, which would inter alia answer the following questions:

a. how does the logistic potential shape on the new markets in the European region, including Middle-Eastern Europe?

b. how to build a comparative analysis of a logistic company and the products or services it provides on several markets?

c. how to find new channels and markets, including e-markets, for logistic services?

d. what is most crucial in my logistic service from the perspective of the international market customer, with particular focus on e-logistics?

e. what is the position of my product as compared to the competition in the logistics sector, what are its distinctive features, if any.

Text 21. Definition of Logistics Centers

Источник:
https://www.researchgate.net/publication/296705994_International_Logistics

One of the conditions for the efficient movement of products in Euro-logistics is to create nodal points of modal logistics network, which in practice, depending on the time of formation, classification, purpose and strategy would be called: storage building (object); storage center; logistic services center; distribution center; logistics park; logistics center; or logistics hub.

Apart from the above-mentioned, network nodes include also seaports, airports, inland ports, package sorting places, intermodal freight terminals.

In practice, the most commonly used name is logistics center, distribution center, storage center, and warehouse.

In foreign literature, different names are used to describe the logistics center: plater – forms multimodales (French), freight villages (English), Guterverkehrszentrum (German) and interporto (Italian).

The type of node we deal with is dependent on the range of services it provides. And so, the most common example are:

– warehouse – for cross docking, freight forwarders, customs clearance, warehousing, sorting;

– storage center – apart from those mentioned for the Warehouse, provides telecommunications services;

– logistics center – performs operations as a warehouse or a storage center; besides, provides financial and insurance services, packaging, maintenance and repair of vehicles and transport equipment, fuel sales, social services – welfare, medical assistance.

The scope of operations performed by a warehouse, a storage center or a logistics center is related to the number of buildings, the space, the degree of mechanization and automation, the number of employed staff and investors (storage centers – in most cases one investor – developer, logistics centers – many investors).

In professional literature, one may come across different definitions of the above-presented node modal points, which are the elements of the European logistic network. And thus:

– A logistics center is a spatial object with appropriate organization and infrastructure that enables various independent companies to perform operations on the goods in connection with their storage and movement between the sender and the recipient, including support for intermodal transport and providing users with a variety of additional services;

– A distribution center– is an organizational unit dedicated to the storage of goods owned suppliers and their allocation to recipients according to specific features of the owner of the goods;

– A storage center – a spatial object with appropriate organization and infrastructure for different independent enterprises performing operations on the goods in connection with the storage and movement between the sender and the receiver;

– A warehouse – a functional and organizational unit, designed for storing inventory in especially adapted space (storage buildings), basing of established technology, using technical equipment and means, manager knowledge and a team of people with appropriate skills.

Text 22. Functions of Logistics Centers

Источник:
https://www.researchgate.net/publication/296705994_International_Logistics

The basic and main task performed in logistics centers is the transshipment of intermodal transport units (containers, swap bodies and semi-trailers), additionally providing services that are not directly linked with logistics.

Within the activity of logistics centers, we distinguish three kinds of functions:

– logistics – related: transport, storage, inventory management, order management, transshipment on container terminals, packaging, completion;

– auxiliary: forwarding; customs service; insurance; rotation system collecting reusable transport packaging; rental of containers, pallets and other transport packaging; Information and IT services; promotion and marketing;

– additional: technical maintenance of vehicles; sale of fuels, oils and accessories; repair of containers and other transport packaging; hospitality services; catering services; banking services; financial and accounting services; telecommunications services; parking services.

Logistics centers services are often used by manufacturing companies; there, they perform processes related to supplies, assembly and distribution. In such case, the functions performed by the producer include the following spheres:

– supply – the reception and storage of goods for production, supply consolidation of supply for the production, assembling assembly kits, delivery of goods to manufacturing companies, including sequential supply of production lines;

– production – subassembly (e.g. welding the sheets of metal car body) and installation teams away from the primary manufacturing site;

– expertise – services requiring compliance e.g. with EU HACCP requirements for transport (refrigerated trucks), storage (temperature, humidity), distribution of food;

– coordination – action between the sphere of production and the sphere of services – packaging products, co-manufacturing;

– distribution – final assembly, packaging, delivery.

According to the function (purpose) that logistics centers play in the economic system of the country, we may distinguish three types of logistics centers:

– Logistics centers that constitute the public national infrastructure, including:

a. logistics centers for harmonized service of the urban and industrial agglomerations – the so-called *city-logistic* (the purpose is to reduce traffic in city centers, at the same time preserving the same level of supplies);

b. logistics centers as international trade points (this function is performed by the logistic centers in sea ports and on the premises of the so-called dry ports, located within the land border crossings).

– Logistics centers that fulfill own needs of economic entities: In case when industrial or trade entities, thanks to the implementation of the logistics management concept (SCM – Supply Chain Management), are able to define their logistics processes and assess the costs of particular phases of these processes, appropriate conditions occur for the verification of placing, structure and organization-related decisions.

– Logistics centers as a service commissioned by logistics operators - the so-called 3PL (third party logistics). Operators can own logistics infrastructure points, use it on lease or rent or provide services on the premises owned by industry and trade companies.

Text 23. Classification of Logistics Centers

Источник:
https://www.researchgate.net/publication/296705994_International_Logistics

Economic growth is closely related to the development of logistics, which needs to meet customer"s expectations and bring profits. The main kinds of inspiration for establishing logistics centers are: the increase in meaning customer service quality; compression of time; cost reduction; globalisation; organizational integration.

In professional literature, one may come across a multi-aspect approach to the division and classification of logistics centers. Below, there are some of them:

Due to integrity:

– focused – infrastructure and buildings owned by the logistics center or individual users are located in one area subject to the rules set by the management board;

– modular – logistics center within the area defining its boundaries is functionally divided into separate units subordinated to the common rules of operation set by the operation purpose of the logistics center, but whose ownership structure, organization and governance can be varied;

– dispersed – organizationally uniform but divided into parts; spatially separated for various reasons: the availability of real estate, infrastructure, planning or economic conditions, local economic or planning policy objectives, etc.

