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Wheat Imports and Consumption Changes in Non-Traditionally Wheat Producing Countries

by

DANIELA B. KOPP

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of
Master of Arts

Department of Geography

Carleton University

Ottawa, Ontario

August 26th, 1988

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submitted by
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the degree of Master of Arts

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Abstract

Recognizing the fact that wheat is a readily available, but nevertheless strategic good, this thesis analyses dependencies on the world wheat market, in a cross-country analysis of sixteen countries where wheat is not the traditional staple food. Population growth, and a limited amount of land suitable for agricultural production, force many countries to import staple foods. Reasons for these imports being wheat are found in the historical development and cultural background of the countries. Agents of change that have instigated the incorporation of wheat into the diet include national policies of the governments of wheat exporting and importing countries, food aid shipments and multinational corporations in grain trade and wheat processing. Many importing countries have reached the point where initially rather weak dependency has become a hard to reverse structural dependency. Based on the nature and development of these dependencies, encouraging domestic production of the traditional staple and diversifying the sources of foreign exchange are suggested as ways to alleviate their negative effects.

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Chapter 1

Introduction

1.1 Background and Objectives

Food and drinking water are two of the most basic human needs. In recent years, the media has paid great attention to the world food crisis.¹ Pictures of hungry children in Ethiopia and records of the European Community (EC)² destroying crops point to a crucial dimension of this crisis — food is abundant, but it is not found where the hungry people are, at least not in sufficient amounts. Ending the food crisis, however, is not just a matter of redistributing food. This crisis is part of a broader global crisis, in which issues such as foreign debt, foreign influences on national politics, foreign ownership in agriculture and manufacturing, urban poverty and mass unemployment are important elements. When looking at a single issue, the complexity of the global crisis, and the fact that local and global systems are inextricably linked, must be kept in mind. The production of food, for example, is affected by climatic change,³ while its distribution or trade is impacted

¹For a discussion of the term 'crisis', see Johnston and Taylor, 1986:2/3.

²For reference to the acronyms used refer to Appendix A.

³Climatic changes occur for many reasons — current threat is related to the greenhouse effect and the depletion of the ozone layer.

by the debt crisis⁴ and the crisis of urban growth.⁵

The study of the world food crisis, and, within this context, the study of problems with food distribution, raise three questions (Morgan, 1980a: 445):

- Who has a surplus of what?
- Who wants it?
- How much are they prepared to pay to get it (in diplomatic, as well as in economic, terms)?

These questions implicitly introduce the spatial dimension of food trade. This is especially true for the wheat market, where countries which have a surplus of wheat can be clearly distinguished from those who want to import wheat.⁶ From a geographical perspective, the shifting location of production and consumption regions is of particular interest. Wheat is a crop that grows under temperate climatic conditions. It has been traded internationally from Roman times. A main characteristic of the wheat market at that time and up to the 15th century was that all trading partners on this market were wheat producing countries. As a consequence, the trading activities were centred in Europe, Russia and the Mediterranean. Although this spatial focus changed with the increasing number of countries involved in wheat production and trade following the settlement of North America and Australia, the fact that all trading partners were wheat producers remained. It was only when regions were colonized wheat could not be grown that trade patterns on the world wheat market began to change. Some of the traditional wheat growing countries were able to produce enough surplus to allow the beginning of wheat consumption in countries that did not traditionally produce wheat, even if this was largely restricted to the expatriate community.⁷

⁴Increasing foreign debt of developing countries with no prospects of them repaying it.

⁵Migration of rural population to urban centres calls for more housing. Expansion takes agricultural land and poses ecological problems (e.g. water supply, sewage treatment).

⁶The situation on the rice market is different. For a more detailed discussion see Chapter 2.

⁷For a detailed description of the history of wheat trade until World War II, see Morgan, 1980a: 27-29, 53-134.

Wheat and rice are the two most important staple food stuffs.⁸ In 1984 they accounted for 55.4% of world grain production. For the purpose of this study the wheat market was chosen over the rice market. Wheat is grown on 240 million ha worldwide (Hanson, Borlaug and Anderson, 1982: 3) representing 17.4% of the arable land. In comparison to rice, a higher share of the global wheat production is traded internationally.⁹ Sixty-seven percent of the wheat produced worldwide is used for human consumption. This amount, however, varies regionally and locally according to population, income, prices and taste (consumer preferences).

The six largest producers of wheat are China, the EC, the USSR, the United States, India and Canada. In recent decades more and more developing countries have entered into wheat production and some have achieved a considerable level of domestic production. As a result, wheat production more than doubled in developing countries from 1961 to 1980 (CIMMYT, 1983: 1). This increase, however, is not sufficient to meet the rising demand for food stuffs and developing countries often must supplement food production with imports. These imports are usually wheat, because wheat is the only cereal grain that has stocks large enough to meet the large quantities of food required. Furthermore, wheat is easy to transport and store; this gives it an advantage over other dietary staples.

Canada, the United States, Australia, Argentina and the EC (predominantly France) are the major exporters of wheat. The United States is of foremost importance when import dependencies are analysed, because since the 1950's it has been able to capture, through its Public Law 480 (P.L. 480)¹⁰, the majority of the market in the Southern Hemisphere.

⁸A country's staple food is the food stuff which is the main source of calories in the average national diet (IWC, 1970: 9).

⁹In 1984 20.4% of the quantity of wheat produced was exported, whereas for rice only 2.7% was exported. It is estimated that 75% of the global wheat production is somehow traded between countries (CIMMYT, 1985: 1).

¹⁰See Section 7.1.1 for details.

Countries entering the world market to purchase wheat exhibit a wide variety of physical, economic and political characteristics and interests which put them in a position in which they are more or less dependent on wheat exporters. The question arises: to what extent do importing countries *have* to be dependent on wheat imports, and when and how does this dependency become so structurally ingrained that it is almost impossible to eliminate? This already hints at the central factor that makes a solution to the food crisis so important. The changes that have taken place on the world wheat market might severely endanger the reliability of food supply as well as the freedom of political decision-making for importing countries. The fact that many of these countries have a large population that may be in danger of suffering from hunger, malnutrition and poor living conditions, makes it even more urgent to resolve the food crisis effectively. Narrowing our focus on the above problems: why do some countries import large amounts of wheat, a staple which is not part of the traditional diet of most of their people and what effects do these imports have on their domestic food system?

Drawing together the different perspectives and analyses brought forward in the literature, this thesis attempts to identify common causes of countries becoming dependent on wheat imports, and also to present and evaluate possible strategies by which these countries can alleviate the dangers of wheat import dependency.

The author feels that changes in the agricultural sector, such as the introduction of high yielding crop varieties or increased mechanization, are a part of the food crisis. Even when mechanization is applied in staple food production it tends to divert the agricultural output away from direct consumption by the farm population. Changes of that kind are unlikely to be reversed, they will continue to take place and have to be accepted. Therefore, rather than trying to stop or reverse these changes, strategies to cope with the process of dietary change, as well as the problems of the people in importing countries, who must adapt to the future situation, should be developed. In order to reach effective decisions that lead out of the crisis, it is necessary to identify and analyse linkages and dependencies

in the wheat market.¹¹ This thesis is an initial step in doing this and provides information that is necessary for designing viable strategies to deal with import dependencies as they are found on the world wheat market.

For the purpose of this study sixteen countries were examined: Ethiopia, Nigeria, the Sudan, Cuba, Brazil, Colombia, Peru, Venezuela, Bangladesh, Indonesia, Japan, the Republic of Korea, Malaysia, the Philippines, Sri Lanka and the Arab Republic of Yemen. These countries were selected using the following criteria: 1) They imported more than 500,000 tons of wheat in 1985, and 2) Less than 10% of their arable land was dedicated to wheat in 1960 and 1984. Together they accounted for 24.8% of the world wheat imports in 1985. The role of these nations within the global economy, especially in the agricultural sector, will be looked at in Chapter 3. In addition, the period from 1960 to 1985 was chosen because it encompasses the independence and industrialisation phase of most of the countries identified above. The time of independence and the existence of industrialisation efforts are seen as having a causal relationship with wheat import dependency.

The most important factors that govern wheat import dependency, based on data gathered for the sixteen countries, are discussed in the following chapters:

- Population/resource ratio: the stress it puts on the land and the demand for food.
- The national economy: a comparison of the role of agriculture in the national economy of the sixteen countries.
- The traditional agricultural system: its productivity, form of entrenchment in the world economy and the role of wheat within it.
- Wheat consumption: patterns and changes in actual consumption and perception of food. The role of wheat in the national economy.

¹¹Here the term "dependency" is used in its broadest meaning. A country is "dependent" when it is not completely self-sufficient and has to rely on another country or foreign corporation for its wheat supplies. For a more detailed discussion of dependency and self-sufficiency see Section 1.2.

- Global trade linkages: which countries are the ones that have wheat and under what conditions and agreements do they trade it.
- Agents of change: who was and is involved in bringing the dietary change about, and how was and is this change made.

Reconsidering the economic, social and political implications of the above factors, the causes of wheat import dependency are reviewed and future strategies that might help governments to handle the effects of the food crisis in their country are suggested.

1.2 Development Theory and World Agriculture

Most theories that try to interpret Third World development within the global political and economic system concentrate on industrial development. They describe and analyse the positive and negative effects of industrialisation in developing countries, covering social aspects such as increasing unemployment and its consequences as well as economic aspects such as the replacement of many local small scale industries by only a few large manufacturing industries.

In the 1950's and 1960's, development theorists emphasized the importance of economic growth for development. W.W. Rostow (1960), for example, argued that in order to reach the economic level of countries such as Great Britain or the United States, third world countries would have to go through five stages of development that would lead from "traditional society" to "high mass consumption". His assumption that economic growth in these countries would be similar to the developments that had taken place in Great Britain and the United States was widely accepted. For many followers of his ideas, economic growth basically meant establishing manufacturing industries in developing countries, so they would not have to rely as heavily on the export of raw materials which are susceptible to fluctuating world market prices. Attempts to accomplish this often resulted in the neglect of the agricultural sector, which was the economic base of most developing countries at that time. The governments of most developing countries willingly

gave incentives to companies based in industrialized nations so that the companies would invest capital and trigger development.

When the developing countries realized that policies derived from the above-mentioned theories did not bring the changes many had hoped for, some started looking for a completely different approach. At the World Conference on Employment held by the International Labour Organization in 1975, the concept of *basic human needs* was advanced. The conference set out to put agriculture more in the forefront, but mainly concentrated on the production potential within a country. It contained a declaration of principles, which attempted to meet the minimum requirements necessary for personal consumption, such as food, shelter and clothing, as well as essential services like water, sanitation, transport, health and education. In addition, a program of action was implemented to improve the status of small farms and the income of the rural poor. The ultimate goal was to eliminate 'absolute poverty' (Warnock, 1987: 249-250).

The main problem in realizing the ideas put forward by the International Labour Organization is that international organizations can only make suggestions but not force their implementation. Many developing countries did not utilize the basic needs concept in their policy decisions, or they did not go about it as effectively and diligently as they could have. The approach might have been successful if the governments had not given preference to managing the symptoms of the crisis but instead concentrated on planning for the solutions to the problems that had caused the crisis.

Dependency theories were developed in a Latin American context, and focus on structural linkages between developing and developed countries. Two authors who have based their concepts on the situation in Latin America are P. Baran (1957) and A.G. Frank (1966). They argue that the reason for the incorporation of nation states into the capitalist world economy is to be found in the countries' historic development. They use a core-periphery (metropolis-satellite) model, which has been adopted and modified by other authors and which can be applied on a na-

tional as well as a global level. It presents a hierarchy of countries, regions or social groups, whereby developed countries are seen as the 'core' of the capitalist world economy, on which the weaker national economies of developing countries come to depend. Within these countries, the major urban centres are the core for the peripheral rural areas, which are often bypassed by national economic development.

The way in which dependency theories deal with agriculture is based on the dominant pattern of land ownership found in Latin American countries. Large farms (plantations, estates, *latifundia*) are owned by landlords living in an urban centre or by multinational corporations. Arguing that the landlords form an elite that parrots the ideas and values of western society (especially the United States), dependency theorists view the linkages between different groups within a country as much from a social as from an economic-political angle.

Neither theories of economic growth nor dependency, however, account for all aspects of global trade, especially in the case of staple food stuffs. Markets for agricultural commodities are very complex. This is due to the large number of different factors, such as climatic variability, storage capacity, currency exchange rates, external debts, protectionist policies, population growth and urbanization, that have some influence on the market. These factors are inextricably linked and many of these links are not obvious. There are also various actors (governments, companies, international organizations) in the market who have influence and who manipulate these factors. Therefore, it cannot be expected that either type of theory will explain the global agricultural system adequately without some modification. For instance, however it is conceived, the distinction between the First and the Third World is not too helpful in analyzing the world wheat market. Developed and developing countries are found among both exporters and importers. Due to the fact, however, that wheat is a temperate crop, First World countries predominate among exporters. Argentina is the only developing country that is able to provide a sizeable surplus of wheat each year, although other

countries — India, South Africa and even Saudi Arabia — also export wheat in some years.

It is hard to deny that every country is confronted with external influences on its policy-making and is thus in some way dependent. The question that has not really been answered by any of the authors trying to explain dependency is, what precisely constitutes dependency with respect to staple food supplies. The difficulty in coming to grips with this question is one reason why, as far as agricultural production is concerned, it seems to be impossible to sort countries into unambiguous categories such as 'developed-underdeveloped' or 'dependent-non-dependent'. In addition, the overall agricultural production of a country does not indicate how many people can be sustained by it. Statistics giving "production per capita" do not express the fact that not everyone has the same access to food.¹²

It has to be realized that as long as not every country is self-sufficient in food production there will be no complete independence. Theoretically, self-sufficiency in food is reached when the local or domestic production equals the amount of food consumed, so that imports of food stuffs are not necessary. In practice, however, the amount of food required for a country to be self-sufficient is hard to determine. The World Health Organization (WHO) and the Food and Agricultural Organization (FAO), for example, calculate food requirements per caput in terms of energy and protein content, to arrive at a world average requirement per person. This then has to be translated into minimum production requirements (Hay, 1978: 246). The value of these calculations for an explanation of agricultural dependency has to be questioned.

The 'core-periphery' model may not be applicable to the world wheat market as a whole, but it proves helpful in analysing the relation between individual nation states or between multinational corporations and nation states. Considering

¹²For a critical review of food statistics see, Hay, 1978.

that the terms 'core' and 'periphery' indicate a relative position within the world economic system, they can be applied on the wheat market to specific relationships between a limited number of countries. Many of these relationships are complex and difficult to identify. Some examples are:

- One exporter is the core for several importing countries. An example is the United States, which supplies a large number of countries with wheat.
- One importing country obtains its wheat from different sources. This gives it a stronger position in trade talks, because it can vary the amount of wheat it imports from each supplier.
- One country is an importer of one kind of wheat, and an exporter of another kind. This is true of many countries in the EC.
- One exporter is the major supplier of wheat for one country, but in turn imports a raw material or good from that country. The degree of dependency depends on how balanced the trade relationship is.

The core-periphery model is also relevant to wheat import dependencies when looking at the national economies of the importing countries; for example, in tracing how wheat is distributed and where it is processed. The model provides a framework for assessing structural links within the national and global economy and points to their regional manifestation.

One application of the core-periphery model to the wheat market, describing the relation between governments and consumer groups, is shown in Figure 1.1. The role of the government in this context can be, and is often, taken up by a multinational corporation. These companies are often responsible for the actual shipments of wheat, in which case they act as representatives of the exporter.¹³

¹³On the other hand, they tend to put their own interests to the fore and can undertake transactions that are contrary to the interests of the government in their country. This was the case in 1972, when grain companies sold U.S. wheat to the Soviet Union, without the knowledge of the government of the United States. This transaction became known as "the great grain robbery" (Morgan, 1980a).

Core

Figure 1.1: Core-Periphery in Wheat Consumption

The government of the exporting country is the absolute core, because it influences not only the number of choices and the decision-making of its domestic consumers, but also those of the importer. The poorest members of the rural population in the importing country represent the absolute periphery. Within the importing country there is a distinct hierarchy among the consumers of wheat. This can be seen in their ability to buy wheat and the form in which they consume it. The hierarchy also has a spatial component: the farther consumers live from the place where wheat is grown or landed, the lesser is the importance of wheat in their diet.

1.3 Review of the Literature

Due to the importance of food supply, the body of literature is very extensive. This is especially true after the shortfall in grain production in the early 1970's, when the number of books published on food availability, potential food production, hunger and food security escalated. Most of these books address the issue of dependence on wheat imports in a general manner that makes them only of

marginal interest for this thesis.

Of the literature on the political economy of food, only material directly dealing with wheat will be discussed here. The most prominent book is D. Morgan's *Merchants of Grain* (1980a). It is one of the few works on this topic not published by researchers from international or independent research organizations, and shows how profit oriented the interests of wheat traders (multinational grain companies and nation states) are. D. Byerlee and other researchers at the International Maize and Wheat Improvement Centre in Mexico (CYMMIT, 1981, 1983a, 1983b, 1985, 1987) cover many different aspects of the wheat economy: production, marketing, imports, consumption and prices in a regional context. Their focus, however, is on developing countries, so that they do not cover the whole range of importing countries. This is also true of studies undertaken by the FAO and other international organizations. Their approach is usually a comparative analysis, in which they describe and compare the food situation in different countries. This distinguishes them from economists, many of whom look at single aspects of the wheat market (e.g. production) and interpret their effects on the national economy. L. Dudley and R.J. Sandilands (1975) and L. Hall (1980) attempt to explain the effects of wheat imports under P.L. 480 on the present structure of the national wheat economy for Colombia and Brazil, respectively. After a short introduction to the national economy of these countries, the authors develop econometric models, the results of which are not presented in a form that makes them useful for policy decisions.

Exporting countries use their wheat reserves in foreign policy. This is only possible because of the dependency that leaves many importing nations at the mercy of exporters. The implications of this political aspect of wheat trade have been discussed by D. Morgan (1980b) and W. Catrina and E.R. Müller (1980). The authors point out the political power of wheat exporting countries. They claim that if an exporter suddenly decides to cut exports to a certain country, this country will be unable to find substitutes for these imports. This may be true for the majority of food aid shipments or when world wheat stocks are low, but it is

not the case with commercial purchases. Although the country against which the sanction is oriented might face initial difficulties, other exporters are more than willing to provide the required wheat. When the United States halted wheat imports to the Soviet Union in 1979, in reaction to the invasion in Afghanistan, the European Community increased its exports and was able to strengthen its position on the world market.

Books on the wheat economy of individual countries are rare. G. Andrae and B. Beckman (1985) investigate Nigeria's dependency on wheat imports and its effects on processing industries and retail businesses on a national and local level. Their findings are very detailed and the majority are specific for Nigeria, so that their wider application is limited.

