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HUNGARY

AGRICULTURAL SECTOR STRATEGY FOR POLICY AND STRUCTURAL CHANGE
(IN TWO VOLUMES)

VOLUME I

THE MAIN REPORT

AUGUST 1, 1989

Agriculture Operations Division
Country Operations Department IV
Europe, Middle East and North Africa Region

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CURRENCY EQUIVALENTS IN 1988

US$1 = Forint 47
Ft 1 = US$0.02
(For previous years' exchange rates, see Annex 6, Table A56)

WEIGHTS AND MEASURES

The metric system is used

ABBREVIATIONS AND ACRONYMS

AKI - Agricultural Economics Research Institute (Agargazdasagi Kutato Intezet)
CMEA - Council for Mutual Economic Cooperation
DPTT - Differential Producers Turnover Tax
DRC - Domestic Resource Cost
EEC - European Economic Community
EPC - Effective Protection Coefficient
FTO - Foreign Trade Organization
KSH - Central Statistical Office (Központi Statisztikai Hivatal)
MEM - Ministry of Agriculture and Food (Mezögazdasagi es Elelmezesügyi Minisztérium)
MOF - Ministry of Finance
LPT - Linear Profits Tax
NBH - National Bank of Hungary
NEM - New Economic Mechanism
NPC - Nominal Protection Coefficient
NPMB - National Price and Materials Board
NPO - National Planning Office
PIT - Personal Income Tax
PSE - Producer Subsidy Equivalent
RDC - Research and Development Council, MEM
SAR - Staff Appraisal Report
STAGEK - Center For Statistics and Economic Analysis, MEM (MEM Statisztikai és Gazdasagi Elemzö Központ)
TOPS - Technically Operated Production Systems
TR - Transferable Rouble
VAT - Value Added Tax

FISCAL YEAR

January 1 - December 31
Abstract

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ABSTRACT

1. Hungary prepared its Seventh Five-Year Plan (1986-90) against the background of a stabilization program which dominated its economic strategy during the Sixth Plan and which entailed a substantial reduction and redirection of its investment. It has also recently embarked on a further stage of its economic reform, designed to promote economic efficiency and responsiveness to economic opportunities, and to greatly enhance the role of profit-seeking enterprises, financial institutions, and local authorities, in the process of investment choice. The primary objective of this report is to analyze Hungary's agricultural development problems and performance and review the Government's strategy for agricultural development for the remaining years of the 1986-90 Seventh Development Plan and beyond. This report assesses the policy and structural changes needed to meet the developmental goals for the sector and makes recommendation to improve the performance of Hungarian Agriculture and agro-industries in the medium-term.

2. The scope and format of the report may be summarized with respect to the following categories of readers:

   (a) those interested in broad problems and performance and key recommendations, for whom the Executive Summary would be sufficient;

   (b) those interested in more background with respect to relevant subsector policies and programs, for whom the Main Report would be sufficient;

   (c) those interested in detailed background statistics, more detailed assessment of past sector performance, problems and constraints, for whom the Supporting Annexes are given in Volume II.

3. Within the above framework, it is hoped that the dialogue on agriculture between the Bank and the Hungarian Government at the policy, program and project levels can be strengthened, and that the role of the Bank and the international assistance community in assisting Hungary's agricultural development can be more clearly defined.

This report is based on a preparatory agricultural sector mission which visited Hungary in November, 1987 (comprising Choeng-Hoy Chung, John Glenn, Martin Herman, Vance Pulley, and Peter van der Veen) and a mission in April, 1988 (comprising Choeng-Hoy Chung and Wayne Ringlien) to discuss a preliminary draft. This report draws heavily on: a series of pricing and efficiency studies undertaken by the Hungarian Agricultural Economics Research Institute (AKI) and by the Center of Statistics and Economic Analysis (STAGEK) of the Ministry of Agriculture and Food (MEM); the data published by the Central Statistical Office (KSH); the supervision work on World Bank's projects for crop improvement and integrated livestock; and the preparatory work for the appraisal of the World Bank Agro-processing Modernization Project. The final version of this report is based on discussions with the Government of Hungary in October, 1988 and March 1989. It should be noted that the report covers developments only up to mid-1988.
HUNGARY
AGRICULTURAL SECTOR STRATEGY FOR POLICY AND STRUCTURAL CHANGE