Due to ownership:

– public-private – logistics centers usually initiated by the public sector, where its investment contribution has the form of legal and administrative measures to enable (facilitate) the realization of the investment, real estate, financial and tax decisions (planning fee, local taxes, etc.) and investment in the development of local infrastructure, including transportation infrastructure etc., while the private sector is involved in capital investment, implements and finances infrastructure and facilities for their own use and usually performs management functions in the logistic center after it is set up.

– private – built with the investor's own resources; with functional and infrastructural orientation on the market-related goals

Due to the type of handled goods:

– universal – providing the possibility of stockpiling without restrictions as to their nature and physical form;

– industry – limiting the type of collected inventory to specific ranges, which stems more from the concentration of a particular production type in its environment (e.g. industry cluster solutions) than from self- restraint or either administrative or legal factors.

– specialist – specialization may result from the specific characteristics of a given product or the required additional credentials to perform the usual operational activities – for example, chemical products requiring specific procedures related to the need to provide special safety requirements for storage and transport.

Due to the extent of the impact and type:

– international – 500-800 km radius of impact the highest degree of expansion of the organizational and functional management area 100-150 ha – developed logistics infrastructure, full IT system and extensive logistics services provided;

– regional – 50-80 km radius of influence; an indirect link in the logistics channels, with well-developed logistics infrastructure and information system;

– local – radius of influence, the lowest level in the system of logistics centers, with limited logistics infrastructure.

Text 24. Equipment and Infrastructure of a Logistics Center

Источник:
https://www.researchgate.net/publication/296705994_International_Logistics

The purpose of a logistic center is first and foremost: a 24/7 comprehensive servicing of the flow of material and goods together with the provision of all welfare services to the drivers and other employees; provision of a comprehensive storage service; provision of all handling-related works, such as loading, transshipment and unloading of products.

For appropriate realization of these tasks, the company running a logistics center must have appropriate facilities and infrastructure for the creation and management of supply chains. They include:

– administrative buildings (e.g. management and administration office, foreman and team leader office, information traffic management office);

– storage buildings and structures, allowing storage and protection of inventory;

– storage equipment (shelves, the means for moving products, measurement and control equipment, fire protection equipment etc.);

– means of transport for the movement of products both within the enterprise and between suppliers and customers;

– equipment for loading and unloading;

– internal roads and access roads, mainly for cars, but also for the wagons;

– packaging that fulfill protective, storage, transport, handling, information and advertising functions;

– reusable loading units, such as pallets or containers;

– buildings and offices related to the functions of auxiliaries and additives (e.g. service stations, petrol stations, social and living rooms, banking services, insurance);

– equipment and safety-related measures such as ESFR sprinklers, vents, emergency exits, emergency power-battery room, fire and smoke detectors, 24/7 security-monitoring.

Taking into consideration the scale and complexity of the processes carried out in a logistics center, such objects constitute the key link of a supply chain. However, a big scale of the undertaking or even significant operational space makes the realization of the requirements to be a huge design and operational challenge. The growing customer demands, mainly as regards the speed of service and flawless competence of the orders, as well as the need to minimize operational costs of company functioning, underlie the tendency do the widest possible automation and computerization of logistics processes. Automation includes the processes of physical handling of the cargo, while the information systems take over the management functions (inventory, equipment automation and operational data) and the operational service for logistics processes.

Among the processes of physical cargo handling that undergo extensive automation, we may distinguish, among other things:

– storage – the main components of automated high-bay warehouses are specialized rack systems, automatic stacker cranes, material handling equipment and control systems, information systems, adequately standardized loads, e.g. Euro pallets;

– internal transport – the use of automatic self-steering trucks (AGV), overhead cranes, solid conveyors, cranes, rack stackers and rail trolleys allows for the elimination of human labor;

– order picking, sorting, expedition – it would not be possible to improve these processes without automatic identification using a variety of instruments and tools which include: light download signaling; RFID (Radio-frequency identification) – a technique that uses radio waves to transmit electronic data and power to an electronic circuit being the label of the object, to identify it by means of a reader; voice systems – the use of voice technology provides an easy, two-way means of communication between the computer system, such as WMS and the user, e.g. a warehouse worker; a barcode reader, commonly called a scanner, is a device that converts light reflected from the bar code to an electronic signal, understandable for a cash point or a computer; RF Terminals – wireless exchange of information via radio on-line; such terminals are often equipped with a barcode scanner; computers mounted in vehicles and portable computers – have an advantage over handheld devices; equipped with user-friendly interface.

An essential component of the technological equipment in a modern logistics center is, next to the automation systems, integrated IT systems.

Text 25. IT Systems for the Needs of Logistics

Источник:
https://www.researchgate.net/publication/296705994_International_Logistics

The most known systems of logistics management support used in practice include: Materials Requirement Planning (MRP); Manufacturing Resources Planning (MRP II); Enterprise Resource Planning (ERP); Efficient Consumer Response (ECR); Consumer Relationship Management (CRM).

The presented identification of IT systems used in supply chain demonstrates that the producers of systems attach increasingly more value to the construction of scalable applications, i.e. those that would ‘grow’ together with the length and capacity of the supply chain. They usually offer their customers a new application, on the surface very similar to the previous one, yet much more functionally developed, using a modern, efficient data base. Thanks to this, the participants of the supply chain who decided to purchase and implement the programme suitable for their current situation may easily exchange the software in the future, when their needs increase.

The results of the conducted research demonstrated that the necessary conditions for the IT integration within multinational and cooperative supply chains, are as follows: IT technologies existing in companies and supply chains; homogeneous identification standard; automatic identification; electronic communication, including electronic data exchange; integrated IT system; protecting the flowing information from unauthorised access and warranting their credibility.