Reports published by government organizations trying to assess the success of their food aid or development projects are more common. These reports, e.g. by the United States Agency for International Development (USAID) (1982), often also include evaluations of the present situation on the wheat market and the effects of strategies proposed by the national government. Their major drawbacks are that their statements often reflect the official government position and that they rarely expand on the links to the global wheat economy.

1.4 Discussion of the Data

The investigations undertaken in this thesis are based on different sets of statistical data. Several problems are inherent in the data sets used, and their limitations are probably one reason why a comparative analysis of this kind has rarely been undertaken. In spite of the uncertainties, it is felt that the data are sufficient, if other information sources are used as well, to provide an adequate discussion of issues of wheat imports and dependencies.

The weaknesses of the statistical data used are:

- Data, on a national level, are generally given on a 'per caput' basis. They have to be treated with caution as they reflect neither the spatial nor the social inequalities that prevail within a country. Not everybody has the same access to food, because it may be too expensive, too far away or simply not available. The data are used under these conditions for rough comparison, because more detailed statistics are not available for all sixteen countries. They are not, however, used in more elaborate calculations because these would tend to lead too far away from reality.
- Most of the countries are developing countries where the acquisition of data, especially in rural areas, is very difficult. This is due, for example, to the limitations in transportation, or the illiteracy of the people. As data are collected rather irregularly, it is impossible to acquire comparable data on all issues discussed for all countries.
- A basic set of data, available for all countries includes:

The amount of wheat and wheat flour imported from 1960–1984 and the country of origin of these imports from 1965–1985. These data are collected by international organizations such as the International Wheat Council (IWC), the FAO and the Centre for the Improvement of Maize and Wheat. Here difficulties arise from the fact that the IWC publishes data for the crop year, while the FAO uses the calendar year as reference. Further complications come from the limited documentation on what the figures published (e.g. for wheat imports) really encompass. It is, for example, not clear whether food aid under concessional terms is included. As far as the source of wheat imports is concerned, one must remember that it cannot always be identified.
- In general, no data are available prior to the country's independence. FAO data were only available from 1934–38 onwards and IWC data from 1964–65.

It is fortunate, however, that a coherent set of basic data for a longer period of time exists at all. The fact that these data are gathered by international orga-

nizations also diminishes the chance that they are influenced by political biases towards a particular route of development.

The secondary sources used to complement the statistical data are mostly government publications. Out of the number of these publications used, those by United States departments seem to be the most value laden. This is understandable, because these departments have to prove that they have spent their budget on useful projects. Studies of market opportunities in different countries are very optimistic, in order to encourage investment by U.S. companies. This has to be kept in mind when these sources are used in the analysis. Texts published by international organizations are usually descriptive, and provide a valuable addition to statistical data by giving qualitative information, one example being the standard of living.

Studies in book form are another kind of secondary source used in this thesis. The range of their themes, as well as their relevance, have already been discussed. The authors come from different backgrounds and cover subjects as diverse as agriculture and anthropology. These sources give information on the social situation in the sixteen countries, as well as on the role and behaviour of multinational corporations. The number of countries studied, and the availability of data, dictate the level of abstraction at which the analysis has been undertaken. It would have been desirable to have had access to additional detailed information on the individual countries.

Chapter 2

Population and Agricultural Development

From 1970 to 1980, world population increased by 1.9% per annum, compared with 3.1% per annum from 1955 to 1970. Slowing down population growth helps alleviate hunger and although it is certainly not the whole answer to the problem, it is an important contribution. Many family planning programs have been launched and the reduction of population growth seems to indicate that they have been successful. A look at trends on a regional level, however, reveals that the decline has occurred only in industrial economies and countries that are high income oil exporters (World Bank, 1982: Statistical Appendix). An exception to this is China, where family planning is realized on a national level. Reducing the world population is, in itself, not enough. One of the world's priorities should be to make at least basic food needs accessible to these people. Most of the children that will be born during the next decade (almost 80%) will live in countries which cannot afford to import large amounts of food on a commercial basis. Reducing the number of births in such a country may lower the amount of food required, but does not change the vulnerable position of the country as such.

Although overpopulation cannot be made responsible for the food crisis on a global scale, the importance of population growth in the context of food production and trade cannot be disregarded. Population and food production have to

be looked at together, although as far as food imports are concerned, population growth is certainly not the only factor responsible for their increase. In countries where the ratio of people per hectare of arable land is high, as in Japan or Korea, food imports will be inevitable. Countries which experience a rapid population growth are under much more pressure to implement food policies that respond to acute problems of shortage and pricing than countries where the population is stable and longer-term planning can be implemented.

The relation between population and the food resource base has occupied scientists for a long time. There are two viewpoints concerning the rapid population growth that the earth is experiencing, as well as the implications of this growth for world agriculture:

- The growing number of people is seen as threatening future agricultural production. Population growth outstrips food production as the former grows exponentially, while the latter only increases arithmetically. The need to enhance production leads to stress on the environment through overuse of the existing arable land and incorporation of marginal land on which agriculture is neither economically nor ecologically feasible. By pushing this development, societies destroy their basic resource for food production and long-term losses are inevitable. This line of argument follows a Malthusian perspective. Malthus (1798/1914) stated that the population grows so fast that it cannot be sustained by the available natural resources, so that trying to feed hungry people will only prolong their agony and that even with improved technology it will be impossible to produce enough food.
- The growing number of people is seen as a challenge to society's ability to adapt and change. The increased pressure on the land leads to the development of new, more productive farming techniques. Food production can be intensified and, although there is a limit somewhere, it is far away, as further improvements in yield are possible. Not only technology but also social structures will change to cope with the new situation. For example, as agri-

culture provides less employment, people migrate to major urban centres in search of jobs. For the remaining farmers, this means further intensification as one farmer has to sustain more and more people. A different system of production and distribution of foodstuffs develops to ensure the survival of an urban society. This line of argument follows the perspective that Adam Smith (1890, 1961: 182-183) took and was much more fully developed by E. Boserup (1965), who argued that agricultural techniques can and will be improved, so that the increasing demand for food can be met.

Depending on the amount of food available during a certain period of time, authors of works on population and food seem to favour one or the other scenario. While in the early 1970's the consensus tended towards a Malthusian viewpoint, the *Green Revolution* substantiated the perspective of E. Boserup. Neither of the two positions, however, seems to show the whole picture. They do not address the fact that while production actually increases faster than population,¹ hunger persists. There is a definite range in the number of people that can be sustained on a given land base with a certain technology. If the population transcends this range, either the farming technique or intensity has to be changed, or the surplus demand has to be met by imports. For single commodities (such as wheat) the limits of this range can be altered by changes in food preferences within certain groups in society. These changes can go in different directions, either towards processed products or towards foodstuffs not locally grown or a combination of both. A shift in food preferences is often a response to the improvement of income, education or living conditions. Before alternatives to the traditional diet can be taken into consideration, however, there has to be information on the existence and kind of these alternatives. In many cases this information is provided through advertising on radio or television² or in newspapers or magazines³. A change in food "preferences" is not always made voluntarily. In famine areas where people are provided

¹On a global average. This does not take location of production and problems with distribution into account.

²The family income has to be high enough to afford this.

³The person has to be able to read.

with grains delivered as food aid they do not have the option to chose their staple food.

A reform in farming techniques is a slow process. Small farmers, although they are more flexible in general, are reluctant to abandon their traditional and often more ecologically appropriate ways of farming to take a risk with new technologies. The new methods might not be a viable alternative for them and if they involve changes such as reorganizing paddy fields into larger units, they are hard and costly to reverse. An improvement in seed quality on the other hand will be accepted more easily. During the Green Revolution, high yielding varieties (HYV) of wheat were introduced in Bangladesh. They changed the economies of scale for wheat production and made it profitable to grow wheat on paddy fields during the dry season. Bangladesh is an exception among the countries examined in this study, because it introduced HYV wheat and not a high yielding seed variety of the traditional crop. The fact that many small farmers were involved in the use and spread of high yielding varieties of all kinds of crops made this part of the Green Revolution much more successful than large irrigation projects, for example. Despite the increased output of high yielding varieties of crops, there are still often shortfalls in production, so that, in the short term, governments will have to rely on food imports to meet the needs of the growing population in their country.

Two other factors show that it is not only the number of people that determines a country's need for food imports.

The first factor is inherent to agriculture in general: the number of different kinds of crops that can be grown depends on the regional climate, and the success of production is greatly dependent on the weather conditions in any given year. Recent examples of the detrimental effects of variable weather are food shortages in India and Bangladesh due to the failure of the monsoon, and extensive drought affecting countries such as Ethiopia and the Sudan. It must be seen, however, that varying weather conditions influence the amount of food imports, rather than the

kind of crop imported. Unless food aid is provided, it is assumed that a country would import crops inherent to the traditional diet if they were available.

The validity and the constraints of this assumption can be seen in the world rice market, a major part of which comprises rice producers who sell their surpluses to other rice producers facing shortages. Countries that grow predominantly rice have an agricultural structure in common, based on the characteristics of the crop. In the tropics, several rice crops can be harvested each year. Growing rice involves a lot of manual labour, which is readily available in most of these countries, and is provided by the farm family. The low degree of mechanization, compared to wheat, is responsible for the large number of small fields, which are farmed by individual farm families. Rice is first of all used for their subsistence and only the surplus that cannot be stored is sold on a local market and may eventually reach the world market. As rice is harvested several times a year, long-term storage is not a major concern, and the crop is utilized or traded within a short time. If a rice producing country has a shortfall in production, it will first attempt to import rice. Only if not enough rice is available on the world market will another crop be imported. In many cases this substituting crop is wheat.

Most wheat is grown in temperate countries where food is abundant and the diet is diversified. It can be easily transported and has a good storage capability over the years. These characteristics guarantee that it is readily at one's disposal. Maize and millet (sorghum, teff) are traded worldwide, mainly for use as animal feed. It takes longer to prepare a meal consisting mainly of maize or millet than of wheat, so that they become less popular in human consumption. Root crops are not traded internationally in large amounts, as they are favoured only in certain regions, and their high water content makes them unfit for transportation and longer storage.

Of equal importance is the second factor: the economic situation of the people. A considerable part of the population in developing countries is not able to pur-

chase more than a basic amount of food. Their decision on what staple food to buy is largely influenced by the price of the good, not its nutritional value or its prestige. This points to the importance of consumer subsidies as an incentive to change consumption patterns⁴. Many people in rural areas are largely subsistent and buy staple food only after their own stocks are used up. Here, change in consumption patterns takes place more slowly than in urban centres, usually because the staple that is purchased as a supplement is the same as the one grown on the farm.

Regional differences within a country, although they might be immense, are often not accounted for when population figures (e.g. people per ha of arable land) are analysed on a national level. One example of this is Indonesia, where about two thirds of the population lives on the island of Java, which constitutes only 7% of the country's total land area. With an average of 690 persons/km² there is an enormous stress on the land,⁵ 70% of which is cultivated. Marginal ground has been farmed and soil erosion has already lowered the productivity in many areas. With transmigration programs the government has sought to relocate people to other islands, but compared to the population growth the contribution to easing the population pressure is negligible (World Bank 1984: 99).

This regional concentration of population is common in tropical countries, where large areas are unfit for settlement. This condition may exist because of the dense vegetation cover (e.g. Malaysia and Brazil) or adverse climatic conditions (e.g. Ethiopia and the Sudan). In Malaysia 76% of the population lives in the lowlands of the peninsula.

Another aspect of population pressure on land that has not been mentioned in this example is that deforestation for agricultural production means depleting another basic resource. This is especially true in Indonesia and the Philippines, which are among the countries in which the rate of deforestation is highest. Wood, at least in developing countries, is the major source of energy, fodder for livestock

⁴See Section 7.3.2.

⁵Up to 2000 persons/km² in irrigated areas.

and construction material. Its availability determines the kind and amount of food that is consumed. Processed or partly processed foods (e.g. pre-cooked maize) are likely to become more popular if they are inexpensive because they can be prepared using less firewood. This only holds true, however, if the food processing industry does not use wood as an energy source in the production process.

The implications of population growth for agricultural development are closely linked to the amount of land that is suitable for agriculture. S.R. Eyre (1978:48) identifies the "heavily populated and formerly forested countries in southern and eastern Asia" as having only a limited potential for agricultural production. Five of the countries examined in this thesis are among the 22 countries whose potential is less than 8 tons per capita⁶ (Eyre, 1978: 49). These are the Republic of Korea, Japan, the Arab Republic of Yemen, Bangladesh and Sri Lanka. Even if population growth in these countries can be limited, as has already occurred in Japan and Korea, they will continue to import considerable amounts of food. Due to the rapidly ongoing deforestation and population growth rates of 2.4%, 2.3% and 2.7%, respectively, Malaysia, Indonesia and the Philippines are now in the same situation. As wheat is the only staple available in large quantities and at an affordable price, countries which have to purchase additional food do not really have a choice which staple to buy.

Although they are not correlated to either population base, population density or population growth,⁷ economic factors such as GDP and percentage of the labour force working in agriculture, have an influence on the development of wheat import dependency.

⁶Eyre lists the potential per capita net primary productivity for several countries. The net primary productivity is defined as the "dry weight gain per unit area of vegetation per unit time" (Eyre, 1978: 22).

⁷A rank order correlation of the sixteen countries was used to investigate the relation of population to various economic factors such as percent of labour force in agriculture or annual growth rate of agriculture. The correlation was found to be insignificant, a fact that reflects the diversity of the countries.

Chapter 3

Agriculture in the National Economy

First of all, it needs to be recognized that presently all nations are deeply entrenched in the global economy. They all are involved in trade, but the effects that the character of economic and political relations between trading partners has on their national economy depend on the kind of market they trade in. Being dependent on food or energy imports, for example, can have far more severe consequences than being 'dependent' on imports of manufactured 'luxury items'.¹

The world wheat market is a closed system comprised of open sub-systems (mostly nation states) among which wheat is traded. The assumption of a closed system implies that the amount of wheat that can be utilized is limited by the production and stocks in all sub-systems. The fact that the system is closed does not mean, however, that the wheat market is not affected by broader changes in the global economy. The most important of these changes that instigated wheat trade is that the "primary products economy has come 'uncoupled' from the industrial economy" (Drucker, 1986: 768). This is an outcome of the circumstance that industrialized nations need less raw materials than presently for the manufacturing processes. The collapse of the world market price for many raw materials began in 1977, and seriously affected the trade balance of developing countries. Latin American countries for example have responded by diversifying their agricultural exports to alleviate sudden price changes in one-commodity markets. Countries

¹Here, the term 'luxury items' encompasses all consumer goods that are not a basic necessity.

that rely on one primary commodity for export may have to face sudden drops in their foreign exchange earnings, which would mean that they lack foreign exchange to pay for wheat imports.

Given the wide diversity of the countries used as an empirical base in this study, one might wonder whether they have more in common than just the fact that they imported more than 500,000 t. of wheat in 1985. Some of their historical and locational characteristics they share are:

- They are all coastal states with port cities. This facilitates imports and might have supported their decision to import food.
- Except for Japan and Ethiopia, all of them were colonies, ruled by a power that often had a different cultural background. This colonial history had several effects that could be responsible for dietary change, which will be explored in more detail in Chapter 8. Especially in Asian countries, wheat is still not regarded as equal in quality and status to rice.
- Except for Japan, all the countries are developing countries. This does not imply however, that other industrialized countries are independent of wheat imports. The predominance of developing countries in this study is due to the fact that the majority of them are situated in climatic regions not suitable for growing wheat. Except for Japan and Korea, all the countries lie in the tropical belt (between 23°N and 23°S): wheat is not indigenous to their diet.

The countries on which this study is based cover the entire scale of economic development stages, from low income to industrialized. This is an indication of the multitude of reasons involved in the creation of wheat import dependency. Most of the countries surveyed here are middle-income countries.² Venezuela and Brazil have the highest Gross Domestic Product (GDP) per capita after Japan and it

²A middle-income country is a country with a Gross National Product (GNP) between 420 and 4,500 U.S.\$ in 1980 (World Bank, 1982: 110-111).

Country	GNP/cap. US\$	Agriculture % of GDP		% of land area cultivated		% of labour force in agriculture	
		1960	1980	1960	1980	1960	1980
Ethiopia	140	12	16	9.7*	12.6	88	80
Nigeria	1010	63	20	23.6*	33.4	71	54
Sudan	410	..	38	3.0	5.2	86	72
Cuba	..	..	..	17.2*	28.9	39	23
Brazil	2050	16	10	2.3	8.4	52	30
Colombia	1180	34	28	4.4*	5.4	51	26
Peru	930	18	8	1.5*	2.7	52	40
Venezuela	3630	6	6	5.9	4.1	35	18
Bangladesh	130	7	13	..	68.2	87	74
Indonesia	430	54	26	11.9	10.7	75	58
Japan	9890	13	4a	16.4*	13.2	33	12
Korea, Rep.	1520	37	16	21.3*	22.4	66	34
Malaysia	1620	37	24	16.7b	13.1	63	50
Philippines	690	26	23	22.8	36.7	61	46
Sri Lanka	270	32	28	23.8	33.2	56	54
Yemen, A.R.	430	..	29	..	6.9	83	75

a - data for 1979

b - without Sarawak

* - % of total area

.. - no data available

Source: compiled from World Bank, 1982: Statistical Appendix.

Table 3.1: Agriculture in the National Economy

can be assumed that a considerable number of people profit from industrialisation. In Bangladesh and Ethiopia, the two poorest countries studied, the share of agriculture in the GDP increased from 1960 to 1980, whereas it declined in all other countries. All countries have experienced a reduction in the share of the labour force in agriculture, whether the amount of land area under cultivation has increased or decreased. While the amount of land dedicated to agriculture varies with the demand for food or due to government policies, the share of the work force that is employed in agriculture also depends on the degree of industrialisation.

The focus on the export of microelectronics and other relatively new technologies, a promising sector of manufacturing, was the key factor for Japan's gaining its present position on the world market. Working conditions that favoured the identification of the employees with their company maintained initial success. This identification helped to motivate the workers so that they would maximize their efforts for the benefits of the company. With the success of this strategy, industrial wages rose and protectionist policies ensured that farmers got their share of the rising national wealth.

Rapidly industrializing countries like Korea and Brazil have followed the Japanese example in concentrating on the export of high technology products. Brazil, however, is facing difficulties, one reason being its population growth rate, although on the decline, is still high. Rising unemployment is experienced in urban areas, because growth in manufacturing cannot keep up with population growth, while rationalization of manual labour is common in many factories.

The ability to finance imports are more and more constrained by a country's debts or economic specialization. The latter can be in manufacturing goods, exploitation of natural resources (e.g. oil) or large scale production of cash crops. When oil became scarce and rather expensive in the early 1970's, several oil importing countries directed research into other energy sources. This might lead to a gradual replacement of oil and questions whether oil resources can be relied on as a long-term source of foreign exchange. Most cash-crops are susceptible to sudden

changes in world price, and therefore do not provide the stability of foreign exchange earnings that is needed to make the import of food a reasonable alternative to supporting domestic production. Exports of manufactured goods have to cope with tough competition on highly protected markets in industrialized countries. Opening new markets in less developed countries will not be successful until the basic food requirements of their people are met.