Executive Summary

Background

i. Hungarian agriculture, which accounts for 20% of GDP, 19% of employment and 26% of convertible currency exports, performed well with the start of the Government's New Economic Mechanism (NEM) in the late 1960s. The first half of the 1970s, in particular, saw a spurt of investment, technical and organizational changes which sustained agricultural growth at about 3.2% p.a. from 1970 to 1984. Since 1983, growth in agricultural GDP, on average, has declined marginally. While a large part of the recent stagnation in agriculture is weather and external market determined, the simultaneous occurrence and persistence of these factors have served to highlight certain critical issues which need to be faced. They broadly cover:

(a) the impact of often contradictory policies and programs which have arisen out of the need to cater for the multiple developmental objectives of Government, especially through pricing, taxation and subsidy measures;

(b) how the sector needs to be restructured to improve its efficiency and performance, particularly for exports; and

(c) the extent, emphasis and rate of future investment in the primary agriculture and food processing subsectors.

This report focuses on (a) and (b) and concludes with recommendations for the best prospects for further investments and the studies needed to prepare the priority investment programs.

ii. Because of agriculture's overall stagnant growth since 1983, the Government of Hungary recently re-evaluated its medium-term agricultural priorities and strategies within the context of newly initiated macro-economic adjustments. While Government's primary objectives for agriculture continue to be (i) continuous and ample domestic food supply, (ii) improvement in the balance of foreign trade, and (iii) improvement of the profit generating capacity of the sector, increased emphasis will be given to improved quality of products, cost reduction and greater use of market forces. This report explores the key problems and constraints to be tackled under six major headings: (a) improving the incentive environment for increasing financial and economic profitability; (b) cost effective production efficiency improvements; (c) international trade and marketing; (d) enterprise restructuring, competition and management; (e) support services for agricultural production; and (f) agricultural support of "disadvantaged" areas. With the exception of support services issues (which are quite different for agriculture) and the problem of disadvantaged areas, the above are essentially key subsets of the focal themes for structural adjustment enunciated by Government in conjunction with a series of World Bank-supported Industrial Restructuring loans.
iii. The judicious blending of pricing, taxation and subsidy measures constitute the most important tool used by Government to attain its multiple development objectives. Since its adoption under the New Economic Mechanism (NEM) in 1968, its use (especially incentive pricing and investment subsidies) has been particularly important in effecting the formidable technological changes experienced in the 1970s. The objective of using these "regulatory instruments" is to simulate "market conditions" and thus effect efficient resource allocation. In practice, these indirect controls have grown so complicated and cumbersome that it is often difficult to discern the efficiency effects of their use. Government realizes this problem and plans to further move from price regulation towards market regulation and further reduce the distortions that taxes and inappropriate subsidies may create.

iv. Government initiatives on pricing policy for 1988 (e.g., 50% of agricultural value will be in the free or "minimum" producer price category compared with 30% presently) are clearly steps in the right direction. At the consumer level, a number of agricultural products which are "free", still require prior permission before prices can be raised. This lack of freedom of "free" prices should be remedied. Government's objective towards market regulation means that in the medium term, the liberalization or remaining administered prices should be aimed for and the large distortions through taxes and subsidies should be reduced as the pricing system moves towards equating domestic prices to world prices. In the interim, where market imperfections exist (e.g. market control by commodity trusts) and for certain social or political reasons, administered pricing may need to continue. In such cases, the price setting mechanism should not be set just on a production-cost basis but, rather, Government should consider an explicit efficiency standard based on international or border prices. In selecting the international price standard, care has to be taken to ensure equivalence in product quality. Furthermore, to reduce short-term difficulties (e.g. arising out of short-term dumping or unusual weather) three year-average international prices could be used.

v. With the standardization of taxation through the personal income tax (PIT) and the value-added tax (VAT), implemented from January 1, 1988, the taxation system for agricultural enterprises will be radically changed. While it is too early to discern the impact of agricultural taxation, among the more questionable aspects which require further evaluation are: (a) the special earnings regulation scheme; and (b) the taxation of small farmers.