The new program is similar in use, so the employees who work on it do not need to learn it from scratch. Moreover, the implementation time and costs are significantly reduced. An important tendency in company management-supporting systems is their continuously growing flexibility. The modern software may be increasingly more easily modified.

A pre-condition for building the network of interrelations among external companies within the supply chain is for these companies to have information systems of a certain class that is required. These should be the ERP-class system, providing the possibility to expand economic activity by e-business, i.e. ERP II solutions, which also account for the external elements of the business environment.

The complex integration of IT systems may be executed according to different strategies depending on the type of business. The aim of such integration is optimization of the supply chain and then particular participants. Fulfilling this condition requires the following provisions from the IT system;

– the possibility of obtaining information in every demanded spot of the flow along the logistics chain;

– accessibility of information to all cooperating partners;

– accuracy of information;

– satisfying speed of the information flow and its topicality;

– the possibility of processing information for the support of the decision making process;

– the possibility of automation of activities connected with manufacturing, obtaining and processing information and making decisions.

Text 26. Eleven Countries with Highest Agricultural Exports in World. Part I

Источник: https://www.insidermonkey.com/blog/11-countries-with-the-highest-agricultural-exports-in-the-world-599456/?singlepage=1

Food is the most important commodity in the world and the11 countries with the highest agricultural exports in the world understand this fact very well and put a lot of effort into developing technologies to improve their output. In fact, as you will see from the list that we will present later, some of the top agricultural exporters have relatively small areas and managed to achieve high volume of exports through developing technology and investing in workforce education.

Earth's population is expected to reach almost 10 billion by 2050. According to the UN's Food and Agriculture Organization, this will result in an increase in demand for agricultural products by at least 50% compared to 2013. One way to reduce the need for increasing the global food production is through cutting losses and waste. The world is currently producing more than enough food to feed the entire population, yet there are around 1.2 billion people that are underfed. One of the reasons for this is the over-commoditization of food, which allowed financiers to speculate on agricultural futures and raise the prices for food items worldwide. The commoditization of food is due to the lack of regulations and the world governments together with the UN should address this issue by treating food as a human right rather than a commodity.

Food production is facing many issues and if demand is set to increase, these issues must be addressed. One of them is the migration of populations from rural to urban areas. The FAO estimates that 2/3's of the world population will live in cities by 2050, which will result in fewer people being available to work in agriculture. Climate change is also affecting crop and livestock production. The recent hurricane Irma, which disrupted farming in Florida, is one of the latest examples. In addition, higher food demand might lead to the need for more natural resources like land and water, which would require more deforestation.

However, all these issues can be addressed through technology and the latest trends are pretty positive. More and more farms, especially in the developed world, use 'smart' irrigation systems that analyze the quantity of moisture in the soil and dispense just the exact amount of water automatically. Sensors and drones are widely used to analyze fields and identify the need for fertilization, to identify infestations with weeds and parasites, and even fix these problems automatically, which makes farming less labor intensive. Biotechnology is also helping to improve output through making more efficient crops, thus eliminating the need for more land.

Businesses are also shifting from their traditional business of selling seeds, equipment or chemicals and are focusing on data. They develop platforms that work in the cloud and collect data on crop production and analyze other metrics like weather, weed infestation, and water requirements. This will allow farmers to work more efficiently, while companies will be able to identify some of the more common issues and address them through their products.

Having said that, let's take a look at the 11 countries with the highest agricultural exports in the world and the trends that shape their food production, allowing them to stay at the top. Some of the countries in this list that have more land available for farming are also among the 8 countries that produce the most grain in the world.

11. Argentina.Value of Exports (US Dollars): $37.17 Billion.

Argentina ranks 11th on the list of the 11 countries with the highest agricultural exports in the world. Agriculture plays a very important role in Argentina's economy, with approximately 7% of the workforce being employed in the industry. Even though the share of agriculture in the country's GDP has declined to less than 10% from around 20% in the 1960s, it represents over half of its total exports. The main agricultural products that are exported are Soybean, Wine, Wheat and Corn.

10. Italy. Value of Exports (US Dollars): $43.76 Billion.

Even though Italy's surface area is slightly more than a 10th of Argentina's (116,306 square miles), the dollar value of its agricultural exports is significantly higher. One reason for that is the fact that Italy is a member of the European common market, which offers it easy access to many international markets. However, with total exports of $447 billion, the share of agricultural products in

Italy is much smaller. Not surprisingly, the most exported agricultural product from Italy is wine, which amasses around 14% of its agricultural exports.

9. Belgium. Value of Exports (US Dollars): $43.90 Billion.

Belgium is next on the list of the 11 countries with the highest agricultural exports in the world. Out of the nearly $44 billion in food exports from Belgium, almost $3 billion are chocolate exports. However, despite being one of the top agricultural exporters in the world, just 2% of the country's population is employed in this sector. The small number of people that work in the agricultural industry is due to the disappearance of small family farms, but at the same time, the introduction of new technologies has allowed an increase in production despite declining acreage.

Be continued…

Text 27. Eleven Countries with Highest Agricultural Exports in World. PartII

Источник: https://www.insidermonkey.com/blog/11-countries-with-the-highest-agricultural-exports-in-the-world-599456/?singlepage=1

Let's continue looking at the 11 countries with the highest agricultural exports in the world.

8.Spain. Value of Exports (US Dollars): $51.05 Billion.

Up next in our list of countries with the highest agricultural exports in the world is Spain that is one of the largest countries in Western Europe and out of 50.5 million hectares of land, around 40% is used for crop production. The country is one of the largest producers of olive oil, wine, and citrus fruits in Europe, as well as other fruits, vegetables and meat. Citrus, wine, Olive oil, and pork represent the main agricultural products that Spain exports. Spain is also one of the largest rice-growing states in the European Union, but the unfavorable conditions and limited water availability pose some challenges for rice cultivation.

7.Canada. Value of Exports (US Dollars): $56 Billion.