Wheat importing countries have several options for their strategy for future food provision:

- They can continue to rely on wheat imports. This is only a viable option when the country concerned has a reliable source of foreign exchange. At present, foreign exchange for most countries comes from exports of raw materials or agricultural products. The more diversified the exports of these goods are, the better are the prospects for this strategy to be successful. Stable political and economic trade links to an exporter of wheat are advantageous, although they bear the danger that this country will try to influence the importer's policy decisions.
- They can try to substitute for wheat imports by importing other food stuffs. For this option to be a reasonable alternative two prerequisites have to be met. A sufficient amount of the other food stuff has to be available on the world market and it has to have a comparable price. In addition to this, the country has to have foreign exchange to buy another crop, which must also be accepted by the population.
- They can encourage domestic food production. This alternative has the advantage of stimulating the national agricultural economy and reducing dependence on food imports in general. One major drawback, however, is the unpredictability of the amount of crop that will be produced domestically each year. In some years, additional supplies will be needed, in which case a choice between the first two options can be made. Uncertainty about the amount of food that will be produced is a problem in Bangladesh, where the

1-5%	5-10%	10-20%	20-30%	>40%
Ethiopia	Sudan	Brazil	Colombia	Cuba
Nigeria	Indonesia		Sri Lanka	
Venezuela	Peru		Malaysia	
Bangladesh				
Korea, Rep.				
Philippines				

- no data available for Yemen A.R. and Japan.

Source: Crow and Thomas, 1983: 46.

Table 3.2: Land under Cash Crops, 1978

performance of the crop depends on the monsoon and can also be hampered by floods. Similar variability in food production can be found in Sri Lanka, Ethiopia, the Sudan and the Philippines, but for a completely different reason. In these countries civil wars and political unrest are responsible for the fact that the crop is not planted, is destroyed, or cannot be harvested.

As will be shown for Japan, this alternative can raise protests from countries that are the major source of wheat imports. Such a reaction can be avoided if the importing country slowly decreases imports or when it imports another good (that cannot be substituted) from the same supplier.

The direction a country chooses will be influenced by the state of the global economy and the long-term prospects for the availability of a crop. Countries that have taken the first option are Venezuela, Indonesia, Japan and Malaysia, where the percentage of land area cultivated has declined.³

Whether a country gives priority to local production of staple food stuffs can be to some extent concluded from the amount of cultivated land dedicated to cash crops for export (Table 3.2). It is interesting to note that Cuba, although it is a

³See Table 3.1.

socialist country, has by far the highest share of its country committed to sugar, the major export crop. From the information provided by other sources it can be assumed that the Arab Republic of Yemen and Japan do not grow cash crops for export. Qat, a drug, is an important cash crop in Yemen, but is predominantly consumed within the country.

The important position that wheat has captured in the economies of the wheat importing countries covered in this study can be seen from the fact that for 10 of them wheat imports comprise more than 80% of the total food grain imports. Table 3.3 gives an overview of the share of wheat in total food grain imports and its importance in the diet of the people. The share of wheat in grain imports is lowest in the East and Southeast Asian countries and in the Sudan. This points to the significance of the kind of traditional staple crop for the decision to import wheat. Countries in which rice is the traditional staple seem to be more reluctant to incorporate wheat into their diet. Rice can be obtained in many years from Thailand, the dominant exporter of this crop.

Although the group of countries as a whole is not homogeneous, some characteristics of their national economies hint at economic policies that are pursued and provide a basis for further analysis of the causes underlying wheat imports.

Knowing the causes and effects of food import dependency will put these importing countries in a position where they have the option to direct policies at critical issues. This could enable them to reduce, or at least maintain, the present degree of dependency, a vital requirement if they do not want to reach a point at which the dependency on the good will of their major food supplier will become self-perpetuating.

Country	% of food grain imports	% of staple calories	
		1961-65	1979-81
Ethiopia	98	..	..
Nigeria	69	0.8	7
Sudan	6	9	15
Cuba	86	41	46
Brazil	96	20	29
Colombia	96	13	13
Peru	88	30	33
Venezuela	86	35	34
Bangladesh	82	4	10
Indonesia	61	0.3	3
Japan	68	16	24
Korea, Rep.	52	7	14
Malaysia	41	16	18
Philippines	82	7	7
Sri Lanka	80	14	23
Yemen, A.R.	94	2	35

.. - no data available

Source: compiled from CIMMYT, 1985: Statistical Appendix.

Table 3.3: Wheat in the National Economy

Chapter 4

Traditional Agriculture

Since the Industrial Revolution agriculture, and its role in national economies, has changed drastically. Agriculture became fully integrated into the world economy only when improved transportation (steamships) made bulk trading over long distances cheaper and faster. Advances in technology did not pass over agricultural practices, and with the increased use of mechanization human labour became less significant, a fact that is reflected in the declining share of the labour force working in this sector of the economy. This poses a problem where population growth is high and the manufacturing sector is not able to absorb the rural unemployed that migrate to urban centres.

High population growth rates, on the other hand, call for higher outputs from agriculture to provide for the increasing demand for food stuffs. To achieve these higher outputs, either yields can be increased through the use of higher yielding varieties or more fertilizer or larger amounts of land can be farmed more efficiently by using modern machinery. The latter includes, for example, not only improved harvesting equipment that reduces the amount of grain lost in the harvesting process, but also new irrigation technology that applies the water directly to the plant and makes it possible to dedicate more land to agricultural production. This kind of equipment, however, requires great capital investment and is only feasible for large farms or co-operatives. In many developing countries traditional agriculture has not changed substantially and still meets the needs of the subsistence farmer. Large farms which use modern equipment often produce export crops, so that

mechanization in developing countries often does not have an effect on the production of the staple food.

Although it is beyond the scope of this thesis to give a detailed analysis of agricultural development in the sixteen countries, the main factors and processes that have a bearing on the domestic wheat economy will be discussed.

4.1 The Role of Wheat in Agriculture

When the role of wheat in domestic agriculture is considered, five different patterns can be identified.¹

4.1.1 Traditionally Rice Growing Countries

As far as domestic wheat production is concerned, five countries take a special position because they do not grow wheat at all. These are Cuba, Indonesia, Sri Lanka and the Philippines, all of them island states, and Malaysia. Their traditional staple is rice and, more important, their agricultural system was restructured into a plantation system under colonial rule. This took land out of staple food production and, together with the rapidly growing population, forced them to import even rice. In Cuba this situation has had the most severe effects. Here per capita cereal production (1981-83) was only 60 kg per annum, compared to 132 kg and 136 kg in Malaysia and Sri Lanka, and 217 kg and 249 kg in the Philippines and Indonesia. This can be attributed to the significantly higher urban population, and the fact that in Cuba the majority of the 23% of the labour force in agriculture works on sugar plantations. The result is that a large amount of imported wheat is utilized.

¹The data used in the following comparison of countries are taken from CIMMYT, 1985: Statistical Appendix.

Cuba is the only socialist state² among the countries under investigation, and it is interesting to note that its agricultural sector is not able to provide for a higher share of the essential food requirement. Cuba is also the only country in this group that already imported more than 1000 t of wheat in the period 1934-38. Sri Lanka, Indonesia and the Philippines did not import any wheat at that time. The Federation of Malaya and Singapore imported 700 t, which most likely were consumed by the European urban dwellers in Singapore or reexported from there. Whether these countries will be able to keep up this level of wheat imports in the future will depend to a significant extent on the world market price for sugar, rubber, coconuts and tropical hardwood.

Cuba

Cuba was integrated in the colonial trade system at an early stage. The cattle ranches/*latifundia* implemented by the Spanish laid the basis for the plantation system (coffee and sugar), which is, though partly changed, still in existence today. In the period after 1902, Cuba developed very close economic links to the U.S. based on the sugar industry. The bulk of the sugar produced was exported to the U.S., while about one third of the food imports originated there. The traditional crops grown for export are: sugar, tobacco, bananas, pineapple, cacao and winter vegetables. For domestic consumption, rice, corn, beans, sweet potatoes, citrus fruits and tomatoes are cultivated. Domestic production, however, is not sufficient to meet demand. Cuba imports 30-40% of its rice requirements, as well as wheat and wheat flour from Canada.

Malaysia

Malaysia was a British colony until 1957 when peninsular Malaysia became independent. Sabah and Sarawak joined the Federation in 1963. As in most countries where rice production is predominant, smallholder farms are numerous. Commercial crops for export, rubber, palm oil, coconuts and pepper are grown on large

²It could be discussed to what extent it is truly socialist, but that is beyond the scope of this thesis.

estates (Bunge, 1984: xviii). Tropical hardwood, taken from the jungle that covers 50% of Malaysia's land area, is another important export commodity. Emphasis is put on the export of palm oil with expanding acreage.

In addition to the traditional exports of raw materials the government has pushed industrialisation and encouraged foreign investment since 1957 (USDS, 1986a: 6). As in other Asian countries, the Malaysian government has decided to concentrate on textiles and telecommunication equipment. During the decade from 1971 to 1981 economic growth was striking and the annual average in real growth of the GDP was 8%. Although this has declined and in spite of a recession from 1984 to 1986, Malaysia has become an important exporter of manufactured products (USDS, 1986a: 5).

Although the importance of agriculture in the national economy has declined, it is still the largest sector of the economy and its significance is recognized by the government. The latter has been giving price supports and production subsidies to rice farmers and thus has been able to achieve 75% self-sufficiency in rice for the country. Nevertheless it will continue to import wheat.

Indonesia

The agricultural structure in Indonesia, which was based on the production of rice, was significantly changed under the colonial rule of the Dutch (1623-1947). Dutch merchants built up a plantation system, turning the numerous small rice farms into 502 private and 680 leased (*erfpacht*) estates (Robinson, 1986: 7). A tax had to be paid to the colonial power, which was 40% of the value of the main crop (rice). Each village had to set aside land for export crops (sugar, indigo and tobacco), which were used as payment. This removed almost one third of the land from staple food production. In the 1930's, only 45% of the cropped, irrigated land on Java was planted with rice. Coffee, tea and spices were grown on the outer islands. Today, 90% of the food crops (rice, cassava, soybeans, corn, sweet potatoes, groundnuts and sugar cane) are grown on Java, while export crops (timber, rubber, coffee, tea, palm oil, pepper and fishery products) mainly come from the other islands.

Sri Lanka

More than half of the total arable land area on Sri Lanka is planted with permanent crops for export: tea, rubber and coconut. The cultivation of these crops in a plantation system was established under British rule. The United Front³ ruled from 1956 to 1977, and took a socialist course. Large foreign-owned estates were nationalized, but most of them were kept as state institutions so that the size structure in agricultural production units did not change. Food rationing was implemented, but the government tried at the same time to increase food production. Although rice production was doubled between 1962 and 1980, the country still had to import 30% of the cereals consumed in 1981 (Warnock, 1987: 253). This development was reversed when the United National Party in 1977 changed the political course towards export oriented industrialisation. This attracted private foreign investment as well as American and international aid donors. The successful stimulation of the economy extended to agriculture and especially rice production rose substantially. As a consequence only 12% of the rice consumption had to be imported between 1978 and 1980, compared to 33% between 1970 and 1977 (USAID, 1982: 9).

The Philippines

Rice and maize are the traditional staples in the Philippines, but tobacco, potatoes, coffee, cocoa, fruits and vegetables are also grown for domestic consumption. Sugar, coconuts and pineapple are the major export crops.

The Chinese had already developed close trade links with the Filipinos long before the Spanish conquest of the Philippines began in 1521. It was not until 50 years later that a permanent settlement (Manila) was established and the Spanish had secured their position on the islands. In 1898, after the Spanish lost the Spanish-American War, the territory was transferred to the United States despite local attempts to become independent. Rapidly growing economic links between

³The United Front is a coalition of the Sri Lanka Freedom party and the Communist party.

the islands and the United States hindered the Filipinos in their struggle towards independence. It was finally gained in 1946, after 10 years of self-government under the supervision of the United States. The decolonization process was smooth and close links to the United States remained. Like Cuba, the country had an agreement with the U.S. on a sugar quota which secured exports.

Ferdinand Marcos, who came to power in 1965, constantly had to deal with political unrest on the main island of Luzon that was fostered by communist oriented groups. When he declared martial law in 1972 ostensibly, at least, to prevent a communist rebellion he was supported by the United States, partly through food aid in the form of wheat. In 1973, 75% of the cultivated area in the Philippines was used for subsistence agriculture. The majority of the small farms⁴ grow just one crop. This is due to the fact that 40% of all farms are still operated by tenants, who do not produce for subsistence, and do not decide which crop should be planted. In the early 1980's the Marcos government proclaimed the intent to replace wheat imports. It started to conduct research into the development of wheat varieties that could be grown under tropical conditions (Agriculture Canada and Dept. of External Affairs, 1982: 24). When Corazon Aquino was elected in 1986 she planned to revive the economy, for example by privatizing the oil industry. These attempts were overshadowed by struggles within her cabinet, a military coup and attacks by the communist-led New People's Army guerillas, problems that pushed economic and agricultural policies into the background (Gourlay, 1987).

Introducing the production of wheat into agriculture is not only hindered by climatic factors. In countries where rice is the traditional staple, the agricultural structure will most likely need to change. Wheat is generally grown in a land-extensive manner, while rice (paddy) is usually grown on very small farms, involving a lot of human labour. If the rural population is not the major consumer of wheat, it might resist changes, unless considerable incentives are offered which

⁴Rice farms are 2.98 ha in average, maize farms 2.5 ha (Weintraub, 1973: 10).

make wheat a more profitable crop to grow. The three other countries in which rice is the traditional staple and which are major importers of wheat are Bangladesh, Japan and the Republic of Korea. Not one of the Asian countries has a permanent wheat surplus and only India, Pakistan and China are presently able to achieve self-sufficiency in most years. While Japan and the Republic of Korea show many similarities in the general state of their economy, the situation in Bangladesh is fundamentally different.

Bangladesh has had to cope with a population growth rate of 2.6% per annum from 1970 to 1980, with 85% of its people living in rural areas. Although per capita wheat production in 1983 was 11.4 kg, almost twice as high as in Japan, this did not even provide half of the amount required and had to be supplemented by imports. The domestically grown wheat is mostly consumed where it is grown. This has reduced transportation problems that would have occurred if the large rural population had to be supplied with imported wheat. While Bangladesh extended the area sown to wheat and encouraged domestic wheat production, the wheat area in Japan and Korea declined considerably between 1961 and 1984. In the Republic of Korea, the wheat area in 1984 took only 0.3% of the total arable land instead of 5.9% in 1961; in Japan this share declined from 9.9% in 1961 to 4.9% in 1984. This development is also visible in the decrease of the proportion of the labour force in agriculture from 1960 to 1980, which was 48% in the Republic of Korea and 64% in Japan (World Bank, 1982: Statistical Appendix).

Japan and Korea are at present not substantially food deficient. This means that they earn a sufficient amount of foreign exchange to provide their population with at least minimal nutritional requirements, independently from the performance of their domestic food production. In these countries voluntary food consumption changes have taken place. Both countries can be regarded as traditional wheat importers, because they already imported wheat before 1934. They will want to continue wheat imports and will be able to do so with the foreign exchange they earn from the export of manufactured goods.

In Bangladesh, on the other hand, consumption change for wide parts of the population was a necessity. It was wheat that was provided as food aid during

the famine years 1973-1975. When Bangladesh's major export crop lost importance on the world market in the early 1970's, the government had to look for an alternative to wheat imports, because foreign exchange earnings dropped. Led by influences from Pakistan, a traditional wheat producer and supplier of seed, the government of Bangladesh decided to support domestic wheat production.

Bangladesh

Although rice is the dominant staple in Bangladesh, by 1983 wheat had become an important winter crop. Most Bangladeshis in urban areas, as well as the rural poor, use wheat for two meals every day, but in general rice is still preferred.⁵ Wheat is an indigenous crop in the Indus valley, but it was not grown in what is today the country of Bangladesh until the 1960's. A major expansion in the land dedicated to wheat took place in the late 1970's, when the government devoted a considerable amount of foreign exchange to importing high yielding variety seeds. This was partly due to a severe shortage in rice in 1973. Most of the wheat is planted on rice land not used during the dry season.

Wheat imports are still necessary because the domestically produced wheat often does not reach the urban centres. It is directly consumed by the farm family, or sold on the local market. The demand from urban consumers is met by imports (predominantly food aid), a solution that is probably cheaper than supplying the urban market with domestic wheat, because the major urban centres are located at or close to the coast and transportation costs are kept low.

Japan

The industrialisation process in Japan started with the abolition of feudalism in 1871. Within this process agriculture lost its importance very rapidly. Manufacturing for export helped Japan to become the highly industrialized nation it is today. Rice is the traditional crop, the production of which was supported by the government to maintain food security, while the consumer demand shifted towards

⁵See Section 5.3.

non-traditional crops. Due to increased meat consumption, imported wheat is also used for animal feed, especially poultry, although so far only in small quantities.

In 1980 the Japanese government set the goal to raise self-sufficiency in wheat from 4% at that time to 19% in 1990 (Gardner, 1980: 36). Hard wheat for baking bread will still have to be imported, as it cannot be grown under Japanese climatic conditions, but soft wheat, which is used for noodles, could be produced locally. An area of 350,000 ha would be sufficient to fill the majority of the domestic demand for soft wheat, but it is hard to convince farmers to shift from rice to wheat, when the government price for rice is three times the world market price (Balaam, 1986: 95). Payments were made to farmers who grow wheat, but the wheat price was not supported. In addition, many farmers lack knowledge on how to optimally cultivate wheat. In 1984 the situation changed. The farm price of wheat was U.S.\$ 734 per ton, compared to an export price of No. 2 Canadian wheat of U.S.\$ 154 per ton (CIMMYT 1985: Statistical Appendix). This reflects the consideration of the Japanese government that a diversification of the kind of crop planted *has* to be pursued, because rice consumption is steadily declining while grain imports are increasing. Government policies have tried to slow down the decline in rice consumption, while at the same time researching the production of more crops domestically. The government is also interested in lowering support levels because they are increasingly difficult to finance.

Republic of Korea

As in most Asian countries, rice is the traditional staple in Korea, and as in Bangladesh it is planted as a winter crop on small farms in the rice paddy fields. Over 93% of the farms have less than 2 ha, 41% have less than 0.5 ha (Warnock, 1987: 259). The Japanese, who were the colonial power in Korea from 1910 to 1945, confiscated 30-50% of the Korean rice crop to supply their own population. Having no other source available, Korea had to import coarse grains from Manchuria. During World War II compulsory grain delivery from Korea to Japan was maintained.