vi. The use of subsidies, subventions or fiscal support - the third set of "regulatory instruments" - is, however, the key incentive instrument in Hungarian agriculture. Their successful use in promoting technological change in the cereals subsector in the late 1960s and early 1970s has been the model on which later programs such as milk production have been based. The costs of these subsidized programs are very high and if (unlike cereals) they result in the generation of exportable surplus which cannot be absorbed in the world market or absorbed only with high financial and economic losses to the economy, their use should be reconsidered. Unlike in other sectors, subsidies in agriculture are further complicated by the fact that they are also the key to supporting or distributing income. This includes subsidies given directly or indirectly to consumers, to population living in "depressed areas", or even compensatory payments to offset increased input costs which would otherwise be passed on to agricultural producers by inefficient industrial enterprises.
supplying certain agricultural inputs (e.g. fertilizers, tractors). Overall, about $1.79 billion of subsidies or support was given to Hungarian agriculture in 1986 ($1.49 billion for production and $0.30 billion for consumption). These subsidies were equivalent to 43% of agricultural value added or 8.2% of total GDP. Hungary cannot afford such a level of subsidization relative to GDP which is even higher than in the OECD countries (where the highest, for Japan, was 5.1%). Although trade-offs must invariably be faced, the challenge for Hungarian agriculture is to reduce these levels without unduly compromising the goals set out for the subsidies. This requires a careful evaluation of: their rationales (e.g. whether they are still needed in relation to changing objectives); their relative priorities; and how production and income targets can be attained at lower subsidy levels. Subsidy reductions to be introduced in the course of 1988 are encouraging — with direct consumer subsidies declining by 70% from the $322 million level of 1986. Government's commitment on agricultural supports (excluding trade) is for a one-third reduction by the end of 1990. The details underlying these reductions have yet to be worked out. Candidates for subsidy reductions are identified below for production, trade and enterprise support.

Cost Effective Production Efficiency Improvements

vii. The fiscal and balance-of-payment problems of Hungary require the realignment of production programs and projects. Government support for production improvement would have to be more stringent, particularly when substantial imported inputs and external financing are required. In such cases, indicators of economic efficiency which measure the cost of producing goods for export (e.g. the domestic resource cost or DRC ratio) should be calculated prior to the support of any program. In any case, emphasis should be to improve the cost efficiency of production systems and the withdrawal from, or drastic restriction of, substantially inefficient activities. For the crops subsector, the planned scope and framework of expansion of three major production programs are being reevaluated by Government:

(a) the capital- and energy-intensive investment for supplemental irrigation of maize to be produced under the new so-called "Super Corn" Program (a trial program which, in 1988, covers 27,000 ha of the 1.1 million ha under maize) for which a 40% output price subsidy is required;

(b) the Soybean Promotion Program, part of a larger import substitution program for plant proteins which currently provides a subsidy of Ft 2,500/ton (about 25% of the fixed farmgate price): and

(c) the complex Land Amelioration Program, mainly aimed at yield improvement of existing cropland (primarily cereals), which could require more than $190 million to cover the 600,000 ha planned under the Seventh Plan (1986-90).

Besides reevaluating the pace of promotion, complementary measures would also be required. For soybeans and soymeal, for example, Government should consider setting producer prices with respect to world prices and a mechanism should be considered to manage transitory low prices (due to trade dumping or weather) and yet reduce the budget deficit without compromising production efficiency. Government should continue and, if necessary, reevaluate the needs of the
processing sector (edible oil and lysine production) and the livestock sector (feeds) with the prospects for economically viable production and imports of oil seeds and their byproducts. With respect to Government's Land Amelioration Program: coverage should be limited to areas of best potential; the rate of cost recovery should be increased; and more cost effective (less intensive) approaches should be developed.

viii. Investments should continue to expand for rainfed-grain production as less than half of the corn and wheat area has the up-to-date equipment which can significantly reduce production costs. Spare parts requirements for Western-made machinery are also high in demand and far from being adequately catered for at present. The promotion of wet corn production and bunker silage storage with complementary support of new feeding equipment associated with this activity has potential because of the significant energy savings which could contribute to reduced livestock production (feed input) costs. World Bank support for liquid fertilizer production and mixing has indirectly encouraged the establishment of 33 locally financed smaller plants thus generating the demand for feeder inputs like monosodium phosphate as well as on-farm fertilizer spreaders and injectors which appear sufficiently profitable to be encouraged without the aid of subsidies.