Because it has a large surface area and favorable conditions, Canada produces far more agricultural products than it needs to feed its own population. In this way, Canada exports half of the beef that it produces and around 70% of its soybeans and 75% of its wheat. Over 90% of Canadian farmers and 40% of the food processing industry rely on exports. The U.S is the main export destination for Canadian agricultural products, with a share of over 50%, followed by China with 9.2%. Overall, Canada ranks seventh on the list of the 11 countries with the highest agricultural exports in the world.

6. China. Value of Exports (US Dollars): $63.49 Billion.

China is the largest exporter in the world, with exports worth $2.40 trillion. This makes its agricultural exports tiny by comparison, though still ranking it sixth among the 11 countries with the highest agricultural exports in the world. China is also one of the largest food producers in the world, though its large population and a shortage of farm land mean that it still has to import grain and other land-extensive crops. The main items exported by China are animal products, such as hides, fish, molluscs, and crustaceans.

5. France. Value of Exports (US Dollars): $74.29 Billion.

Agriculture contributes around 3% of France's GDP and employs under 4% of the labor force. However, France is recognized globally for its agricultural products, especially its wine, which unsurprisingly amass 13% of its food exports. Hard liquor, animal food, raw sugar, and water are other top products exported by France.

4. Brazil. Value of Exports (US Dollars): $78.82 Billion.

With a surface area of 3.29 million square miles, Brazilis the fifth-largest country in the world, so it's not surprising that it is also one of the countries with the highest agricultural exports in the world. The country is taking advantage of the resources and relies heavily on agriculture for economic growth. Among its main exports are coffee, soybeans, corn, raw sugar, and poultry meat, which amass nearly 60% of its total exports.

Be continued…

Text 28. Eleven Countries with Highest Agricultural Exports in World. PartIII

Источник: https://www.insidermonkey.com/blog/11-countries-with-the-highest-agricultural-exports-in-the-world-599456/?singlepage=1

And now let's consider the top three countries in the list with the countries with the highest agricultural exports in the world.

3. Germany. Value of Exports (US Dollars): $86.83 Billion.

Germany's total exports amount to roughly $1.25 trillion, so the share of agricultural products is pretty small. In addition, agriculture is a small sector of the German economy. Nevertheless, Germany is the home of BASF, one of the 11 biggest agricultural companies in the world, which produces farming and crop protection products, as well as products for forestry and woodland management. Among the main agricultural products exported by Germany are chocolate, baked goods, and rolled tobacco.

2. The Netherlands. Value of Exports (US Dollars): $92.85 Billion.

We are continuing our list of countries with the highest agricultural exports in the world with the Netherlands that is the sixth-smallest country within the European Union, but it's the EU's largest food exporter and the world's second-largest. Moreover, it relies heavily on agriculture, which represents over 80% of its GDP. The country managed to achieve this due to several factors. First, the country has a lot of flat land and fertile soil and a moderate climate, which creates good farming conditions. In addition, the country has invested a lot of capital in improving farming technology, with many farms using robots and automated processes at all stages, from planting to picking food to processing. The Netherlands is also home to the world's leading university for agricultural education and it invests in developing innovative technology to improve crop yields. Moreover, the Netherlands also has the port of Rotterdam, which is a major hub and a lot of agricultural products that come from the Netherlands are actually re-exported (around $22 billion).

1. The United States. Value of Exports (US Dollars): $149.12 Billion.

The U.S. is the world's largest economy and has been the world's largest food exporter for decades. Some of the top agricultural companies are headquartered in the U.S, such as Monsanto Company, the largest seed producer, and Deere & Company and Caterpillar Inc.**,** two of the leading manufacturers of farming equipment. The leading U.S agricultural exports are grains, soybeans, livestock, and horticultural products. The United States' main export destinations are Canada, China, Mexico, and the European Union. Moreover, the U.S is the leader in agricultural innovation, which also makes it one of the top exporters of agriculture-related technology.

These are the 11 countries with the highest agricultural exports in the world**.** Because many of these countries are part of the developed world, they have the resources to invest in innovation and make farming more sustainable in order to satisfy the greater demand of growing populations, without a significant impact on the environment. In addition, countries that rely mainly on natural resources to produce high crops can also make existing farmland more efficient.

Text 29. A Russian Exporter of Agricultural Products

Источник: https://akcon.biz/

Akcon is a Russian exporter of agricultural products. Our company specializes in exporting agricultural products in bulk to Europe, Asia, the Middle East, etc.

As to selling grain in bulk, we supply food and fodder grain, wheat barley, oats, rye, corn, sorghum, millet. In addition, grain is supplied in bulk for technical processing and for feeding agricultural livestock. We sell grain with a different form of payment by shipment from grain storage (warehouses) in the buyer's (customer's) auto and rail transport. In order to find out the price of grain, contact Akcon specialists.

As to bulk sale of grains, beans and oil crops, we supply flax, lentils, chickpeas, peas, safflower, sunflower and other crops. We specialize in their deliveries and know the peculiarities of storage and transportation. We take into account the grade, humidity, specific gravity. We supply varieties taking into account local market requirements. The logistical structure allows you to deliver agricultural products quickly from the producer to the customer.

'Our task is to provide our partners with the best Russian agricultural products'.

We offer agricultural products with fast and reliable delivery to foreign partners across the world. The delivered products meet the requirements of international standards. Products must be tested in accredited laboratories. All products are certified, meet accepted international standards and are accompanied by a full package of documents.

We cooperate with major carriers – professionals in their business. Delivery terms (DAP, FCA, etc.). Products are delivered in containers, bulk, big or polypropylene bags. Any type of delivery is acceptable.

Our products have important advantages: a competitive price and a more favorable freight rate.

Akcon guarantees reliability and exact adherence to delivery dates. We have a large range, which is constantly expanding: if you can't find the product you want in the catalog on our website, leave a request for any crop, and we will answer your request.