After the Korean War wheat became an important staple. Food shortages

had to be met, and wheat was readily available under concessionary terms of the P.L. 480. When the wheat supply under P.L. 480 was reduced in the 1970's, the fear of losing too much foreign exchange, and the high world market price, led the Korean government into research for domestic wheat production. High humidity and temperature fluctuations in the spring made wheat production less successful than had been hoped. Wheat research was also not sustained by the administration and today wheat production is minimal, accounting for around 2% of consumption. In 1960, 5.9% of the arable land was utilized for wheat, while in 1984 the share had declined to 0.3%. As a result, imports have become even more important than before the research initiative.

4.1.2 Traditionally Maize Growing Countries

Wheat imports to Latin American countries started in the 16th century. Only Venezuela did not import wheat in 1934-38. The marketing and distribution system, however, as well as the dominance of the United States as a supplier, emerged only in the 1950's. The different ways in which the countries have reacted to these two factors have determined the recent development of their wheat imports. In the four countries investigated here, maize is the traditional staple, and the area dedicated to wheat has declined. This sub-group of countries is the most homogeneous of the ones studied, because of their common history of development. About 70% of the population is urban, and the number of people employed in agriculture has declined. In Brazil and Venezuela the industrialisation process is more advanced and the GDP per capita is higher than in Colombia and Peru, which also imported less wheat in 1985. Wheat imports per capita are lower in Brazil and Colombia than in the other Latin American countries, but the share of wheat in total grain imports (96%) is one of the highest of all countries researched in this study.⁶ The annual amount of wheat that is produced in the four countries examined here varies considerably from country to country from almost nothing in Venezuela to 17 tons per person in Brazil. These diversities are partly due to

⁶See Table 3.3 on p. 30.

climatic conditions and can be found in other Latin American countries as well.

One important aspect that emerges is that Latin America is the only continent where there are major wheat importers and wheat exporters.

Brazil

The government of Brazil has relied on the potential expansion of cultivated land, a decision that is based on the fact a high proportion of the country's land is suitable for agriculture, but only 8.4% was cultivated in 1980. Therefore it gave no price incentives to intensify and increase food production. In the early 1950's the country was self-sufficient in maize and rice, the two traditional staples, but it imported over 50% of its wheat. The military coup in 1964 led to a number of important changes: economic growth in industry and manufacturing increased rapidly, emphasis in agriculture shifted from food staples to cattle ranching and soybean production for feed, and consumer prices of food stuffs were kept low. In 1979 the administration set three objectives for future agricultural production:

- to increase the production of food crops to substitute imports
- to expand foreign exchange earnings through more agricultural exports
- to develop crops for fuel to limit oil imports

The Production Financing Commission emphasized traditional crops (dry beans and manioc) and its minimum price program did not cover wheat. In the 1980's, the necessity to obtain foreign exchange to cover debts has pushed the first objective into the background and induced a shift to the production of cash crops, mainly coffee, sugar and oranges. The government uses credits with subsidized interest rates to stimulate the production of whatever crop is seen as the most important at the time. The amount of credit available depends on farm size, a fact that encourages large holdings. Soybean production was so successful that Brazil started to export its surplus. The production of staples suffered and prices for rice, beans and beef rose by 619%, 217% and 325%, respectively, within one year (Warnock, 1987: 18). This inflation in food prices was aggravated by a drought in

the northeast of Brazil that lasted from 1978/79 until 1983/84 and significantly decreased the yield of corn and beans. A program to diversify wheat production to other regions was introduced in 1981 to compensate for these losses, and to reverse the reduction in the area sown to wheat that had occurred after a number of poor harvests. It was financed through credits from P.L. 480 imports (Agriculture Canada and Dept. of External Affairs, 1983: 12-15).

There have been many attempts in Brazil to become independent of wheat imports and the government expects a surplus in production for 1988 (Dawnay, 1988).

Venezuela

In Venezuela rice, coffee, corn, sugar, bananas and dairy products, meat and poultry are the main products. The traditional staple food is maize. The climate does not permit wheat production except in areas of high elevation, which is why production is concentrated in the three Andean provinces of Mérida, Trujillo and Táchira, and from 1970 onwards, only in the first two. The lack of a national wheat economy, however, cannot solely be attributed to the prevailing climatic conditions.

Wheat was introduced in the country by the Spanish conquerors. As early as 1579 it was cultivated in the Andean highland region in the northwest of the country, mainly for export to other colonies such as Maracaibo, Cartagena and the Antilles, where there was a relatively large European population. In 1839 the production of wheat flour reached 22 million kg, almost all of which was processed within the region. In 1876, 55 years after independence, the amount of wheat flour produced had declined to 4 million kg. This was due to inappropriate soil cultivation practices, which led to erosion. Improper methods used for seed selection and cultivation resulted in a low quality of grain and flour. Cultivation practices were never improved substantially, which is one of the reasons for the insignificant amount of wheat grown in Venezuela. It does not explain, however, why wheat farmers have not changed their farming methods or tried other wheat varieties (Banco Central de Venezuela, 1978: 235).

There are two other arguments explaining why wheat production never really got off the ground. First, if a farmer does not already grow wheat, there is no incentive to do so. Neither state nor federal governments concede special credits to farmers who grow wheat; the majority of the credits go into maize production. Second, the soils in the highland region are also suitable for coffee, sugar cane and cotton, which are more profitable to grow. This has been a major factor working against food self-sufficiency, because the area could be used as well for maize, vegetables and potatoes, which are basic to the traditional diet. All in all, there was no immediate reason to allocate new areas to wheat production. After the Second World War the area dedicated to wheat increased as new land was cultivated in Mérida and Trujillo. In 1967 production was practically given up in Táchira, and was reduced in Mérida and Trujillo. It seems that the remaining wheat areas were kept more out of habit than to substitute imports. Trujillo has the highest wheat production, probably because it is closest to the densely populated North.

Colombia

The traditional diet in Colombia is very diversified, consisting of seven staple foods: rice, cassava, plantains, potatoes, maize, sugar cane and beans. These crops make up one half of total crop production. Coffee is the dominant export crop, and takes over 20% of the arable land (Agriculture Canada and Dept. of External Affairs, 1984: 7). Although wheat has not been grown traditionally, production is possible in the high elevated areas of the Andes. The area planted in wheat declined from 3.3% of the arable land in 1961 to 0.7% in 1984 (FAO Production Yearbooks, 1962, 1985). The majority of the land that was taken out of wheat production was not utilized for other crops. Just as the total area sown with wheat declined, the proportion planted with improved wheat seed went down from 37.1% in 1970 to 12.5% in 1980. Since then it has been on a slow rise again (World Bank 1984: 249).

The reason for this development has to do with the way in which the Instituto de Mercado Agropecuario (IDEMA), a government agency for trade with agricul-

tural products, made use of the revenues from P.L. 480.⁷

IDEMA did not support wheat production because wheat producers were not organized into a sufficiently powerful pressure group to influence price policies. In Cundinamarca [...] nearly 40% of the wheat was grown on plots of less than 10 hectares, with an average of only slightly more than one hectare of wheat per farm.[...] Only about 34% of the wheat area was sown with tractors in 1958 and improved wheat varieties and fertilizers were used infrequently (Hall, 1985: 142).

This statement clearly indicates the agrarian structure of wheat production in Colombia: grown on small farms which produce a variety of crops. This is important when the influence of farmers within the economic system is considered. They suffered from the policies pursued by IDEMA, while the rice farmers, who operate large irrigated farms, were more influential as a group⁸ and were therefore more able to put their interests forward. A decline in rice prices reinforced the decline in wheat production by causing a shift in demand from wheat to rice. Colombia also faces transportation problems for imported wheat, because the population is concentrated in the interior. Locally grown wheat should have a comparative advantage, and probably would have, were it not for the policies of IDEMA.

Peru

Lima, the capital of Peru, was the centre of Spanish power in Latin America from the early 19th century until the independence of the country in 1879. The military regime in power from 1968 to 1980 wanted to lessen European and North American influence. As a result many enterprises were nationalized and an agrarian reform program was launched. This included subsidized food prices for wheat, vegetable oil, dairy products, corn, rice and sugar, but not for the traditional staple, maize. The commercial and subsistence sectors within agriculture are spatially separated: the former is located on the coast, close to port facilities, the latter prevails in the mountain region. The continuous decline of per capita food production over the last two decades was enhanced by a three year drought from 1979-1982.

⁷For a discussion of the United States Public Law 480, see Section 7.1.1, p. 83.

⁸They are organized in a group called FEDEARROZ.

The civilian government under President Belaunde Terry (1980–1988) set out to rebuild an open market economy by slowly removing trade barriers. This affected agriculture directly, insofar as lower import duties on agricultural machinery and supplies such as fertilizer sparked mechanization. The government also started cutting out food subsidies and began giving technical and credit support to farmers. Agricultural credits are primarily given to cotton and rice producers, with 46% of them going to cooperatives and large farms (Agriculture Canada and Dept. of External Affairs, 1982: 26). Controls on food prices were finally removed in 1982, including those on wheat products (Agriculture Canada and Dept. of External Affairs, 1983: 35).

4.1.3 Traditionally Millet Growing Countries

Except for the traditional wheat growing countries in North Africa,⁹ wheat production is limited in this continent. In Ethiopia, the Sudan and the Arab Republic of Yemen, millet (sorghum, teff) is the traditional staple. These countries began importing wheat only recently, but have seen imports increase rapidly. Some characteristics they have in common are predominantly of a historical nature. They all had pre-Arabic cultures and were colonized (Sudan) or influenced by colonial powers. Ethiopia was an exporter of wheat in the 1940's, but production did not keep up with population growth.

The economies of all three countries are still based on agriculture. The percentage of urban population is low, as well as the GDP per capita. The share of the wheat area in arable land has increased considerably since 1961. This shows that these countries have the potential to grow more wheat, although it will probably not be enough to meet domestic demand. Compared to all the other countries investigated in this thesis Ethiopia, the Sudan and the Arab Republic of Yemen face the most severe ecological problems. Continuing drought accelerates desertification and puts stress on food supply. Wheat imports in the form of food aid are seen as the solution to this problem. The three countries have also experienced

⁹These are Algeria, Egypt, Libya, Morocco and Tunisia.

civil war (or still are). The repercussions this has had for food production and distribution will be discussed below. It has to be recognised that as long as the wars go on, food supplies will have to be provided by foreign countries. The usefulness of this food aid is debatable, because it often does not reach its destination.

Ethiopia

Prior to 1974, the agrarian economy in Ethiopia was feudal. Surplus production went to the landlords who owned the large farms, while the peasants usually were poor. In 1974 all land was nationalized, redistributed, and its sale, lease or mortgage prohibited. Any household which wanted to become engaged in agriculture could get up to 10 ha of land. The use of hired labour was prohibited. In most cases the former landlords kept the most fertile land, while the more marginal areas were distributed to the peasants. As a result of this land reform, the direct consumption of the farm population increased, so that the amount of food available on urban markets was reduced. Highly mechanized state farms of 4,000 to 10,000 ha were established to overcome these shortages (Ghose, 1985: 127-130).

Considerable wheat imports of over 1 million t started in 1977, and have continued at this level since then. Land reform, however, did not affect regional disparities: land suitable for agriculture is concentrated in the provinces Gojjam, Gondar, Arrsi and Shoa in the centre and west of the country. The present transportation system is not able to manage the immense grain movements that would be required to compensate for the regional variations in supply. This might change in the future, after projects to improve the road network, which have been started by organizations who distribute food aid to famine areas are completed. Transportation of wheat and other food stuffs to the starving people in the north has also been impacted by the civil war in Tigray and Eritrea. In 1984/85, for example, the Ethiopian government did not give free passage for relief food into areas held by rebels (Bennett, 1987: 43). Food aid, however, is only needed because farmers have been displaced from their land. Even though yields had been low before because of several droughts and desertification, farmers had at least been able to sustain a minimal amount of food production. Losing even this bare minimum

and being cut off from other food supplies provided by Non Government Organizations (NGO's) and governments many farmers decided to flee to the Sudan.

Sudan

The Sudanese economy has been dominated by cotton since the British opened the irrigated Gezira Scheme in 1925. Instead of large private estates, a tenant farming system was implemented. In addition to the area each farmer had to set aside for cotton, tenants were allowed to use one quarter of their plot to grow sorghum for their household consumption, plus fodder for their animals. After the country gained independence in 1956, the threefold agricultural structure remained. Large scale modern irrigated farming practices are now used to grow long-staple cotton, groundnuts, wheat, fruits and vegetables. Mechanized rain-fed production, on the other hand, is concentrated on sorghum (the traditional food staple), sesame and short-staple cotton. Traditional rain-fed agriculture is located in the central, western and southern regions of the country. Its output is usually used for the subsistence needs of the rural population.

In 1973, 10% of the irrigated land area in the Gezira Scheme was dedicated to wheat. That is a considerable amount for a project that set out to provide the colonial power with income from cotton production.¹⁰ So far, government programs and research have been directed at increased cash crop production in the irrigated sector, and it is only recently that more attention has been given to the mechanized rain-fed farms. The traditional sector has been completely left out of development attempts, partly because of the civil war in the south. In the regions where this form of farming is dominant, food shortages will persist.

Considering the agricultural development in the Sudan, it is no wonder that refugees from Eritrea and Tigray encountered no substantial improvement in their living conditions. In the hope of being able to return one day, they live in camps close to the border. Due to the civil war in the south of the Sudan, and the adverse climate conditions that are similar to those in northern Ethiopia, the refugees have

¹⁰For a detailed description of the Gezira Scheme see Oesterdiekhoff and Wohlmuth, 1983:81-135, Lees and Brooks, 1977:46-48 or Voll, 1980:46-78.

to cope with the same problems they tried to escape.¹¹

Arab Republic of Yemen

Compared to the Sudan and Ethiopia, the present political situation in the Arab Republic of Yemen is stable. The traditional crop is sorghum. It is highly resistant to drought, and produces fodder for animals as well as grain for human consumption. This gives it a major advantage when compared with other cereal grains. Cash crops are cotton and qat, a drug that is not exported. Wheat is grown in the Central Highlands, together with barley, alfalfa, sorghum, grapes, qat, coffee, figs, vegetables and stone fruits, and in the Northern Highlands, where it competes with sorghum and grazing of livestock.

The Arab Republic of Yemen was effectively isolated from the world until 1962, when a new government implemented an open foreign policy. Since that time economic development and wheat imports have increased at a rapid pace. For the period before 1962, only limited data is available on the structure of the agricultural sector. It is believed, however, that most farms were small and nearly self-sufficient. The scattered crop statistics also show that farmers have reacted to a change in consumer demands. The wheat acreage rose from 30,000 ha in 1972 to 61,000 ha in 1982 (Nyrop, 1986: 331). An increase in food production through irrigation around the capital city Sanaa has caused the groundwater level to drop, a fact that limits the installment of further projects. This, and the agricultural structure of the rural areas, necessitates food imports to fulfill the expanding demand in the cities.

Since the early 1970's, the agricultural sector has moved to the centre of attention in government policies, because officials have realized that better income for the majority of the population has to come from agriculture, as 75% of the population are employed in this sector. The decision to focus on agriculture was facilitated by rising food prices on the world market.

¹¹For a detailed discussion of the effects of the civil wars in Ethiopia and Sudan see Horn of Africa Journal, 1981.

4.1.4 Traditionally Root Crop Growing Countries

Nigeria is the only country where root crops are the traditional staple. Compared to the other African countries examined here, its wheat area of only 0.05% of arable land is negligible, although attempts have been made to grow more wheat locally. The amount of wheat imported has increased rapidly over recent decades. Nevertheless, wheat accounted for only 7% of the staple calories consumed over the period from 1979 to 1981. This is the second lowest share of all the countries examined in this study.¹² The share of agriculture in the GDP was only 20% in 1980, compared to 63% in 1960.¹³

Nigeria

Wheat bread was introduced in Nigeria during the colonial period, although it was mainly consumed by Europeans at that time. Up until the 1960's agriculture provided most of Nigeria's economic growth. This situation started to change during and after the Biafra War (1966-1970), when oil was found. But it was not until 1975 that oil exports made up almost all the foreign exchange earnings (Andrae and Beckman, 1985: 4). After a rise in salaries (*Udoji* awards) for government employees in early 1975, the demand for different foodstuffs increased when this group tried to bring more variety to their diet. Although food self-sufficiency had a high priority, wheat imports almost doubled from 407,309 t in 1975 to 733,133 t in 1976. Attempts to increase domestic food production took the form of large irrigation projects in the north of the country, which did not prove to be very successful. Under the program 'Operation Feed the Nation', launched in 1976, subsidized fertilizer, improved seeds and pest control measures were provided to increase domestic food production. Everybody was encouraged to contribute in the national thrust towards self-sufficiency.

We expect all urban dwellers to use whatever space is available to grow crops and vegetables of all types (The Nigerian Economic Society 1986: 91).

¹²See Table 3.3 on p. 30.

¹³See Table 3.1 on p. 25.

The attempt to involve not only every citizen, but also every government authority, led to administrative confusion, and to the ultimate failure of the program.¹⁴ In 1979, short-term measures by the federal government were only geared towards maize and rice production, not wheat. At that time the trend of export earnings and wheat imports became uncoupled. While the former declined, the latter continued to rise. The military government that took over in 1983 set out to substitute 'unessential' wheat imports. [Rising prices for domestic food delayed wheat import substitution, because there was no comparable crop to replace imported wheat. On the contrary, because the price of imported wheat did not change, wheat products gained a comparative advantage over traditional crops (Andrae and Beckman, 1985: 2).

After the civilian government had relied on foreign exchange earnings from oil for so many years, it was difficult to try to change course and reorient policies towards locally grown staples. In the light of unstable foreign exchange earnings from oil, substitution for wheat imports seems to be the only feasible alternative for Nigeria.

Two factors make the grouping of the countries by their traditional staples a helpful tool in analysing wheat import dependency.

Every staple crop is grown and prepared in a different way. The more similar these processes are to wheat, the more readily is imported wheat accepted by the population. Second, the time at which wheat was introduced into the country and by whom also has to be considered. The combination of both cultural and historical developments are the foundation of the present status of wheat in the countries. A comparison of the Asian (rice) and Latin American countries has emphasized the importance of these influences. Like wheat maize is milled before

¹⁴The following authorities had supervising functions: Federal Ministry of Agriculture, Federal Ministry of Water Resources, River Basin Development Authorities, State Ministries of Agriculture and Natural Resources, Commodity Boards, Agricultural Development Corporation, Natural Science and Technology Development Agencies, research institutes and local government councils (Agriculture Canada and Dept. of External Affairs, 1980: 19).

further use, while rice only has to be cooked. Maize is grown on larger fields than rice. One acre of rice can sustain more people than one acre of maize, because rice is harvested up to four times a year. The Latin American countries gained their independence in the 19th century and seem to have passed the stage of rapid dietary change in staples. Not only do their grain imports mainly consist of wheat, but the share of wheat in staple calories has been almost constant since the early 1960's.