ix. For the livestock subsector, the already high protection and inefficient production (as indicated by effective protection coefficients and domestic resource costs) have worsened in recent years. The primary cause has been declining world prices since 1984 which has given rise to negative value added for a large segment of the subsector. But even when the favorable 1981-83 prices were used, the relevant coefficients for live pig, pork (sides), live cattle and beef have deteriorated. Nevertheless, some overall reduction in production costs and some technical efficiency improvements were achieved for poultry and milk by the mid-1980s. In any case, the worsening financial situation for large farms, particularly the cooperatives, are largely linked to their unprofitable livestock activities. The most significant problems may be summarized as: low productivity of labor; excessive use of arable land; improper feeding; and declining prices and weak demand in traditional export markets. However, there appears to be significant potential for efficiency improvements as evidenced from the large variations in productivity, profitability and costs among producers facing similar technical and resource endowment constraints. For the live cattle, beef and milk subsectors, the following measures are key to improving efficiency and reducing Government's budgetary costs: (a) establishment of a program to develop lower cost forage sources (silage cereals, grass and legumes), particularly in conjunction with producing low cost beef as part of the dairy enterprise; and (b) substantial reduction of the subsidies for milk and cattle production and phasing out of the live cattle, beef and milk enterprises which incur large sustained losses. For both poultry and pigs, the critical measures relate to the free availability of imported protein feed ingredients. The import of potentially lower cost plant protein meals (e.g., soymeal) should be permitted in such a way as to not jeopardize potentially efficient production of the oilseed. For pigs, a recently improved grading system should be linked with commensurate prices and support services. For live sheep, the most export competitive livestock, expanded production for markets in Europe and the Middle East should be sought.

International Trade and Marketing

x. Three problem areas need to be seriously tackled if agriculture is to play an important and cost effective role in alleviating the trade deficit situation:
First, special agricultural export subsidies to non-CMEA markets, which account for 28% of export value, are very costly both in terms of the Government budget ($240 million in 1986) and in terms of distortions in resource allocation. Some of these subsidies are being provided to maintain market shares and foreign exchange earnings in an environment of competitive subsidization by other exporters. In the light of the need to maintain foreign exchange earnings, these subsidies may be justified in the short run. Subsidies, however, are not sustainable in the longer run, especially on bulk commodities such as frozen broilers, port sides and beef quarters because these product lines show a declining trend in market demand. New product lines such as fresh, i.e., not frozen, poultry and poultry parts, and special pork and beef cuts for final supermarket sale have good market prospects and to the extent that incentives are needed to penetrate new markets or maintain market share, they should be made available on a temporary basis to suppliers of these products. Another important development arguing for reduced export subsidies is the recent introduction of the VAT (which would eliminate taxes on inputs and thus weaken the tax-offsetting rationale). Hence, subsidies should be reduced at a pace in line with improvements in efficiency of production and processing as well as the implementation of trade promotion and market development support.

Second, subsidies for agricultural products to the CMEA market, the pricing regime (to equalize CMEA export production "profits" with that of the local market) and the unreliable barter transactions (both in quality and timing) constrain the ability of Hungarian agriculture to respond flexibly and efficiently to convertible currency market requirements. The effects of these constraints should be carefully taken into account by the Hungarian government when it undertakes its CMEA negotiations in the context of the overall economic and trade policy of Hungary and its relations with the other CMEA countries.

Third, import licensing makes it difficult to obtain sufficient and timely raw materials and feeder industry inputs, thus constraining the cost-effectiveness of agricultural exports. Government is in the process of revising the system to rescind import licensing for a positive list of priority goods like machinery and equipment, priority spare parts and key agricultural inputs.

Enterprise Restructuring, Competition and Management

Loss making agriculture and food industry production enterprises constitute a large drain on the Government's budget. The initiation of a "new" enterprise management system since 1985, and the initiatives to be taken under the forthcoming Agro-processing Project, will likely have an impact only on the average and better performing enterprises. A medium-term program for restructuring the financially weak cooperatives (about 25% of all cooperatives) claiming nearly $30 million in Government enterprise subsidies, is urgently needed. Systematic analysis has to be undertaken on two important aspects.