Talking about grain sales market in 2021, we should mention:

– Grain exports from Russia: Selling grain from Russia is an important area of focus for the Company. According to data, the volume of grain exports from Russia amounted to 57.5 mln. t. Wheat took the 1st place - 38.3 mln. t, barley - 6.1 mln. t, corn - 3.7 mln. t, seed meal - 2.2 mln. t, sunflower - 1.4 mln t. Grain from Russia is shipped to 138 countries.

– Duties on grain exports: Duties on products exported from Russia outside the Customs Union and within the Union are constantly being adjusted. In 2021, the duties changed already on the adjustment of export duties on wheat, corn and barley. At the same time, the export selling price is still one of the most affordable in the world.

– Price of grain for export: The price of grain for export depends on the exchange rate, the amount of duties, external and internal factors in pricing. For example, in 2021, world wheat prices are at $200-300 per ton.

Text 30. Akcon – Delivery Terms

Источник: https://akcon.biz/company/index.php

Akcon is a Russian exporter of agricultural products. Here are the delivery terms which are applied by the company:

FCA – seller's responsibility – clearing the products for export and loading in own or pre-selected territory in the transport provided by the buyer. The responsibility falls immediately upon loading. The seller also pays the export duties.

CPT – the seller fulfills his obligation to deliver when the products are handed to the carrier. The main carriage to the arrival terminal specified in the contract is paid by the seller, insurance costs, import customs clearance and delivery from the main carrier's arrival terminal are borne by the buyer.

EXW – the products are picked up by the buyer from the seller's warehouse specified in the contract. Loading, delivery, clearing the products for export and completion of export customs clearance procedures are the buyer's responsibility.

DPU – the seller performs the following actions: clearing the products for export, loading, transportation and unloading. The insurance of the products is not made at this point. The buyer carries out customs clearance at the final stage.

DAP – the seller hands over the products, ready for unloading, to the buyer at the agreed place. The seller is responsible for the cost of shipping the product to its destination. Customs clearance and duties are the buyer's responsibility.

DDP – duties of delivery, customs clearance, clearing the products for export are the seller's responsibility. The products arrive to the buyer cleared of all customs duties.

Terms applicable to maritime transport and transport of territorial waters:

FAS – the products are delivered to the port and berth specified in the contract to the buyer's ship. Transshipment and loading is paid by the buyer.

FOB – the seller has made delivery when the products have passed on board the ship at the specified port of shipment. The products are transferred to the buyer's ship, who then pays for shipping, unloading, delivery to the warehouse and is responsible for the safety of the products.

CFR – The seller is deemed to have fulfilled its delivery obligations when the products are placed on board the ship chartered by the seller for delivery to the destination port. The insurance of the main carriage, unloading, transshipment is paid by the buyer, as well as any additional costs.

CIF (cost, insurance and freight) – the products are delivered to the buyer's destination port specified in the contract, the insurance of the main carriage is paid by the seller. The buyer is responsible for receiving the shipment at the port, unloading it from the ship, delivery and customs clearance.

Text 31. An Agricultural Import/Export Guide for the US

Источник:https://www.finder.com/agriculture-import-export-guide-us

There are three basic types of import/export businesses in the US. Starting out, it's a good idea to pursue the one that most interests you.

– Export management company: An export management company (EMC) helps a company in the US export its agricultural goods. It manages the details of hiring distributors, developing marketing materials and preparing shipping logistics.

– Export trading company: An export trading company (ETC) researches the needs of foreign buyers and finds domestic companies to meet those needs.

– Import/export merchant (or free agent): Import/export merchants buy merchandise from a manufacturer – foreign or domestic – then resell that merchandise around the world. Although there's heavier risk involved in being a free agent, you can potentially earn higher profits when you cut out the middlemen.

As to startup costs for an agriculture import/export business, you can start your own import/export business with little upfront cost. At a minimum, you’ll need a phone and reliable Internet connection. You may also want to invest in business cards, a website and a fax machine. It’s helpful to hire somebody to take care of branding, including creating a unique business logo.

Once you’ve decided the type of agricultural import/export business you want to run, and you’ve figured out the startup costs, it’s time to narrow your market focus. By niching down, you can concentrate on a market you can serve best. As you spend time researching profitable niches, think about: the customers you want to serve; areas of the world you’ll target; types of agricultural products you’ll offer.

Your target customer will be someone who wants to trade globally by either selling or buying fruits, vegetables and other agricultural goods overseas or from international sources. To meet the needs of your target customer, you need to choose the type of agricultural products you’ll offer. Choose something that you have the most experience with. For instance, do you know about the dairy industry? Have you worked with cereals, spices or coffee? Do you know about packing, storing and transporting meat or live animals?

Existing experience with your target area is a plus, but having passion for it widens your advantage. You’ll understand the jargon of your niche and you may already have contacts. The agriculture market includes: fruits, vegetables and fibers; food and live animals; meat and meat preparation; fish, crustaceans and mollusks; dairy products and eggs; cereal and cereal preparations; coffee, tea, cocoa and spices; animal feed.

Identify the countries you want to do business with by thinking about your competitive advantages:

– Do you speak a foreign language?
– Do you have connections abroad?
– Have you lived overseas before?
– Have you traveled extensively to a particular country?
– Do you love the culture of a certain country and know a lot about it?

Once you’ve narrowed your list of target countries, investigate each country’s requirements for conducting business – such as tariffs, registration and other documents.

Educating yourself before making a final decision can affect your competitive edge. Ask questions of your target country’s foreign embassy or consulate, and visit the US Department of Commerce to learn more.

2016 top agricultural export destinations are Canada, China, Mexico, Europe, Japan, South Korea, Hong Kong, Taiwan, Colombia and Philippines.

2016 top agricultural import sources are Canada, Mexico, Europe, China, Australia, Brazil, Indonesia, New Zealand, Chile and India.