Chapter 5

Wheat Consumption

Why do people in a country initially begin to consume wheat, especially when wheat it is not traditionally grown there? One cannot be expected to find a completely satisfying answer to this question, but the reason wheat gained importance in the Bangalee diet, as identified by S. Lindenbaum (1987), at least gives one an idea of what to look for. She argues that the present role of wheat in Bangladesh is:

the outcome of the interlocking interests of a national government, the American farm bloc, the World Bank group of lending institutions, international grain dealers, and the operations of American diplomacy, which uses the shipment of food aid as an arm of foreign policy. (Lindenbaum, 1987: 430)

Even if in most countries discussed, the above factors are not equally important, this statement rightfully points out that changing patterns of food consumption can be a result of influences from outside (e.g. food aid), as well as of structural shifts in society (e.g. urbanization).

Figure 5.1 gives an overview of the major factors influencing wheat consumption, and the ways in which they are linked. The individual items will be discussed in the following chapters. Directly affecting the amount of wheat consumed are consumer incomes, consumer preferences and consumer prices for wheat, as well as competing food grains.

Figure 5.1: Influences on Wheat Consumption (Byerlee, 1987:311)

All of these factors, especially income and taste, vary considerably between urban and rural areas, as well as between social groups and classes. In Brazil, for example,

Bread is of little importance in low income diets, providing only 17% of the total calories consumed by the poorest groups in Brazil. Bread is also far less important for rural dwellers than corn and rice, contributing only 3% of their grain calories. (Hall, 1985: 141)

On a national average, wheat accounted for 29% of the staple calories in Brazil in 1984.

Rural-urban differences in wheat consumption are stronger in countries where the overall wheat consumption is low (Table 5.1). The rural population farms for subsistence, and relies much more on the traditional staple than do urban dwellers, who have to obtain their wheat or wheat products on the market. The demand for wheat and wheat products on the urban market is comparatively high, so that it tends to absorb the imported wheat. The distribution system that ensures supplies to the urban consumer is based on investments in port facilities, infrastructure and

COUNTRY OR REGION	YEAR	ANNUAL PER CAPITA CONSUMPTION OF WHEAT PRODUCTS (kg/year)	
		Rural Areas	Urban Areas
High wheat consumption (>100 kg/capita/year):			
India, Punjab State	1974-75	130	117
Egypt	1974-75	109	178
Pakistan	1982	150	100
Intermediate wheat consumption (30-100 kg/capita/year):			
Peru	1972-73	28	43
Sri Lanka	1981	26	57
India, Bihar State	1974-75	39	57
Sudan	1982	25	84
Low wheat consumption (<30 kg/capita/year):			
Brazil	1975	9	29
Indonesia, Java	1980	3	32
Philippines	1975-79	5	18
Kenya	1974-75	10	30
India, Andhra Pradesh State	1974-75	2	9

Source: Byerlee, 1987: 313.

Table 5.1: Consumption of Wheat Products

Figure 5.2: Apparent Wheat Consumption

marketing possibilities that are located in, or adjacent to, urban centres.

The apparent consumption¹ per person in 1984 is shown in Figure 5.2. The substantial increase in wheat consumption in most of the countries since 1960 is very evident. The changes are most significant in the African and South Asian countries, as well as in Cuba.

Applying the ranges for high, intermediate and low wheat consumption from Table 5.1 to these data results in the distribution shown in Table 5.2. It is interesting to note that Cuba, a country which does not grow wheat, is the only 'high' wheat consumer. This is due to a combination of the early and strong links to the United States and the provision of 'subsidies' for wheat imports by the Soviet

¹ Apparent consumption is the amount of wheat produced plus the amount of wheat imported. The fact that demand exceeds production by far allows one to neglect the level of domestic stocks.

High	Intermediate	Low
Cuba	Sudan	Ethiopia
	Brazil	Nigeria
	Peru	Colombia
	Venezuela	Indonesia
	Bangladesh	Philippines
	Japan	
	Korea, Rep.	
	Malaysia	
	Sri Lanka	
	Yemen, A.R.	

Table 5.2: Wheat Consumption

Union. Brazil has moved from a low to an intermediate consumption level, which is reflected in an upturning trend since 1975, in the amount of wheat imported.

5.1 Income

Although the actual relationship between income and wheat consumption is hard to express in statistical terms, it is clear that the sudden and steep increase in income in some groups of the population has led to a different demand structure for food, which has facilitated the introduction of wheat products. Food consumption surveys have been collected by the FAO, but they exist only for certain countries and years. Usually they specify only the household expenditure on cereals. Where more detailed information is available, it is displayed in Table 5.3.

In Japan, where the industrialisation process is well advanced, rising per capita incomes, population growth rates and changing tastes in the late 1950's had already created a demand for commodities that had to be imported. One example of this is wheat. The rise in bread consumption took place in all income groups

Country	Year	Kind	Bottom third	% Pop.	Middle third	% Pop.	Top third	% Pop.
Malaysia								
Peninsular	1973	bread/oth.cer.	20.8	66.1	31.2	23.5	35.9	10.4
Rural	"	"	18.8	74.8	28.2	19.1	31.2	6.2
Urban	"	"	33.1	48.2	36.3	32.6	40.3	19.2
Sabah, Urban	"	"	20.5	19.8	27.3	40.1	35.9	40.1
Sarawak, Urban	"	"	26.6	38.3	30.8	35.7	39.1	26.0
Peru								
Lima	1971/72	wheat	1.8	50.2	1.3	29.8	1.4	20.0
	"	bread	35.7		34.6		48.2	
Brazil								
Est.de Sao Paulo	1963	wheat flour	4.3	12.1	10.1	58.8	10.6	29.1
Est.de Guanabara	1967/68	"	2.1	61.3	3.5	25.1	3.9	13.6
	"	bread	38.2		36.2		36.0	
	"	baked goods	7.7		16.0		19.7	
Rio de Janeiro	1968	flours	4.2	62.5	5.4	28.6	6.1	8.9
	"	bakery prod.	54.0		55.0		52.0	
Japan								
nationwide	1969	bread	9.7	45.3	12.6	44.1	13.1	10.6
" , workers	"	"	9.8	44.8	13.2	48.2	14.8	7.0
nationwide	1974	"	12.3	28.5	14.8	51.1	17.5	18.3
"	1979	"	15.3	31.1	18.5	55.3	18.6	13.6
"	1983	"	17.4	32.1	20.1	51.1	20.5	16.8
" , workers	"	"	17.7	25.3	21.1	57.7	21.1	17.0
Sri Lanka								
nationwide	1978/79	wheat flour	11.0	74.4	7.4	19.5	7.3	6.1
	"	flour prep.	2.0		2.2		2.9	
	"	bread	14.2		14.3		14.4	
	"	bakery/confect.	2.3		3.4		5.7	
Ethiopia								
Addis Ababa	1975	bread	6.8	63.7	10.5	27.8	22.6	8.5
Bangladesh								
nationwide	1973/74	wheat & flour	17.7	80.7	7.9	12.4	5.5	1.9
urban	"	"	25.5	74.5	13.5	20.2	11.3	5.3
rural	"	"	17.4	86.6	7.3	11.8	4.6	1.6
Sudan								
urban	1978/79	bread	53.0	43.0	60.0	40.3	62.3	16.7
	"	macaroni	0.3		0.9		2.0	
Venezuela								
Puerto La Cruz	1968	flour	15.6	80.9	14.4	14.0	9.9	5.1
Barcelona	"	bread	27.5		34.4		40.3	

compiled from FAO 1977, 1983 and 1985.

Table 5.3: Percent of Household Expenditure on Wheat Products

(Table 5.3), and while in 1983 the high income households still consumed more bread than the low income households, the difference has since diminished. The Japanese example also shows that changes ran through all classes, a circumstance that was supported by rising incomes among industrial workers.*

The level of a country's per capita GNP does not allow precise statements on the role of income, because it often covers extreme income disparities. Venezuela is a striking example. One study suggests that as many as 75% of all families lived below the minimum subsistence level in 1976, despite a high per capita GNP of over U.S.\$ 3,000 (Wright, 1985: 163).² In Cuba, where one would expect a rather even distribution of income (as the regime follows a socialist ideology), the wealthiest 5% of the population received 9.5–11% of the national income in 1978, while the poorest 10% of the population earned only 3.4–5.1% (Rüdolph, 1985: 100).

5.1.1 Rural

Income disparities within the rural population are not as blatant as among the urban citizens, because the majority of the rural people are poor. Data on Malaysia and Bangladesh (Table 5.3) show that 74.8% and 86.6% of the rural population belongs to the bottom income group. In rural Colombia, the share of the rural poor is even higher.³ This might be due to the fact that Latin American countries have concentrated more on industrial development. In the Sudan there are literally no rural people in the top third income group. It has to be considered, however, that income is counted in monetary terms. This does not take account of the specific characteristic of rural areas: having no money does not mean having no food. Although the importance of money in rural areas increases, it is still mostly used to buy luxury items, goods that are not produced on the farm (e.g. salt, tea, sugar) or to buy food in bulk if their own production was not sufficient to last

²It is unfortunate that E.W. Wright does not give her definition of the "minimum subsistence level", because this is a very vague term that would require some limitation.

³96.4% in 1972; see Valdez, 1981.

until the next harvest.

5.1.2 Urban

The situation in the urban areas is significantly different from that of the rural areas, even though most of the population still belongs to the lowest income group. The urban poor undergo a more stressful experience. As no agricultural land is available, they have to *buy* all their food stuffs on the market. To be able to sustain themselves they must have an income of some sort. The kind of food they buy is most often geared towards the taste of the middle and upper class consumers. The taste preferences of the latter groups 'trickle down' and change the diet of the urban poor. If food is provided by the government or a NGO, for example in the form of school meals, these are not selected by the taste of the children, but by their availability and price. Poor people who experience a rise in their income always improve the quantity of their food first. Only after the desirable quantitative requirements have been reached do these consumers look for better quality food stuffs.

5.2 Price of Wheat and Wheat Products

For low income groups the price of wheat is the decisive factor behind its consumption. When rice and maize prices in Brazil fell by 37% from 1955-60 to 1965-70, wheat demand stagnated despite the population growth, because of a shift in consumption (Hall, 1985: 141). Consumers who have a high income are not so responsive to price changes. Data on the retail price of bread for ten countries is shown in Table 5.4. There is a relationship in magnitude between the price of bread and the GDP per capita in a country. In 1983/84 wheat was cheapest in Sri Lanka and most expensive in Japan, which also has the highest GDP per capita. This shows that bread is not so expensive that it can only be bought by people from the upper class, but that the price is oriented at the average income.

Country	U.S. cts/kg
Sudan	92
Nigeria	119
Colombia	129
Peru	48
Bangladesh	32
Japan	164
Korea, Rep.	96
Malaysia	124
Philippines	85
Sri Lanka	26

Source: CIMMYT, 1985: Statistical Appendix.

Table 5.4: Bread Prices 1983/84

This does not imply, however, that bread can be afforded by everybody.

5.2.1 Rural

While most people in rural regions have the chance to produce at least a basic amount of food, they are also spatially peripheral to the urban centres, where political decisions are made. Imported food stuffs, unless they are a part of a targeted food aid program, often do not reach remote areas. This is true for several reasons. Demand by individuals and the processing industry in urban areas, which are often the port cities where wheat shipments arrive, is met first. It is often the case that the road system is poor, or the means of transportation are not adequate (e.g. not enough trucks, rail cars, etc.).

5.2.2 Urban

The urban population is especially sensitive to food price changes, because, as already pointed out, they have to buy food. Urban workers, especially when they are organized in unions, are a politically vocal group, who can get their interests (e.g. lower bread prices) realized more easily than rural producers. Urban consumers from the middle and upper classes are often willing to pay more for wheat products, because they are convenient and do not take long to prepare. Bread also provides an easily made snack or lunch. The higher cost of fuel, especially wood, in urban areas is another factor promoting the use of wheat bread. If imported wheat is not subsidized, its price is well above what the poor can afford to spend. Middle and upper class households, on the other hand, who can afford to pay a higher price, also profit from consumer subsidies. Often the government has no choice but to create an artificially low price level, in order to maintain political stability. In the 1970's, Colombian consumers faced a 12.5% annual inflation rate of food prices, due to shortages (Hall 1985: 140). To prevent unrest, especially in the cities, the Colombian government was forced to raise food imports to bring the prices back down. Which alternative policies are possible to increase imports and how successful these policies are will be discussed in Section 7.3.2.

5.3 Taste and Consumer Preferences

Consumer preferences cannot be adequately captured in numbers, and there exists a wide variety of opinions on the degree to which they are responsible for the changes that have been taking place. The viewpoint expressed in studies of this issue tends to reflect the author's perspective. The U.S. Department of Commerce, for example, comments on wheat consumption in Korea, claiming that "bakery products, including biscuits and noodles, have gained a wide degree of popularity with the Korean consumer" (USDC, 1969: 54). L. Burmeister (1988: 93), on the other hand, remarks that rice is the preferred staple, and that other grains are used as substitutes by poor people, as well as during the period of the 'summer

famine', before the new rice crop is harvested and often household stocks are used up. When one considers the fact that Agriculture Canada reported, in 1983, that Big-Boy (U.S.) and Lotteria (Japan) sell hamburgers under licensing agreements with two Korean firms, and that Winchell (U.S.) and Dunkin (U.S.) entered similar agreements to produce doughnuts, it seems that in this case corporate behaviour supported the statement of the United States government (Agriculture Canada and Dept. of External Affairs, 1983: 19).

In terms of acceptance of wheat products, and their incorporation into the diet, there is a distinct difference between Latin American and Asian countries. The average share of wheat in staple calorie consumption is 27.3% in Latin American countries, but only 14.1% in Asian countries. This gap is closing as the importance of wheat increases at a faster rate in Asia, than it does in Latin America. In Latin America, wheat is now widely accepted, due to the fact that it was introduced in the 16th century. The proximity to the United States, the largest wheat exporter and base of many multinational corporations, has also had an influence on wheat imports in this region. Multinational corporations process food in these countries, because they have several advantages: specifically, fairly stable economic policies and a small danger of a foreign owned company being nationalized. Moreover, a comparatively high percentage of their population lives in urban areas and the industrialisation process has already created a market for consumer goods. The more affluent among these people look for prestigious ways to spend their income, and highly processed wheat products like breakfast foods are welcomed.

5.3.1 Rural

Although, in the countries for which data were available, rural families generally spend more money on cereals, wheat is consumed predominantly in urban centres. This is true even among lower income groups, because it is more convenient to prepare than maize. Before the revolution, great disparities existed in Cuba between the urban and rural areas. The agricultural workers especially had a very

traditional and simple diet:

According to a survey carried out in 1957 by the Agrupación Católica Universitaria on the agricultural workers' living standards, their normal diet consisted in root vegetables, rice and beans. Only 11.2% consumed milk, 4% meat, 2.1% eggs, 1% fish and 3.4% bread (Banco Nacional de Cuba, 1982: 6).

Since the revolution, the diet has been controlled by the government much more directly than in most countries. Spaghetti and macaroni made from imported wheat have become staples.

In Bangladesh, bread is most popular for breakfast. It is interesting to note that in rural areas using wheat as a staple for the main meals is associated with being poor. Here richer people eat rice for the other two meals, poorer people eat one meal with rice and one with wheat, while extremely poor people have to eat three wheat meals a day. People who were introduced to wheat because of famine relief or 'Food for Work'-payments would return to rice for breakfast if supplies were sufficient. Rural and urban residents, however, agree that wheat is 'not a Bangalee food'. In a survey in Pabua district in 1975, farmers identified wheat as the forbidden fruit in the Garden of Eden (Lindenbaum, 1987: 433-435, 438). Bangladesh is the only country in Table 5.3 where the amount of wheat consumed in the three income groups is reversed.

5.3.2 Urban

The different economic and social circumstances in the urban centres require adaptation of rural people who migrate to a city. The change from a rural subsistence economy to an urban money economy can be almost as shocking to those involved as the loss of the close social structure of the family. This creates uneasiness in the newcomer to an urban area, who tries to adapt to the values and habits of the urban population as fast as possible. The Venezuelan government, for example, views wheat as a basic part of the diet of its people (Banco Central de Venezuela, 1978: 250). Government subsidized wheat bread and canned fruit juices are the only processed food items, depending on imports, that have been incorporated

in the diet of low income groups. This is especially true in urban areas (Wright, 1985: 152). It does not mean, however, that differences between them and the few rich people⁴ are vanishing. In Puerto La Cruz-Barcelona the large number of low income households spent little over a quarter of their cereal expenditures on bread, compared to 40.3% in high income households.

Some consumers of wheat in the urban areas in Bangladesh associate wheat products with a western and progressive way of life. This has to do with the fact that wheat is a 'fashion' food and that many wheat products are consumed as snacks. 'French-Pastry' shops sell loaf breads, fruit and pound cakes, sweet biscuits, chicken- and meat-filled pastries, apple turnovers, and during Easter 1983, even hot-cross buns (Lindenbaum, 1987: 436).

5.4 Indirect Consumption

In countries that import wheat, but do not grow it, wheat is usually reserved for human consumption. As it has to be paid for with foreign exchange, cheaper local crops are utilized for fodder and feed. The affluence of food in industrialized nations has led to a shift towards more processed products. One manifestation of this change is the higher amount of meat that is consumed. Lower quality wheat (e.g. small grains) that is not processed into flour is increasingly employed as animal feed. If wheat is used for this purpose it is considered as indirectly consumed. This utilization is most common in countries which produce a surplus of wheat on a fairly regular basis. The Soviet Union, Eastern and Western Europe and North America account for nearly 90% of the feed use of wheat (CIMMYT, 1985: 17).

Another example is Venezuela, where wheat was traditionally reserved for human consumption, but since the 1970's has been used more and more for animal

⁴Only 5.1% of the population surveyed are in the top third of the income range. See Table 5.3.

feed. Although this is often a sign of an advanced stage of development and might be viewed as such, here it is due to the strong and influential position of companies which produce animal feed.

The examples given in this chapter cannot provide a complete picture of the differences in the consumption of wheat products between rural and urban areas. Nevertheless, however scattered, the data presented allow for a number of conclusions about the causes for rural-urban differences. These conclusions are based on the fact that the bulk of wheat is imported and shipped by sea and that the urban centres are the more important market for wheat products.

The location and function of an urban centre are the two factors which provide the basis for the creation of an environment that favours the consumption of wheat, especially in a processed form.

A brief look at the location of the largest urban agglomerations in the sixteen countries reveals their major advantage. 31 of the 48 urban centres with a population over 500,000 are coastal or port cities. The majority of these cities are found in Japan (11 cities), Brazil (10 cities) and Indonesia (6 cities). Exceptions are the African countries, where Lagos, Nigeria is the only major port city and the Arab Republic of Yemen, where no city has more than 500,000 inhabitants. This pattern may have resulted from the fact that in West Africa overland trade was more important than in Asia, where trade between the island states had to be conducted by ship. The coastal location is an advantage for wheat consumers in a number of ways. Most important is the fact that transportation costs are low. This makes wheat competitive with locally grown cereal grains which have to be transported from the hinterland. This is the case even when the government does not subsidize the wheat price. In many countries the cost of transportation is overruled by the inadequacy of the transportation system to ship large quantities of grain into the rural areas. Transportation costs are also responsible for the fact that the wheat processing industry (aside from local bakeries) has tended to locate close to its most promising market — the urban centre. As a consequence, the access of the rural population to a sufficient and constant wheat supply at an affordable price

is limited, so that wheat is not a real alternative to the traditionally grown staple.