To register your import/export business, you’ll need to complete the US Department of State’s SNAP-R company registration. After you submit your registration, the Department of State will email instructions about obtaining a

Company Identification Number (CIN). A CIN is used for tax purposes and registration with the US Department of Commerce.

As to import and export licenses, typically, the US Customs and Border Protection (CBP) doesn't require a license to import or export goods from the US. However, other government agencies or departments or local governments may require them. If you're exporting goods, ask your local port of entry about any required licenses.

Text 32. The Logistics of Global Food Systems

Источник: https://transportgeography.org/contents/applications/logistics-global-food-systems/

Historically, food production was the dominant focus of human activities, with most of the time and labor assigned to growing, harvesting, processing, and preparing food. Agriculture would account for 80 to 90% of the gross domestic product of a pre-industrial society.

Food was a small composition of trade, and what was traded over long distances tended to be of high value and not easily perishable. Historical trades such as spices, salt, wine, and olive oil were salient examples of goods that could be transported over long distances. It is not until the industrial revolution that substantial transformations took place in the production, processing, and distribution of food, allowing for productivity gains, specialization, and commercialization in agriculture. The outcome was a sharp increase in food production concomitantly with a decline in the share of the population in agriculture. This share is quickly declining around the world, and in most advanced economies, less than 5% of the population is still involved in agriculture.

To deal with the contemporary complexity of food production, the concept of food systems has been introduced. A food system is a sequence of processes and the supporting infrastructure involving the growing, harvesting, storing, processing, packaging, transporting, warehousing, distribution, consumption and disposal of food. It considers a wide variety of tasks from the inputs of agriculture to the final demand, including technological, environmental, economic, political and social factors.

A food system can be articulated as a supply chain that reveals much about the global structure of production and consumption, particularly the actors involved. Understanding the significance of food supply chains requires a comprehensive approach since they include much more than a simple transport consideration; an array of coordinated activities are involved. Food systems are at start dealing with the biophysical reality of the world, implying a geographical disparity in terms of growing period and the associated suitability for different forms of crops and agricultural systems. The most prevalent agricultural models include:

–Subsistence farming**.** Characterizes most of the practiced agriculture through human history where food was local in scale and output; mainly grown to support families, tribes, and communities. A variety of plants and animals were cultivated, adapting, and taking advantage of local climate and soil conditions. Surpluses were sold on local markets, often to pay taxes and buy simple goods. Although subsistence farming is based on extensive knowledge and know-how accumulated through long phases of trials and errors, by contemporary standards it required limited levels of technology and capital investment.

– Commercial farming. Like subsistence farming, it is mostly owned by a small group, such as a family or collective. However, the major difference is that the food output is mainly grown to be sold on national markets, some of which will be exported. Commercial agriculture needs to be competitive and relies on the specialization of crops to achieve economies of scale, implying a higher dependence on technology (farming equipment, seeds, fertilizers) and capital investments. The specialization of commercial agriculture reveals a high level of diversity with the development of expertise in niches such as fruits, olives, poultry, and winemaking. It usually relies on a temporary workforce hired during peak season (harvest).

– Corporate farming**.** Owned by corporate entities that can have a vast portfolio of farms and related activities, some of which multinationals. The food is grown for global markets, but in many cases, the markets are regional due to the regulations or preferences. Commercial farms can act as subcontractors for corporate farming. Food multinationals place an emphasis on product development, branding, and marketing. Several have a long-standing specialization in cash crops (coffee, bananas, cacao, sugar, etc.) through a network of plantations. They can control specific elements of the supply chain (seeds, processing) enabling them to capture value. Such activities require high levels of technology and capital investments.

The move away from subsistence agriculture towards commercial and corporate agriculture has involved multiple benefits, such as more stable food supply systems, but required the setting of distribution systems that can be vulnerable to disruptions.

Text 33. Food Distribution Systems

Источник: https://transportgeography.org/contents/applications/logistics-global-food-systems/

The quantity, quality, and safety of food are often taken for granted, but these important attributes rely on the efficiency of food distribution systems. In the 20th century, food systems that were regional and national in scale and scope have evolved to include an increasingly global dimension. This was particularly the case in the second part of the 20th century with massive investments in transport infrastructure, technological developments such as refrigeration, containerization and air transport. The current context is particularly prone to the setting of food distribution systems:

– Global urbanization results in the setting of large urban agglomerations where the regional agricultural system is unable to provide enough food to supply the demand. As an economy becomes increasingly urbanized, it needs to rely on food distribution systems beyond its region.

– Regional specialization allowing improving agricultural productivity by focusing on specific agricultural outputs. This is generally the outcome of agricultural systems trying to take advantage of regional climatic and soil conditions to maximize outputs.

– Seasonality where there are substantial temporal variations in the production and availability of food products. Long-distance food distribution systems enable to establish a constant supply between regions of the world that are within different stages of their harvesting cycles. The production of the northern and the southern hemispheres are better synchronized. This is particularly the case for the southern hemisphere where areas are producing goods to compensate for seasonal shortages in the northern hemisphere.

In the earlier stages of distribution, many food products such as grains are moved in a massified form with infrastructures such as grain elevators and bulk carriers such as rail and ships. Once bulk food arrives near major markets, it is often processed into primary (transforming an agricultural product into food) and secondary food items. These outputs are purchased by actors involved in the later stages of food distribution:

– Wholesalers**.** Many individual food sellers and purchasers do not have the opportunity to negotiate directly with their counterparts because of the time, effort, and complexity transactions entail. The volume and diversity of the required supplies may also vary. Wholesalers are large intermediaries in the food distribution system, allowing them to reconcile the supply and demand in terms of volume, quantity, geography (markets), and time. Warehouses are used to store purchased food items that are made available on the market. Wholesalers can have a food product specialization such as seafood, produce, or fruits.

– Grocers**.** Since they are involved in selling food directly to final consumers, grocers maintain an extensive food distribution network from distribution centers to individual outlets. Several large scale grocers act as wholesalers for themselves as they purchase food in large quantities and can be involved in manufacturing their own food (store brands). Smaller grocers usually purchase their supplies from wholesalers. An important trend is that several retailers are becoming grocers since it allows them to expand their customer base in a highly competitive retail environment.

– Restaurants**.** Restaurant chains are large buyers of food items from wholesalers and have built an extensive distribution network. The fast-food industry is particularly active in setting food distribution systems where the restaurant is the last assembly stage along the supply chain. An emerging trend concerns the home deliveries of prepared or ready to cook food, which requires a command of logistics, particularly the cold chain.

Inefficient food supply chains generate a larger amount of waste in terms of food that is lost during harvesting, storage, transportation, preparation, distribution, and consumption. Food losses are the highest for fruits and vegetables where on average 50 to 60% of all the production is lost along the supply chain, implying that only 40 to 50% of what is being harvested end up consumed. These figures are around 40% for cereals, 25% for meats, and 40% for seafood. Consequently, several aspects of food distribution systems can be improved, particularly at the processing, distribution, and consumption levels. One of the core aspects of these improvements relies on cold chain logistics.

Text 34. Cold Chain Food Systems

Источник: https://transportgeography.org/contents/applications/logistics-global-food-systems/

Any major grocery store is likely to carry tangerines from South Africa, apples from New Zealand, bananas from Costa Rica, and asparagus from Mexico. Thus, a cold chain industry has emerged to service these food commodity chains. Before the development of the cold chain, fresh food products were locally or regionally produced. The level of application of cold chain technology varies substantially according to the level of development. The cold chains handle about 70% of all the food consumed in the United States. For China, less than 25% of the meat and about 5% of the fruits and vegetables are, but this share is rapidly climbing. Alone, the United States imports about 30% of all its fruits and vegetables, and 20% of its food exports can be considered perishables. The cold chain serves the function of keeping food fresh for extended periods and eliminating doubts over the quality of the food products. Still, about 25% of all food products transported in the cold chain are wasted each year due to breaches in integrity, leading to fluctuations in temperature and product degradation.

There is a variety of methods for the transport of food products. The banana accounts for the world’s most significant commodity transported in the food cold chain with 20% of all seaborne reefers trade. Land, sea and air modes all have different operations for keeping food fresh throughout the transport chain. Depending on their speed, different modes will service different cold chain markets with a clear segmentation between air and maritime services. Innovations in packaging, fruit and vegetable coatings, bioengineering (controlled ripening), and other techniques reducing the deterioration of food products have helped shippers extend the reach of perishable products. For food products such as fruits and vegetables, the time after they were harvested has a direct impact on their **shelf life** and therefore on the potential revenue a consignment may generate. A standard truckload of strawberries has a market value of $50,000 while the same load in blueberries can reach $100,000. Concomitantly, new transport technologies have permitted the shipment of perishable products over longer distances. For instance, improved roads and intermodal connections along the African coast reduced food transport time to European markets from 10 days to 4 days.

Moving away from ice refrigeration has allowed for much greater distances to be traveled and has greatly increased the size of the global food market, enabling many developing countries to capture new opportunities. Another efficient mode for transporting foodstuffs is air travel. While this is a preferred form of travel for highly perishable and valuable goods due to its ability to move much faster over longer distances, it does lack the environment control and transfer ease of the ground and sea transports. Also, during the flight, the cargo is stored in a 15°C-20°C environment, but close to 80% of the time the package is exposed to exterior weather while waiting to be loaded onto the plane or being moved to and from the airfield. This is troubling considering the value of the food and the importance placed behind quality and freshness. In order for this form of food transport to experience growth among market users, more uncompromising strategies and regulations will have to be embraced and enacted.

Food transportation is an industry that has fully adapted to the cold chain and can, despite the problems with air transport, be considered the most resilient, particularly since a large majority of food products have a better tolerance to temporary variations of transport temperatures. It is the cold chain distribution center that represents one of the most efficient links in cold chain logistics by providing facilities where a vast amount of perishable food products can be received from a large number of suppliers, stored, sorted and assembled into loads bound for respective grocery stores. These facilities usually have several storage areas with different temperature settings to handled regular grocery goods at ambient temperature, produces, dairy, meat and frozen products. As a result, small errors can be compounded without the concern of irreversible damage. Yet, there is a limit to this compounding. For instance, in the transportation of produces, for every hour of delay in the pre-cooling of shipments, an equivalent one-day loss of shelf life must be accounted.

The usage of refrigerated containers has particularly helped since they account for more than 50% of all the refrigerated cargo transported in the world. Source loading can be an important factor extending the shelf life of a cold chain product since it is loaded in a reefer directly at the place of production without additional handling and risks for further breaches in the chain of integrity. For instance, source loading into a reefer can expand the shelf life of chilled meat by about 25 days (from 30-35 days to 55-60 days) from conventional methods and thus considerably expand the market potential of the product.

The efficiency and reliability of temperature-controlled transportation have reached a point which allows the food industry to take advantage of global seasonable variations, meaning that during the winter the southern hemisphere can export perishable goods to the northern hemisphere while an opposite trade, generally of smaller scale, takes place during the summer. Countries such as Chile have substantially benefited from this and have developed an active agricultural and food transformation industry mainly servicing the North American market during the winter, but also with several niche markets such as wine. A similar issue concerns some African countries such as Kenya that have developed fresh produce and flower industries catering to the European market.

Text 35. Agriculture Exports in Russia

Источник: https://www.madeinrussia.com/en/manufacturers/agriculture/?lang=set

In 2017 agriculture exports yielded more than $8.7 billion. This is $1.3 billion more than in the same period last year.

One of the reasons behind that upward trend is the grain yield, which has hit a post-Soviet record high. 120.7 million tons were harvested in 2016. More than a half of that amount is accounted for by wheat. Over a quarter of the wheat was exported (36.9 million tons). These are record-breaking results that provide for more diversified exports. With an unprecedented level of wheat yield, Russia also plans to sell macaroni products.