The second factor providing the basis for the creation of an environment which favours wheat consumption is the function of the cities. This is especially true when these cities are the government and service centre, as well as the location of manufacturing industries not based on resource extraction. These two characteristics have a direct effect on the income and way of life of the urban population. They support the creation of a middle class and supply or increase the income of the urban poor. This increase can be triggered directly through employment or indirectly through an informal economy that develops in the wards where the urban poor live and that provides income to the unemployed.

Changes in lifestyle favour wheat consumption. Although this argument is widely found in the existing literature and is certainly valid, the change is not merely due to the adoption of a western life style. Work in the city, whether in an office or a factory, is organized in a completely different way than agricultural labour in rural areas. The time that can be spared to prepare meals, especially lunch, is drastically reduced. Convenient food stuffs therefore become necessary. As will be explained in more detail in Section 7.2, multinational corporations in the wheat processing industry took advantage of this development. They promoted their products before national entrepreneurs had conceived the extent of the dietary change and had developed ways to process the traditional staple into a more convenient product. Multinational corporations directed their activities towards the urban centres, where a large number of people could be reached easily and provided with the product.

With a rising income the quantity, and later on the quality of food purchased by a household, changes. Wheat is offered in a variety of products ranging from bread and noodles to breakfast cereals and french pastries to accommodate the preferences of different income groups. Once wheat consumption has become accepted within the urban population these people use their political influence to maintain the status quo. Rural consumers are also in a more unfavourable position than urban consumers, because the distribution system of wheat and its products

is either non-existent or not as efficient. In the cities companies often have their own retail outlets or have long-term contracts with supermarkets. As long as the rural population has the means to provide for its own subsistence, the gap between the rural and urban people, as far as the amount of wheat they consume and the products they buy are concerned, is likely to remain intact.

Chapter 6

Global Trade Linkages and Dependencies

Dependency on the world wheat market can work both ways, especially when wheat stocks in exporting countries are high: the importing countries rely on these imports as much as the exporting countries need the exports to dispose of their large surplus production. The fact that a country is industrialized and exports manufactured goods does not make it less susceptible to pressure from wheat exporting countries. In 1984 Japan agreed to double its imports of beef and citrus fruits from the United States over the next five years. Japan agreed to this because the U.S. government had complained about Japanese attempts to diversify agricultural production, so limiting their imports of wheat. Japan could, theoretically, aggressively market its manufactured products on the United States market, and thus threaten the existence of competing U.S. firms. All the same, Japan is still more vulnerable because it cannot do without staple foods such as wheat. Even though the United States is not the only supplier of wheat and purchases could be made from another exporter, Japan has to think of the possible consequences were their major trading partner offended. This is even more true for the other countries examined in this study, because none of them has an influential role as supplier in a market for manufactured goods.

It is not only food trade that can create and sustain dependency. Even if a developing country moves into wheat production, it must usually import farm technology (e.g. high yielding variety seeds and machinery), which has to be maintained

and replaced. The respective industries are multinational corporations which tend to create needs to secure as many sales as possible. This is facilitated by their extensive horizontal and vertical linkages. Agricultural machinery, chemicals, seeds and wheat processing equipment are the most important products sold to wheat importing countries attempting to establish domestic production. Agricultural machinery is often sold to large scale development projects, which become a potential future market for spare parts. Chemicals also go to individual farmers, who often do not know exactly how to apply them to their land. The development of seeds with a pesticide coating limits the amount of fertilizer going into the soil and reduces the risk for the farmer in handling these substances. On the other hand, it forces him to buy new seed every year.

6.1 Sources of Wheat Imports

An important aspect of wheat import dependencies is the source of these imports, if it can be identified. This can be difficult. In Indonesia, for example, wheat imports peaked in 1976, because an "unidentified international grain company" offered wheat at discount price.¹ In this case Canada could be identified as the origin of these wheat shipments, but often the source remains unknown (Morgan, 1980a: 330-331). For most countries, the majority of imports come from one or two of the traditional exporters: United States, Canada, the EC, Australia and Argentina.¹ Among the nations covered in this study, five different categories with distinct trade patterns can be identified:

1. The United States plays a role in almost all sixteen countries. Nigeria, Venezuela, Colombia and the Republic of Korea, however, have always relied almost exclusively on the United States for their wheat supplies. The reason for this is the influential position that multinational corporations, based in the U.S., have gained in the wheat processing sector of the economy in these countries.

¹See Appendix B.

Figure 6.1: Nigeria: Source of Wheat Imports

In Nigeria, imports from the United States increased with the demand for wheat, and only small quantities were imported from other sources (Figure 6.1, p. 70). In 1983 eight large flour mills were operating in Nigeria. Over two thirds of their operating capacity was in some way related to Flour Mills of Nigeria. When the first wheat mill was built in 1962, this company was established by the Southern Star Shipping Line² and financed by the Export-Import Bank, the Chase Manhattan Bank and Allis-Chalmers, which supplied the machinery — all American companies (Andrae and Beckman, 1985: 32-45).

²A Greek company that was later bought by the American West Wind Africa Shipping Company, it holds 40% of FMN.

Similar developments have happened in Venezuela (International Multifoods) and Colombia (CPC International) (Burbach and Flynn, 1980: 253-281).³

In Korea the situation is slightly different (Figure B.3). Although there are many United States-based companies involved in wheat processing, political considerations were predominant in attracting the United States government in the beginning. From 1945-1948, Korea was occupied by American troops. Later the United States was interested in maintaining influence in the country, because it is a front line state to China. Between 1953 and 1974 U.S. economic grants made up 60% of all capital investment in Korea. Government control over wheat imports was removed in 1983 and millers were allowed to import from sources other than the United States. This has already shown effects. In 1984 and 1985 wheat was also imported from Australia. It can be expected that Korea will break away from the United States as the sole supplier (which would place it in the fourth category as described below).

2. The Philippines has undergone changes not found in any of the other countries investigated here. From 1965 to 1975, about a quarter of its wheat imports came from countries other than the United States (Figure 6.2, p. 72). In 1976, and from 1978 on, the United States became overwhelmingly dominant, and since then only minimal amounts of wheat have come from other sources. This can be attributed to the fact that the Commodity Credit Corporation, a United States agency, offered very good credit terms.
3. Cuba, Malaysia and Peru have made efforts in the opposite direction. They have tried to diversify their source of wheat imports. Since the 1962 United States embargo against Cuba, Canada, representing the Soviet Union, became the only supplier of wheat (Figure 6.3, p. 73). Both countries have to be counted as one source, because exports from the Soviet Union consist of Canadian wheat that is redirected. Since 1979 this policy has changed. Wheat imports now come directly from Canada and are paid for by the So-

³See Figures B.1 and B.2.

Figure 6.2:

Figure 6.3:

viet government in hard currency. The Cuban government in return pays the U.S.S.R. in soft currency. Wheat imports therefore do not deplete foreign currency reserves, a major factor that has allowed to Cuba having the highest per capita imports of wheat of all countries looked at here. In addition to these traditional suppliers, Cuba started importing wheat from the EC in 1981 and from Argentina in 1984.

Malaysia's major supplier of wheat is Australia, but smaller amounts of wheat are imported from the United States. The latter is also the major source of wheat imports for Peru, especially during those years when Argentina, which holds a considerable share of wheat exports to Peru in most years, is not able to provide the usual amount.⁴

4. In contrast, Japan, Indonesia, Brazil and Sri Lanka never became dependent on one supplier.⁵ Sri Lanka regularly receives wheat from three exporters: the United States, Australia and the EC, for different reasons. Wheat from the United States is granted under P.L. 480 agreements, and imports from the EC were traditionally provided because of trade links between Great Britain and its former colony, then known as Ceylon. Supplementary wheat is imported from Australia probably because transportation costs are lower.

The other three countries in this group rely on the United States as the common supplier, as they all get or got wheat under P.L. 480 terms. Japan and Brazil also obtain a relatively high amount of wheat from Canada. If additional quantities are needed, locational factors come to the fore, with Argentina exporting to Brazil and Australia shipping wheat to Indonesia and Japan.

5. The last group of countries, Yemen A.R., the Sudan, Bangladesh and Ethiopia, receive the majority of their imports in the form of food aid.⁶ This results in imports from different sources and a high variability in the amount of wheat

⁴See Figures B.4 and B.5

⁵See Figure 6.4 on p. 75 and Figures B.6, B.7 and B.8.

⁶See Figure 6.5 on p. 76 and Figures B.9, B.10 and B.11.

Figure 6.4:

Figure 6.5:

that is received from each supplier. Although the long-term trend in imports is upwards, changes in the amount of wheat imported can be enormous from year to year, depending on the performance of the locally grown crop.

In the case of Bangladesh the shortfalls in the 'food crisis' years 1973-1975, as well as in 1980 and 1985, are striking (Figure 6.5, p. 76). Ethiopia and the Sudan have the potential to produce at least part of their wheat requirements locally, if the recent drought lessens and the political situation stabilizes. The Arabic Republic of Yemen has the highest increase in wheat consumption, which cannot be met by domestic production.

In general, it can be suggested that the dependence of wheat supply on one source, though it does not exist without reason, is potentially dangerous for the importing country's economic development performance. The overpowering presence of the United States gives it an influential position in the world wheat trade. Nevertheless, it cannot achieve total control over transactions on the market because of the strength of multinational grain trading and food processing companies. The fact that the global interests of multinational corporations are profit oriented influences their relation to governments of nation states. Although these companies deal with different commodities and are based in different countries they have one objective in common: to sell as much of their product as possible with maximum profit. This objective overrules others, such as providing employment, and has determined their way of interacting with governments.

Most companies readily accept subsidies from the government of their home country,⁷ but they do not commit themselves to government policies or ideologies. For the five major grain companies (Cargill Inc., Continental, Bunge, Louis Dreyfus and André), secrecy about their activities has always had top priority and only in the 1970's have some of their activities and interests been revealed (Morgan 1980a: 16-17). This secrecy is in part responsible for the great effect these companies have on changes in wheat importing countries, because it gives them the freedom to operate as they wish. They are very well informed about

⁷Such as the ones that were provided under P.L. 480.

the world wheat market and use the fact that their trading partner does not know how well they are informed to exert considerable power. This is especially true in developing countries.

Zaire, although not one of the countries^a examined in this study, is a good example of the way in which grain companies pursue their interests in developing countries. The Continental Grain Company opened its first flour mill in Zaire in 1973. Almost from the beginning its operation was hindered by inadequate storage facilities for the wheat it imported from the United States. In addition to that, a member of the president's family received a license to import European wheat flour. When world copper prices fell and the government failed to pay for Continental's wheat imports, the company applied pressure by slowing down the output from its mill. In the face of consumers lining up for bread and stockpiling it, the Zairean officials gave in.

The course of action in itself is not as astonishing as the demands that were acceded to, because Zaire gave up the control over its wheat imports. Continental was assured

that the Central Bank would pay cash for all subsequent wheat shipments; that Zaire would start repaying its old debt at the rate of \$1 million a month; that only American hard wheat would be imported, except in some special circumstances; that Continental would have exclusive rights to mill flour in Zaire; and that the company would have the right to approve or disapprove all requests by others to import flour into Zaire (Morgan 1980a: 298-299).

Such a situation can be avoided if the importing country has an agency that is responsible for food imports.⁸

6.2 Trade Agreements

When global wheat production is low for several years, as in the early 1970's, countries may feel that trade agreements are an asset. These can be bilateral or multilateral and substantially improve food security.

⁸See section 7.3.1.

6.2.1 Bilateral Agreements

Bilateral agreements are generally negotiated between governments and are in effect for one to five years. They are noted and published by the International Wheat Council.

Argentina and Australia appear to prefer to enter into agreements with countries that are nearby, either in Latin America or in Asia. One of the closest links exists between Canada and Brazil. These two countries have had agreements for considerable amounts of wheat continuously since 1970. Looking at the agreement between these countries in 1982,⁹ the nature of this way of securing wheat supplies will be illustrated. The following issues are usually addressed in such documents:

- Buyer, seller and negotiators for detailed contracts are specified. These are, in general, the government agencies responsible for the wheat trade.
- The range or exact quantity to be imported is given.
- The beginning and the duration of delivery are stated.
- Payment terms are stipulated in detail. Payment can be made in cash, but credit terms are more common. In the latter case, interest and down-payment have to be agreed upon. Which party covers the transportation costs also has to be made explicit.
- Other articles may be concerned about the use of wheat, e.g. 'only for human consumption', 'famine relief' or 'not to be re-exported'.

Under a bilateral agreement, specific contracts are negotiated for each shipment of wheat. In years when stocks are low and exporting countries have to cut back on shipments, contracts under long-term agreements are fulfilled first. Bilateral agreements are not only advantageous for importing countries, but for exporters as well, because they facilitate long-term planning of stocks and transport capacities.

⁹See Appendix C.

6.2.2 Multilateral Agreements

Apart from bilateral agreements, attempts have been made since the 1930's to stabilize the world wheat market with the help of multilateral conventions. Until after World War II these agreements were basically only a listing of export quotas. Exporting countries were expected to slow down production, while importing countries bound themselves to reduce trade barriers and stop supports for domestic production. When the United States harvested several bumper crops in the early 1940's and its storage capacity was exceeded, it violated the export quota allocated to it, and the agreement broke down (Meinunger, 1975).

The next attempt was made in 1947. This time a price range was discussed. Due to resistance on the part of the United States, it was not until 1949 that the first International Wheat Agreement was signed. Besides the price range, which was based on the world market price,¹⁰ the agreement included advice indicating which measures had to be taken in case the price limits were crossed, as well as some conditions on storage in exporting countries. The administration was given to the International Wheat Council in London, which had been established in 1942. This agreement was favourable for importing countries, as the world market price for wheat was above the upper limit of the price range. Meanwhile farmers in exporting countries faced reduced revenues.

The system of maximum and minimum prices proved to be successful and all member countries, except for Great Britain, renewed the International Wheat Agreement in 1953. The price range was adjusted so that the actual world price would lie within the limits. In 1956 Sweden and Argentina joined the agreement. In 1968 the financial difficulties of developing nations, who often lacked the foreign exchange to pay for their wheat imports, were taken into account. The Food Aid Convention was amended to form the International Grain Agreement. In

¹⁰The world market price is determined by availability and demand. At that time it was usually equal to the price for a bushel of Canadian wheat. With the current protectionist policies in the EC and the United States, the world market price has lost in significance for the actual trade deal.

this convention the industrialized member nations accepted the obligation to offer 4.5 million t of cereal grains per year under special conditions. When the world market price fell below the lower limit specified in the International Grain Agreement, new provisions became necessary.

The agreement arrived at in 1971 contained neither price arrangements nor obligations for importing or exporting countries. The members could not come to terms on the technical aspects. Nevertheless, this agreement was the most successful, and it has been renewed several times for periods of one to four years. In addition, multilateral accords have been made under the General Agreement on Tariffs and Trade (GATT).¹¹

6.3 Wheat as a Weapon

Food supplies have been domestic and international political weapons in the past and they will be increasingly so in the future (Tarrant, 1980: 317).

The use of wheat as a means to pursue political interests has been adopted most recently by the United States in its fight against communism. There are two ways in which wheat is used as a political weapon: in embargos or sanctions and by withholding food aid. The former was used by the United States against the Soviet Union when it intervened in Afghanistan. It is meant as a 'punishment' for countries that 'threaten' United States' interests, usually those with communist or socialist governments. Cuba, as one example, experienced a trade embargo by the United States at the beginning of 1960, one year after the victory of Fidel Castro. This was in retaliation for the nationalization of all U.S.-owned businesses and land holdings. But this policy had not been geared solely against the United States. The wholesale food industry and many retail stores were also nationalized.

The use of wheat in famine relief for political reasons is objectionable. It has

¹¹For more detailed information on international agreements on the world wheat market, compare Meinunger, 1975 and Otzen, 1970.

severe implications, since the country affected usually needs this supply to overcome acute shortages. It cannot be accepted that people should die of hunger just because an exporting country wants to force a particular commitment. A prime example occurred in 1974 during the famine in Bangladesh, when the United States halted its food shipments until the government stopped the export of jute to Cuba. Jute is the major export crop in Bangladesh and an important source of foreign exchange.

Global trade linkages and the dependency that may evolve with their existence are not simply dictated by the government of the exporting country or a multinational corporation. The initiative to import wheat comes from the importing country, but it is most often influenced by other forces such as multinational corporations. The impression might arise that the dependence on one major wheat supplier is difficult to avoid, because it is so often found with the importing countries studied here. Cases such as Japan, Indonesia, Brazil and Sri Lanka show, however, that it is not inevitable. Once the dependency has become entrenched in the national economy of the importing country, however, for example after the establishment of a wheat processing industry, it is difficult to diversify the source of wheat imports. Multinational corporations often use their influence in their home country to get contracts for development projects. If one of the five big grain companies is involved in wheat processing, it is interested in continuing wheat imports, unless it also trades in the grain that would be imported instead of wheat.

Trade agreements pose usually only a few problems. In 1988, however, Brazil is experiencing difficulties in deciding what to do with the wheat that it has committed itself to purchase. As it expects to produce a wheat surplus it does not need the wheat that will be supplied under agreements with Canada and Argentina (Dawnay, 1988).

Chapter 7

Agents of Change

Change in a country's economy can be stimulated by external or internal forces. The external forces relevant for increased wheat consumption are *food aid donors* and *multinational corporations in the wheat processing industry*. Internal sources are *indigenous wheat processing firms* and the whole range of *government policies*.

7.1 Food Aid Donors

Most countries that provide food aid do so only over a limited period of time, e.g. in case of serious food shortages that affect a large number of people. An exception to this practice has been the United States' Public Law 480 discussed below. There are two ways in which food aid is given to needy countries: directly via bilateral agreements, or indirectly, for example through the UN World Food Program or non-governmental organizations such as the Red Cross.

7.1.1 The United States' P.L. 480

In the early 1960's the United States provided virtually all of the world's food aid. Although this dominance was reduced in the 1970's, over half of the world's food aid still comes from this source. It is therefore understandable that of all the kinds of food aid from different donor countries and organizations, the United States'

Public Law 480 'Food for Peace'¹ has had the most profound impact on the world wheat trade. P.L. 480 is an example of aggressive marketing, which has often been camouflaged as being solely humanitarian aid. It was implemented in 1954, with the primary objective being to dispose of surplus stocks that had accumulated in the United States. This became obvious when, in connection with the law, over 300 private U.S. businesses in developing countries received loans to expand consumption of agricultural products from the United States. Other purposes of this law were to give humanitarian aid and to ensure political security. P.L. 480 is complex and often contradictory, especially when it tries to bring economic interests under the wing of humanitarian aid.