The growth of the agricultural sector will make it possible to build up exports in other traditional staples. 700,000 tons of sugar, double the figure years.

State support is one the reasons behind such an energetic growth of the agricultural sector. The Agricultural Products Export Project has started to gain traction. In essence, it is a set of measures that ensure that Russian products meet the requirements of targeted foreign markets. To obtain international certificates of quality, the products need to pass all the necessary procedures and tests.

The other reason is the development of logistic-related problems at the state level. For instance, the Russian Export Center in cooperation with RZD (Russian Railways) Logistics and Freight Village Vorsino launched two export routes from the Kaluga region to China, which makes possible to deliver Russian goods to Chinese consumers.

Apart from that, the Russian government initiated the creation of a strategic facility in the Primorsky region – a hub for both exports and imports. Agricultural products will be one of the main focal points in the work of that hub. This all actively facilitates the development of Russian agricultural products for exports, especially in the Asia-Pacific region.

Among the success stories of Russian export products, ice cream is the winner. Russian-made ice cream enjoys increasing popularity across the world. 17,000 tons of the product were exported in 2016. The Petroholod company is among the leaders, as its products can be easily found in the CIS countries, in Israel and China. China is the biggest customer – ice-cream exports have increased five times there, reaching as much as 4.2 million.

In general, Russian confectionary is rapidly advancing on the global market. For example, chocolates and candies are now exported to 40 countries around the world.

Candies produced by UNICONF (United Confectioners holding, which includes Krasny Oktyabr, Rot Front and Babayevsky brands) are traditionally well received in the CIS countries, and they have recently gained popularity in Australia, Iran and China. The KDV Group (Yashkino, Ozerskiy souvenir, Divo and other brands) exports its products to Asia and Europe, including the Czech Republic and Poland. And a new market has recently opened its doors: Mexico. In 2016, these companies exported 157,000 tons of confectionery worth $477 million.

Among other products, Russia also exports a considerable amount of canned goods, including vegetables, meat and fish.

Text 36. Russia As the World's Leading Wheat Exporter

Источник: https://www.rbth.com/business/332948-russia-leading-wheat-exporter

Russia sells more wheat than any other country in the world. At the same time, its domestic grain consumption is growing, too. So how did Russia manage to achieve this breakthrough in wheat exports?

In 2020, Russia will retain its title of the world's largest wheat exporter, according to data from the U.S. Department of Agriculture's Foreign Agricultural Service (FAS USDA). In its October report, FAS raised the wheat harvest forecast for Russia (without Crimea) by 5 million tons, to 83 million tons. The country's export potential in the 2020/21 season was increased from 37.5 million to 39 million tons. The runner-up, the United States, is forecast to export 27 million tons of wheat this year, followed by the EU with 25.5 million tons.

For the past several years, as a wheat supplier Russia has been in the top 10 exporters of grain crops, including barley, corn, rye and, oats, but especially wheat. In 2017-2019, it was the biggest exporter of wheat, accounting for about 20 percent of the world market.

'Over the past decade, Russia has more than doubled its wheat exports, while the world market has grown by only a third. The country's share of the global [wheat] market has practically doubled in that time,' says Denis Ternovsky, a leading researcher at the Center for Agri-Food Policy with the Institute for Applied Economic Research (IPEI), RANEPA.

The most important grain crop in the world is wheat and Russia is now one of the largest wheat suppliers in the world. 'In terms of wheat production, last year Russia became the third largest producer, after India and China,' says Dmitry Bedenkov, head of research at the Russ-Invest investment company. According to the UN Food and Agriculture Organization, in 2018-2019, Russian wheat production exceeded 72 million tons. In 2017, Russia had a record harvest of 86 million tons.

According to FAO (the Food and Agriculture Organization of the United Nations), in 2019, Russia was the world's biggest wheat exporter, selling almost 34.5 million tons.

The other two out of the top three exporters – the U.S. and the EU – are considerably behind the leader, having supplied 26.6 and 23.7 million tons, respectively. Russia exports almost half of its grain production. Since 2013, when its grain exports were slightly under 14 million tons, they have grown by almost 150 percent. The growth can be partly attributed to a rise in world grain prices and an increase in domestic wheat production. In 2012 and 2013, Russia produced 37.8 and 52.14 million tons of wheat, respectively.

According to the Federal Customs Service, in the first six months of 2020, the biggest buyers of Russian grain were Turkey ($818.3 million), followed by Egypt ($514.7 million) and Saudi Arabia ($167.5 million).

In addition, Russia supplies quite significant amounts to: Vietnam ($129.8 million), Bangladesh ($105.1 million), Sudan ($102.4 million), UAE ($95.7 million), Azerbaijan ($83.5 million) and Morocco ($77.8 million).

If we look into the amount of grain exports then the list of the top countries in the first half of 2020 would be as follows: Turkey (3.9 mln tons), Egypt (2.3 mln tons), Saudi Arabia (893,000 tons), Vietnam (660,000 tons), Bangladesh (479,000 tons), Sudan (477,000 tons), UAE (460,000 tons), Azerbaijan (410,000 tones) and Morocco (368,000 tons). In the first six months of 2020, Russia exported $3.56 billion worth of grain, 14.3 percent more than in the same period last year. In physical terms, supplies increased even more: by 23.1 percent to 17.3 million tons.

The growth in exports was achieved entirely through new production. Domestic grain consumption not only did not decrease due to the increase in exports, but on the contrary, increased: by 10 percent over the past decade.

'The growth in production is primarily due to improvements in agricultural technologies and a resulting increase in yield,' explains Denis Ternovsky. He points out that the growth in Russian grain exports was assisted and made possible by the creation of a logistics infrastructure (port terminals), which made it possible to handle a multiple increase in export volumes, and the devaluation of the ruble, which made Russian wheat more competitive following a drop in world prices after 2014.

ЛИТЕРАТУРА

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