The law consists of four titles:

- Title I: Commodities under Title I are sold for local currency (concessional sales). This title requires a country to maintain its existing level of commercial agricultural imports while receiving aid. This protects private grain exporters and encourages countries to increase their total demand for wheat.
- Title II: This part covers the distribution of surplus commodities for disaster relief and to voluntary assistance organizations. Usually it is granted to so-called 'friendly' countries.
- Title III: This title is also called the 'barter program'. It was originally only a provision introduced to allow an exchange of agricultural commodities for strategic material, but basically it helped to redirect money to support the war in Indochina. In 1975 it was repealed and in 1977 incorporated again as 'Title III' (Burbach and Flynn, 1980: 73).
- Title IV: This title was added in 1959. It regulates the sales of agricultural products under credit terms but, unlike Title I, the grain has to be paid for

¹The name bears some irony as in many cases the money that the recipient country gets from the sales of P.L. 480 wheat is used to finance military expenses. In Korea in the 1960's, 85% of food aid credits were used in this way.

in U.S. dollars over a period of ten years.²

The majority of exports were contracted under Title I. No re-exports were allowed and

the terms [of the agreement] are as favourable to the United States as the economy of the recipient country will permit (Vellianitis-Fidas and Manfredi, 1977:18).

A Title I government-to-government agreement is usually initiated by the recipient government. If the United States Department of Agriculture (USDA) approves of the request an agreement is signed. The financial transactions are arranged between the Commodity Credit Corporation, a commercial bank in the United States and a foreign bank in the recipient country. The sales contract between the U.S. exporter and the importer, either a government agency or a private importer, is signed and the grain is shipped. The costs of the shipment are paid by the importer, who distributes the wheat to mills, wholesalers or (if flour was imported) directly to retailers. The funds (in local currencies) generated by P.L. 480 Title I sales are used for different purposes. One is to return these funds to the recipient country as economic assistance or as grants for 'common defense'. They are also used to cover the expenses of the United States government overseas, e.g. for embassies. Multinational corporations received some of the funds as loans under the Cooley Program, the purpose of which was to help companies based in the United States with their global expansion, financing the set-up of new subsidiaries. The program existed for 17 years, during which time it assisted in launching 419 subsidiaries in 31 countries, among them subsidiaries of Ralston Purina (feed mills and pet food) and Cargill (grain). Trade associations such as Great Plains Wheat and the Western Wheat Growers Association received funds to promote American eating habits (Burbach and Flynn, 1980: 65-66). It was expected that the recipient country would continue to import wheat after the end of the program.

The P.L. 480 market development goal — converting countries from dependence on food aid to buying commercially from the United States — has been fulfilled in many countries (Vellianitis-Fidas and Manfredi, 1977: 12).

²For more detailed information on P.L. 480, see Stanley, 1973 and Vellianitis-Fidas and Manfredi, 1977.

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Whether or not the step from food aid recipient to commercial trading partner is an achievement for the importing country is highly contentious. P.L. 480 was also of importance when the United States government tried to pursue its ideology in recipient countries. Labelled as food aid, many people viewed the commodities shipped under P.L. 480 positively, not realizing its widespread political implications through the domestic allocation of the generated funds.

7.2 The Wheat Processing Industry

The establishment of a wheat processing industry has contributed to the growth of import dependency on wheat. Even if there are no multinational corporations involved in an importing nation's wheat industry, once a distribution and marketing system has evolved, a continuous supply of wheat becomes necessary. The uncertainty of domestic supplies is a special problem for indigenous wheat processing industries, and puts them at a major disadvantage compared to the multinational corporations. For the latter, horizontal linkages make it easier to ensure supplies. These firms usually own or have connections to wheat trading companies. The fact that the world's three largest flour mills are located in port cities in Indonesia, Nigeria and Sri Lanka points to the migration of the wheat processing industry to importing countries (CIMMYT, 1985:2).

Relying on supplies that the national economy cannot provide is not the only way in which the wheat processing industry promotes dependency. The machinery, and subsequent spare parts, have to be imported as well. In Korea they have been imported mainly from West Germany and Japan. The only mechanized bread factory in Bangladesh (Modern Bakery Ltd.) has been experiencing difficulties since 1983, because of machinery break-downs and disinvestment (Bangladesh Economic Survey, 1984/85).

A common characteristic of wheat importing countries is that, due to the fact that wheat supplies originate from outside the country, the flour milling industry

is located close to the port. This is also advantageous for the milling companies, as the port city is often the major urban centre, where baking and wheat processing industries are located. This locational pattern keeps transportation costs for the companies low. On the other hand, it is a handicap for domestic wheat growers, who often face poor transportation systems as well as high transportation costs. Unless the government grants subsidies, these costs make domestic wheat more expensive and not competitive.

Modern food processing plants require a constant reliable supply of wheat. If local growers cannot provide the desired quantity or quality, it is easier for a company to import the whole amount of wheat needed. Often flour mills, and not only those that are foreign controlled, refuse to utilize domestically produced wheat. This hinders the realization of substitution and diversification programs. Japan provides an example of this:

Japanese millers have also stated their displeasure at the prospect of using increased volumes of domestic products as it is their belief that the quality of the Japanese wheat will not contribute to increasing sales of the end-product (Gardner, 1980: 36).

In Brazil, the Bunge Corporation monopolized the wheat trade in the early 1970's. It demanded imported wheat, a factor that worked as a disincentive for domestic wheat production (Morgan, 1980a: 327-328).

The example of the Indonesian wheat processing industry shows that indigenous entrepreneurs can be as powerful and successful domestically as multinational corporations. It is even easier for them to establish connections to government officials. They all belong to the elite in their country, which is only a small group and relations between them are not only in business, but also social.

An example of close connections between government and local entrepreneur is the flour milling industry in Indonesia. The license to establish the first flour mill in Indonesia in 1972 was given to P.T. Prima, a Singapore-based company. Shortly afterwards the Liem Group, a major regional and international financial and industrial group with a substantial capital base, founded a company that entered the

flour milling business. The Liem Group is closely related to the family of President Suharto, and his step-brother holds a 4% share of P.T. Bogasari, the flour milling company, 67.6% of which belong to Liem. Due to these close connections to the government, P.T. Bogasari not only received a substantial bank credit, but also got the license to mill flour for Western Indonesia. This includes the islands of Java and Sumatra, where the majority of the population is concentrated. P.T. Prima's license was limited to the less promising East Indonesian market. In addition to this disadvantage, the company ran into difficulties in dealing with Badan Urusan Logistik Nasional (BULOG), the state agency for wheat imports. BULOG did not allocate enough wheat to P.T. Prima to operate their flour mill at full capacity, and in 1980 it withdrew the license to market flour on the island of Kalimantan. When P.T. Prima finally gave up, it sold 100% of its shares to the state trading company Berdikari, which is controlled by BULOG. Further consolidation of the wheat and flour sector was reached when the Liem Group bought the California bank 'Hibernia', which handles the payments for wheat imports.

P.T. Bogasari is not only the biggest flour milling company, it also handles the bulk of the baking capacity (Figure 7.1). It is twenty-five times larger than the American Bread Company (ABC Bakery), the next biggest bread factory in Indonesia. The ABC Bakery keeps bread prices low and works hard to diversify its product line to be able to stay in business (Robinson, 1986: 232-233, 278).

7.3 National Policies

National governments in the importing countries play a major role in the process of change, especially in the way their policies interact with the governments of exporting countries and with multinational corporations. In fact, the government's preferences are often decisive in establishing the mode of, and the extent to which, the actual change in consumption and domestic production takes place. In most cases their major concern is food self-sufficiency, especially in staple crops. A very good example of this is Japan, where food self-sufficiency has always played a very

Name and Location	Major Product	Annual Capacity in tons
P.T. White Satin Bakery Confectionery (Jakarta)	Production bread, cake, cookies	352.5
P.T. Inbisco Djaja (Jakarta) . .	Cookies, crackers	1.5
C.V. A.B.C. Bakery (Jakarta) . .	Bread	480.0
P.T. Khong Guan Biscuit Factory Indonesia Ltd. (Jakarta)	Cookies, crackers	10.0
C.V. "Jaja" (Jakarta)	Bread	2.4
Fa. Indrys Bakery Confectionery (Jakarta)	Bread, cake	42.0
P.T. United Biscuit Manufactory (Jakarta)	Cookies, crackers	4.5
P.T. Marigold Bakery (Jakarta) . .	Bread, cake	2.4
P.T. Loubisco (Jakarta)	Cookies, crackers	1.8
P.T. United Biscuit Manufactory (Surabaya)	Bread, cookies	3.0
P.T. "Marigold Bakery" (Surabaya)	Bread, cake	1.4
P.T. Nissin Confectionery Co., Ltd. (Jakarta)	Bread, crackers	5.0
P.T. Djojodjo Oriental (Jakarta)	Bread, cake	2.3
P.T. Fuji Bogasari (Jakarta) . . .	Bread	12,000.0
C.V. Chandra (Ujung Pandang) . .		4.0
P.T. Robinson International Biscuit & Confectionery Factory Ltd. (Jakarta)	Cookies, crackers	5.4

Source: Departments of Industry and Health, Central Bureau of Statistics, and industry sources.

Source: USDC, 1977: 93.

Figure 7.1: Indonesia: Major Producers of Bakery Products

important role. In order to achieve self-sufficiency, food security had top priority until 1978. Whatever food stuff was cheapest was imported, while at the same time Japanese farmers got high prices for their products, so that their income would be able to keep pace with the rising incomes in industry. This policy was based on farm support by the Liberal Democratic Party, whose interests were reinforced in 1961 in the Basic Agricultural Law, which had three main objectives:

1. close the income gap between the farm and non-farm sectors
2. promote self-sufficiency by selective production of a number of commodities including livestock, wheat, soybeans and feed grains
3. modernize the agricultural sector and improve production efficiency

To close the income gap between the agricultural sector and industry, farmers have to use more efficient farming techniques. This means that many farmers have dropped out of farming. It seems, therefore, that the first objective could only be met for farmers who stayed in business after measures to obtain these objectives had been taken and had proven effects. Since then support levels have varied according to the amount of rice in stock, but no consistent long-term policy was developed. In the 1980's the policy to support farmers independent of their efficiency has changed. The government's highest priority is now *not* to support inefficiencies in food production and to limit protectionism from the world market, instead of raising the farm income.

There are two major kinds of policy options available to a government involved in influencing wheat imports and consumption. First, it can promote the production or import of a certain kind of staple food through subsidies, taxes and controls over processing and marketing. Second, it can subsidize processed wheat products or restrict them, thus encouraging or discouraging consumption, respectively. These policies do not have to be initially concerned with wheat to affect the national wheat market, and subsequently call for other policies that deal directly with wheat or food consumption. In Cuba, for example, successful policies

Country	Name of Agency	Status
Colombia	IDEMA	semi-official
Japan	Government Food Agency	government
Indonesia	BULOG	semi-official
Brazil	CITRIN	semi-official
Korea	KOFMLA	existed until 1973, semi-official
Philippines	Natl. Food Authority	government
Sri Lanka	Food Commissioner	government

semi-official: government, national bank, interest groups (business)

Table 7.1: Wheat Importing Agencies

of the new government, such as the lowering of unemployment, the raising of the minimum wage and the reduction of the basic costs of living (e.g. rent), have led to an increased demand for food.

7.3.1 Food Production and Trade Policies

Many countries have state agencies which control imports and food distribution. The ones that could be identified are listed in Table 7.1. These agencies can play a vital role in the establishment of domestic wheat production. The following examples show some of their advantages, possibilities and limitations.

In Colombia, IDEMA is the sole purchaser and distributor of imported wheat. It sets prices and quantities traded and has the task of integrating food price policy with overall agricultural policy.³ As a part of the latter task, it has developed a price-support system for small-scale producers, within which a price close to the domestic market price is guaranteed. This does not make up for the fact that agricultural credit is more readily granted to larger farms, most of which are rice

³For a more detailed description of the functions of IDEMA, see Hall, 1985.

farms. The domestic price of wheat is held high, well over world market level. IDEMA has profited considerably from buying wheat for the low world market price and reselling it for the higher domestic price. Neither the high national price level, nor the price guarantee, however, has been able to halt the decrease in wheat area, which was initiated by the import of wheat during the 1960's, under P.L. 480. This decline continued even after the concessionary sales ceased in 1973.

In Brazil, wheat imports and prices are controlled by the National Wheat Commission (CITRIN), which belongs to the Bank of Brazil and is controlled by the National Superintendency of Food Supply (SUNAB). It also mandates mill and consumer prices of wheat, flour, maize and rice, and sets support prices for producers. It is interesting to compare the strategy of CITRIN with the operations of IDEMA in Colombia, as both fed profits from selling imported wheat into agriculture. Contrary to IDEMA, CITRIN supported the wheat producers, whose organization FECOTRIGO represents 60 co-operatives and over 100,000 individual producers. This illustrates the importance of an organization which can vocalize the interests of wheat producers. FECOTRIGO calculates the cost of production on which the support prices, paid by the Bank of Brazil to wheat farmers, are based. From 1964 to 1970 this support price increased more than tenfold,⁴ which resulted in an expansion of the wheat area and a tripling of output (Hall, 1985: 140).

The Indonesian Food Agency BULOG, established in 1967, controls the price and distribution of basic staples. In the beginning its main objective was to supply military and governmental institutions (e.g. estates). Today it has to ensure stable supply and prices for the entire population.

Strategies put forward by national food agencies are not always successful in finding the optimum balance between local production and imports. The Japanese government food agency was established in 1942. It is the sole purchasing, pricing and distribution agent of domestically produced and imported food. The Rice

⁴The real price increased only slightly, but sufficiently to encourage wheat production.

Council, which is part of this agency, instigated a price support policy which kept the domestic rice price at three times the world market price. When rice surpluses accumulated by the end of the 1960's, production targets were scaled down, and payments were made for planting soybeans, feed grains, vegetables, barley, wheat and non-food crops. The subsidies, however, were too low to attract farmers to abandon rice production and could not halt the long-term decline in the amount of land sown to wheat. Subsidies increased in 1978, but were cut back again in the early 1980's. The basic problem with the Japanese support policy for rice is that it does not take into account the change that has taken place in the Japanese diet (Balaam, 1986: 96-99).

The competence of these trade organizations seems to be far-reaching. A closer look shows that they do not give a government complete control over its wheat imports. There is not *one* agency or company that controls the world or national wheat market. Actions taken by government agencies are influenced more or less directly by private trading and food processing companies, financial institutions and organizations representing producers, as well as by international agreements, agricultural policies of other countries and last, but not least, climatic variability.

7.3.2 Food Consumption Policies

The most common policy directed at the consumer is price support. These price subsidies pose problems because they put pressure on the government's budget; other means to control consumption may be preferable.

Two examples of possible alternatives include rationing bread in Cuba and the food stamp scheme in Sri Lanka.

Within the scope of the communist ideology put forward by Fidel Castro, the rationing of food was introduced in Cuba to limit disparities in the food intake of different societal groups. Prices for the rationed foods were frozen between 1962 and 1981 (Warnock, 1987:286-290). From the data in Table 7.2, it can be con-

Items	1958 ^a	1963	1969	1972	1978	1980	1980 price per lb.
Rice	10.2	6	3-4	6	5	5	(20c)
Dry Beans	2.1	1.5	1.5	1.5-3.0	1 ¹ / ₄	1 ¹ / ₄	(32c)
Cooking Fat	2.9	2.0	2.0	2.0	1 ¹ / ₄	1.0	(24c)
Beef	9	3	3	3	1 ¹ / ₂	1 ¹ / ₄	(38c)
Eggs (units)	7	2	15-24	15-24	free ^c	free ^c	(10c pu) ^d
Fish	2.2	1	2	free ^c	free ^c	free ^c	(45-70c)
Fresh Milk	14	^b	^b	^b	^b	^b	(20c qt.)
Bread	—	free ^c	15	—	15	15	
Canned Milk	—	3	3	3	3	3	(21c pu) ^d

Sources: 1958-89: Leyva, "Health and Revolution in Cuba," p. 462; 1958-72: Sergio Roca, "Distributional Effects of the Cuban Revolution: Urban Versus Rural Allocation" (Paper delivered at the 88th Annual Meeting of the American Economic Association, Dallas, 1975), table 12; 1978 and 1980: data collected by Nancy Forster and Howard Handelman; selected data for 1972 from unpublished data collected by Carmelo Mesa-Lago.

^aAverage (unrationed) consumption. ^bChildren under eight years of age receive one liter of milk daily, as do elderly, ill, and pregnant adults. ^c"Free" means unrationed. ^dPrice per unit.

Source: Foster and Handelman, 1985: 193.

Table 7.2: Cuba: Monthly Quotas of Selected Food Items (pounds/person)

Source: USAID, 1982: Appendix G, p. 3.

Figure 7.2: Sri Lanka: Flow of Wheat

cluded that the demand for bread was high in the late 1960's. In 1972, when wheat imports were low, no quota for bread was allocated. It is unlikely that bakeries ceased operation, but capacities were probably reduced. The fact that no quota for bread was given out does not mean that no bread was available. Apart from the retail system operated under rationing, food is sold on the black market and the peasant free market. The quota system can only regulate consumption when there is a considerable price difference from these uncontrolled markets.

The food stamp scheme in Sri Lanka was introduced in 1979. Only people below a certain income can apply for a ration book. The special feature of this scheme is that the commodity for which the food stamps may be used is not specified. The stamps are good for purchases of rice, paddy, flour, bread, sugar, local milk products and locally produced pulses. Figure 7.2 illustrates the movement of wheat from the import to the consumer. Bakeries can use food stamps to buy flour from the Multipurpose Cooperative Societies. Food stamps are only valid for one month, beginning with the date issued, but unused coupons can be deposited in a savings account (USAID, 1982: Appendix G). This scheme has addressed the

most important issue: the adequate supply of food to the poor. It alleviates the gap between the income groups without an external force deciding the contents of the diet. This system could be adopted by other countries and the choice of food stuffs could be oriented towards the respective traditional diets.

Chapter 8

A Review of Wheat Import Dependency

I have heard [...] that many people may become dependent on us for food. I know that was not supposed to be good news. To me that was good news, because before people can do anything they have got to eat. And if you are looking for a way to get people to lean on you and to be dependent on you, in terms of their cooperation with you, it seems to me that food dependence would be terrific.¹

As has been stressed throughout this study, it takes more than discovering a basic food need or creating new consumption habits to gain access to a country's economy. Creating a demand for your surplus product (wheat) might be the long-term goal, but it does not determine which methods will be employed to reach it.

8.1 Causes for Wheat Import Dependency

So far, factors that have been important in creating wheat import dependency and consumption changes, and some insights into their effects on the present structure of wheat trade have been presented. Drawing this information together, some causes of dependency on wheat imports can be identified that are valid in almost all of the sixteen countries that provided the empirical data base of this thesis. Each country reached a point in its development where it decided to import food.

¹Hubert Humphrey, U.S. Senator before the Senate Committee on Agriculture and Forestry, Hearing on Policies and Operations of P.L. 480, 84th Congress, 1st Session 1957. Found in Burbach and Flynn, 1980:67.

An exception are four countries (Yemen, Ethiopia, Bangladesh and the Sudan) where wheat is imported as food aid insofar as they do not have a choice whether to import wheat or not. Some effects, but not the causes for wheat import dependency are imprinted in the present state of the national economy in wheat importing countries. This is one reason why countries as different as Japan, Cuba and the Arab Republic of Yemen are found in this group. In the same way as dependency on wheat imports does not come overnight, its causes are part of a long process. They consist of the following different characteristics, which are sufficient to explain wheat import dependency, but can be substituted by other characteristics.

Countries such as Japan, Brazil and the Republic of Korea were or still are experiencing industrial growth. A new urban middle class has emerged, which has a different perception of what its diet should consist of. Once wheat imports began and wheat had become a part of the urban diet, the government had to balance between urban consumers, who wanted a kind of food that had to be imported, and rural producers, who needed to receive an acceptable price for their produce. Cutting imports might have endangered the industrialisation process, which was seen as the vital force for further economic development. If the increasing demand could not be met, prices rose. The urban workers who were still able to purchase wheat products at the higher price were also the ones who were thought of as the buyers for what are now domestically produced consumer goods. If they had to spend almost 50% of their income on food, the demand for other goods would be too small to provide a sufficient market.

The agricultural policy of a country can be partly responsible for wheat import dependency. In some countries, such as Colombia, Indonesia or Cuba, cash crop production for export takes land out of staple food production, while others, such as Sri Lanka and Bangladesh, simply do not have enough land to feed their people.

Especially in Latin American countries, multinational corporations stepped in

with aggressive expansion and marketing strategies for wheat and wheat products. Their willingness to invest was welcomed as a 'solution' for unsatisfying economic performance. In some Asian countries, such as Indonesia and Korea, local entrepreneurs have also been prominent. In the context of wheat imports, the establishment of a food processing industry was very important. As has been pointed out above, the mere fact that these industries exist in a country contributes to the continuation of import dependency. The United States government with its P.L. 480 has had a major influence as well. Every country, even Cuba, has received P.L. 480 wheat at some point in time.

It cannot be stressed enough that it is finally the policies of the importing country, which determine the level of dependency by setting priorities for a way and means of economic development. An excellent example of this is Colombia. If this country had used the revenues from the P.L. 480 program to encourage local wheat production, self-sufficiency in wheat could have been obtained.

This leads to another factor concerning decision-making in national politics. Local or national politicians or interest groups² try to promote their interests. If they represent landlords and rich peasants, they tend to support agricultural development that is either located in their home region or that supports the crop they are growing. If they represent the urban elites, they are interested in sustaining the supply of their preferred food stuffs.

Dependency on wheat imports is strongly influenced by a specific view of the world, the dominant characteristic of which is the perceived superiority of western values. It can be debated as to what extent this view really has influenced consumption changes, but its existence cannot be denied. The 'American Way of Life' was, and still is, promoted by the media and advertisers. Urban elites, for whom a western lifestyle is a status symbol, have increasingly adopted western

²E.g. the Colombian rice farmers.

values. This lifestyle encompasses eating habits, such as the use of bread and other processed and convenient food stuffs. Over time and, as has been shown, with the help of the government, changes in food consumption have penetrated the low income urban classes and finally the rural areas. It has to be questioned, however, whether or not it is desirable for the population of a developing nation to abandon its traditional lifestyle in favour of western values. This is especially pertinent when this change puts them into a state of dependency that makes the country more vulnerable and endangers future development. Most of the people of developing countries do not have a choice as to whether or not they want to change their diet and which food stuffs they prefer.

Colonialism affected wheat import dependency in several ways. The year in which a country was given independence is one important factor. Bangladesh became independent in 1971, right before the 'food crisis' years. The new government readily accepted the food aid, which helped to prove its ability to secure staple food supplies for the people. The mere fact that a country gained independence does not eliminate all the influence of the colonial power. Its legacy facilitated a change in the traditional lifestyle in many ways:

- It imprinted an infrastructure that supported the adaptation to a western diet. This infrastructure includes the transportation system and the educational system. The latter factor has influenced the values of the generation that is presently in power.
- In many cases, colonial rule also disrupted traditional agricultural patterns, e.g. by convincing farmers to grow cash crops for export to the motherland, or by establishing a plantation system as the Dutch did in Indonesia.
- Even when the production or extraction of raw materials for the motherland stopped abruptly with independence, the trade links remained or were re-established at a later point in time. In the Philippines "The colonial economy had [...] been tailored to fit the American cut, with the Philippines geared to the U.S. agricultural market" (Weintraub, 1973: 13).

Accepting dependencies as they are can lead to hunger or periods of hunger in the wheat importing countries that cannot grow their own wheat. Shortages in wheat supply may not be too far away. The 1988 drought in the United States and Canada has lowered world wheat stocks and raised the wheat price. As many countries already attempted to do in the early 1970's, alternatives to wheat imports will again have to be considered. What form could these alternatives take? What are their advantages and disadvantages? How strong are the possibilities for their realization?

8.2 Strategies for the Future

In rethinking the state of dependence and the structural changes that have been illustrated in this paper, it seems unlikely that the wheat importing countries can eliminate wheat imports in the near future. One must consider the opportunities these countries have, as well as which desirable and possible strategies for future development may arise.

When the world market price of wheat, which had been around U.S.\$ 65 per ton for more than 10 years, rose to U.S.\$ 177 within two years (1972-1974), many of the wheat importing countries examined or launched programs or made plans to become more independent from these imports. None of these programs has proved to be successful in the long run. One of the main reasons for their failure is the fact that the policies were not geared toward long-term development, but were usually reactions to shortages in food supplies. Governments were able to cope with their problems, often with help from outside, but this prevented them from tackling the problem of food supply as a whole. Securing a food supply that is adequate in quantity and quality is a complex issue that requires measures on the economic as well as on the social level. Two scenarios for the future seem possible:

1. With further improvements in biotechnology, world wheat output can be kept high, although it might be affected by unfavourable weather conditions and environmental degradation. As these ameliorations would primarily come about in countries that already grow wheat, they would enhance the present

structure of the world wheat economy. The exporting countries would gain further power on the world wheat market and wheat importing countries would be left without a choice as to whether or not they wanted to import wheat. At the same time they would face severe difficulties in financing these wheat imports.

2. Signs of soil depletion in wheat growing regions of the United States and Canada indicate that the present abundance of wheat may not be sustainable. If wheat becomes scarcer and the present structure of dependencies has not changed, the importing countries might find themselves in a position where they cannot make their own political decisions without consulting their major food supplier. The strategic aspect of possessing wheat reserves could influence the political decisions of exporting countries to use it as a means to pursue their geopolitical interests.

Both scenarios leave the importing countries in a disadvantageous position. The optimal response for these nations would be to develop policies that improve the local production of traditional staples. This would dampen the negative effects of the first scenario or leave the countries a choice as to whether they can afford to import wheat, as indicated in the second scenario.

The decision as to which path will be taken is not made by the people who will be affected most severely when food imports are cut back because they are getting too expensive. Under the impact of the recent debt crisis, the necessity to spend more and more foreign exchange on wheat imports is even more of an incentive for importing countries to look at wheat dependency. In the face of this important argument the fear of losing their present remaining political independence is of second order.

A solution that seems to be feasible at first glance is often not the most desirable one. Colombia is one of the few countries examined in this study which could meet its present demand for wheat through domestic production. On the other

hand, the country became a petroleum exporter in mid-1986 (USDS, 1986b: 8). The foreign exchange from these exports could be used for wheat imports. It would be more desirable, however, to support wheat farming, because oil as a source of foreign exchange will not be available forever, a fact that has encouraged Nigeria to start irrigation schemes so that wheat can be grown (Andrae and Beckman, 1985: 77-80).

Throughout the analysis presented so far, the individual small farmer has not received very much attention. This is due to the fact that the analysis of wheat import dependencies and consumption changes undertaken in this thesis depends on information available only at a more aggregated spatial scale. Global linkages have received more attention than the situation of the individual farmers, who were only referred to when they were directly impacted by or had an influence in national policies. This may have created the impression that the individual farmer does not react unless government incentives or the price of wheat are very high. The example of the introduction of high yielding wheat varieties in Bangladesh has already indicated that this is not always true. On the other hand, a farmer's hesitation is understandable when it is considered that a complete change in the kind of crop planted is a difficult decision. Not only is there a lack of experience in growing and marketing the 'new' crop, there is also a need to invest in new tools or machinery. The adoption of a different crop is a big risk, and the decision becomes easier only when successful change has been demonstrated (by extension agents or other farmers). Without education and extension workers who assist the farmer over a long period of time, changes are unlikely to occur.

The highly mechanized wheat processing industry often insists on imports, because their equipment requires high quality wheat of consistent characteristics. In areas where wheat can be and is grown, small local mills cannot provide the white flour preferred by consumers. If the use of whole wheat flour could be promoted and increased, then these local mills would be more likely to profit. This would stimulate domestic wheat production.

Although the effectiveness of international initiatives is highly questionable, it might be useful to work towards the establishment of an international wheat reserve. This would eliminate the links of importing countries to a particular supplier, and thereby the use of wheat exports for political purposes. Even if no agreement could be reached, awareness of the problems connected to dependency on food imports would be raised. Reaching equality in access to world wheat stocks does not guarantee, however, that this wheat would be equally accessible for all population groups within a country.

Chapter 9

Conclusion

Wheat is a strategic good. It is inconceivable that any country in which wheat is consumed would be indifferent to its dependence on another country for the sustenance of a wheat supply. Although it is unlikely that the majority of the nations investigated in this study will ever become completely self-sufficient in wheat, attempts to substitute imports are a practical necessity for most of them. A number of options have been presented indicating how to attempt this substitution or at least alleviate the effects of wheat import dependency. In summation, it has to be said that there is no *one* optimal strategy for all countries. National governments have to take account of the specific situation in their country to develop their own optimal solution. It cannot be expected, however, that the path chosen by a country will be an easy one.

As can be seen from the many examples given throughout this study, exporting countries, multinational corporations and indigenous elites all fight hard to retain their interests in the status quo. It may seem convenient for them to maintain the present state of trade linkages and dependencies on the world wheat market, but they must be made aware of the fact that in the long run local wheat production in importing countries has to be encouraged. Where this is not possible, due to climatic constraints or resistance from the farmers, the national government should emphasise the production and promotion of indigenous crops. In the end it is the policies of the importing country that determine the degree of dependency.

Although there is certainly a need for more staple food worldwide, the present structure of the world wheat market cannot provide an equal distribution. Exporting countries cannot be expected to just give away their wheat surplus, although the EC often seems to do exactly this to reduce storage costs. On the other hand, countries that have to rely on imports must get a chance to pay for these imports without going deeper into debt. To lessen the urgency to obtain foreign exchange at any cost, payments should be in any currency, but not in political loyalty or subjection. If funds are not used under the directive to create dependency, they could be reinvested in importing countries in which the industrialisation process is already advanced, to help with the establishment of a small scale processing industry. This industry should be designed in a manner that enables it to meet the requirements for more sophisticated food stuffs, but should also be adapted to traditional local taste and demand. If it was small scale and oriented to local demand, industrialized countries might be less tempted to sell technology to these countries, which replaces abundant human labour and creates more poverty. This imperative will be difficult to realize, because it is not in the line of multinational corporate behaviour. Nevertheless, it has to be recognized as a desirable option for the future.

The findings in this study provide a basis for further research into food import dependency. This research could be conducted in two areas:

- The number of countries under investigation could be increased. This would lead to insights into whether or not import dependency changes with the amount of wheat that is imported, and if so, how it changes. It would be interesting to look for the critical point in the amount of wheat imports at which dependencies may limit the freedom in political decisions of the importing country and make a switch of staple diet more difficult to reverse.
- The analysis that was undertaken in this study could be applied to markets for other agricultural products. Commonalities among the markets for dif-

ferent grains could be looked for, contributing to a broader picture of trade linkages on agricultural markets. Another interesting subject would be a comparison between the wheat market and the market for a feed grain, in order to gain a better understanding of the shift in importance of direct and indirect consumption of grain within different societies.

Finally it has to be kept in mind that

One thing is certain: agricultural policy will never again be only a domestic issue — or only an agricultural issue (Insel, 1985: 892/893).

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Appendix A

List of Acronyms

ABC	American Bread Company
BULOG	Badan Urusan Logistik Nasional
CCC	Commodity Credit Corporation
CIMMYT	Centro Internacional de Mejoramiento de Maize y Trigo
CITRIN	Centro Importazione de Trigo National
EC	European Community
FAO	Food and Agricultural Organization
FMN	Flour Mills of Nigeria
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
HYV	High Yielding Variety
IDEMA	Instituto de Mercado Agropecuario
IFPRI	Institute for Food and Development Policy
IWC	International Wheat Council
MNC	Multinational Corporation
NGO	Non-Government Organization
P.L. 480	Public Law 480

SUNAB Superintendencia National Abastecimento de Brazil
USAID United States Agency for International Development
USDA United States Department of Agriculture
USDC United States Department of Commerce
USDS United States Department of State
WHO World Health Organization

Appendix B

Figure B.1

Figure B.2

Figure B.3

Figure B.4

Figure B.5

Figure B.6

Figure B.7

BRAZIL **Source of Wheat Imports**

1965 - 1985

years represent crop years (e.g. 1965 is crop year 1964/65)
Source: International Wheat Council: World Wheat Statistics

Figure B.8

YEMEN, AR **Source of Wheat Imports**

1965 - 1985

years represent crop years (e.g. 1965 is crop year 1964/65)
Source: International Wheat Council: World Wheat Statistics

Figure B.9

SUDAN **Source of Wheat Imports**

1965 - 1985

Figure B.10

ETHIOPIA **Source of Wheat Imports**

1965 - 1985

Figure B.11

Appendix C

LONG TERM WHEAT AGREEMENT BETWEEN THE GOVERNMENT OF CANADA AND THE GOVERNMENT OF THE FEDERATIVE REPUBLIC OF BRAZIL

The Government of Canada and the Government of the Federative Republic of Brazil:

DESIROUS of concluding a Long Term Wheat Agreement,

Have agreed as follows:

ARTICLE I

The Government of the Federative Republic of Brazil shall buy in Canada, through the Junta Deliberativa de trigo da Superintendencia Nacional do Abastecimento (hereinafter referred to as the JUNTA) and the Banco do Brasil S.A.—Departamento de Comercialização do Trigo (CTRIN), and the Government of Canada shall supply to Brazil, through the Canadian Wheat Board (hereinafter referred to as the BOARD), a minimum quantity of 1,000,000 (one million) tonnes up to a maximum of 1,500,000 (one million five hundred thousand) tonnes annually of Western Canadian wheat during the three calendar years 1983 to 1985 inclusive.

ARTICLE II

The payment terms which will apply to all shipments made in accordance with Article I shall be as follows:

- (a) Payment in cash upon presentation of shipping documents, against an irrevocable letter of credit opened by Banco do Brasil in favour of the Seller and to be advised through a Canadian chartered bank in Montreal, Canada,
- (b) or at Buyer's option, declarable prior to the beginning of each shipment month,

Payment under the following credit terms:

- (i) A cash payment of 10% (ten percent) of the F.O.B. value of each shipment on date of the ocean Bill of Lading and the balance payable: 1/3 of the F.O.B. value 18 (eighteen) months from the date of the ocean Bill of Lading; 1/3 of the F.O.B. value 30 (thirty) months from the date of the ocean Bill of Lading; 1/3 of the F.O.B. value 36 (thirty-six) months from the date of the ocean Bill of Lading.

- (ii) Interest on the amounts outstanding on each shipment shall be payable semi-annually from the date of each ocean Bill of Lading. For the first six-month period interest shall be calculated at the rate payable by the Board on its borrowings from Canadian chartered banks at Bill of Lading date for each cargo. On subsequent six-month periods interest shall be calculated on the basis of the rate payable by the board on its borrowings from Canadian chartered banks at the commencement of each subsequent six month period.
- (c) In the event the Buyer exercises the credit option the following payment procedures shall apply:
 - (i) Upon declaration of carrying vessel(s) the Buyer shall open an irrevocable letter of credit by Banco do Brasil in favour of the Board, to be advised through a chartered bank in Montreal, Canada, for an amount equivalent to 10 (ten) percent of the F.O.B. invoice value of the wheat.
 - (ii) After loading of the grain, Bills of Exchange (Drafts) covering 90% (ninety percent) of the F.O.B. invoice value set out in sub-paragraph (b) (i) above are to be drawn and forwarded to Banco do Brasil for acceptance and guarantee. The accepted and guaranteed drafts are to be returned to the Board within 15 days after receipt by Banco do Brasil, in accordance with the procedure outlined in sub-paragraph (b) (ii) above.

ARTICLE III

The Junta and the Board shall hold negotiations to determine the delivery periods, the grades of wheat, prices and other commercial conditions for the annual quantities stipulated in Article I. These negotiations shall be held approximately quarterly at about 30 (thirty) days prior to the first month of the shipping schedule for the quantity to be negotiated. Following negotiations purchases of wheat shall be made by Banco do Brasil, S.A.—Departamento de comercialização do trigo (CTRIN) from the Board under specific contracts. The Junta and the Board will by Nov. 30th each year discuss and arrange a tentative shipping program for the following calendar year.

ARTICLE IV

It is understood that all purchases under this agreement are for consumption in Brazil, and that no shipments shall be diverted to other destinations without the prior consent of the Board.

ARTICLE V

This agreement shall enter into force on the date of its signature, with effect from January 1, 1983 and shall remain in effect for a period of three years, until December 31, 1985.

IN WITNESS WHEREOF, the undersigned, duly authorized for the purpose by their respective governments, have signed the present Agreement and have affixed thereto their seals.

DONE in two copies at OTTAWA this 20th day of July, 1982 in the English, French and Portuguese languages, each version being equally authentic.

EN FOI DE QUOI les soussignés, dûment autorisés à cet effet par leurs gouvernements respectifs, ont signé le présent Accord et y ont apposé leurs sceaux.

FAIT en double exemplaire à Ottawa ce 20^{ème} jour de juillet de 1982, en langues française, anglaise et portugaise, chaque version faisant également foi.

RAMIRO ELTSIO SARAIVA GUERREIRO

ANGELO AMAURY STABILE

ANTONIO DELFIM VETTO

For the Government of the Federative Republic of Brazil
Pour le Gouvernement de la République Fédérative du Brésil

HAZEN ARGUE

For the Government of Canada
Pour le Gouvernement du Canada

06-07-189

FIN