1/ The Hungarian Government does not share this view.
before a proper restructuring program can be devised: (a) a comparison of loss-makers with successful cooperatives under similar conditions; and (b) an identification of the prospects for potentially viable activities (to earn foreign exchange) in disadvantaged (resource poor) areas, especially through improved integration of the small farm sector.

xii. **Marketing trusts** (essentially monopolies), and the firms associated with them, absorb large amounts of support from the State. They are cumbersome to administer and do not encourage the competition that is necessary to improve efficiency and performance of their constituent enterprises. A re-evaluation of the effect of the previous break-up of these trusts (particularly canning, poultry and meat) is now needed to consolidate the lessons learned and to finalize their transition towards autonomous management. An assessment of the original objectives and functions of the Cereals and Milk Trusts can then be made taking into account the feasibility of disengaging operational functions such as flour milling and milk processing in line with present and prospective supply and demand trends.

xiii. To make farm managers more profit conscious in commodity production, investment and non-agricultural auxiliary activities, the Government should encourage strategic business planning and installation of management information systems such as those supported by the Bank for the Papa farm. Furthermore, there is still an important need to look at agricultural production activities as an interrelated system rather than as separate, self-contained activities.

Support Services for Agricultural Production

xiv. Despite previous success and an efficient framework for national technology research, State research funding at the subsector level lacks clear priorities and has a generally narrow orientation and insufficient economic emphasis. MEM should ensure that State-financed research, approved by its Research and Development Council, should enunciate subsector priorities more clearly and impose a more rigorous framework for approval of research proposals. Emphasis should be to encourage a systems perspective (combining both technical and managerial) and to increase economic/financial focus.

xv. The least understood category of producers, for which performance information and a well-conceived program of assistance are relatively lacking, is the private small farmer. To prepare an effective small farmer assistance program, an assessment of the following is needed: (i) the available intermediate technology; (ii) the available options to overcome constraints linked to the small size of the enterprise; (iii) the incentive structure of the private small holder family in terms of the effect of Government pricing, taxation and subsidies, their risk profile and their investment patterns; and (iv) improved linkage among commercial extension enterprises (TOPS)/large farms/agro-processors and the small farmers.

Agricultural Support of "Disadvantaged" Areas

xvi. For both economic and social reasons, Government is putting greater emphasis on the development of Hungary's resource poor or "disadvantaged" areas. A special program prepared by the National Planning Office (NPO) was approved in October 1986. Despite a modest ($6.5 million) allocation to this program for 1988, subsidies given through MEM for other programs supporting
production, land amelioration and loss-making enterprise supports ($149 million in 1986), make the support of disadvantaged areas far more important than is reflected in the NPO Program. There is a need to unify the criteria for allocating resources to these programs so that the basic objectives of employment and income enhancement can be achieved at the lowest budgetary cost. The framework and criteria already developed under the national (NPO) program provide a reasonable starting point. Such criteria should be separated from those for production programs (paras vii and ix) which have to be economically and financially profitable. For the disadvantaged regions, primary consideration should be given to cost effectiveness and all ministerial programs should be required to adopt the NPO criteria. Agricultural solutions in agricultural resource poor areas are not easy to find. Even so, there are certain foreign-exchange earning activities linked to agriculture for which these areas can claim some comparative advantage (e.g. organic gardening, fruit trees, rye seed multiplication, goose production and less intensive husbandry of sheep or goats and dual purpose cattle). The study we proposed on the restructuring of lossmakers and its linkage with the small farmers should identify, in more detail, these and other possibilities. In any case, potential viability of agricultural alternatives would necessarily have to depend on parallel non-agricultural development. Under the national program, there is the possibility of pursuing a "growth pole" approach where appropriate large towns within the disadvantaged counties could be developed to provide the employment and income improvement opportunities for the rural labor located in the nearby disadvantaged regions (sub-counties). This could well be a more cost-effective way of using Government funds to improve incomes and employment because there would be less need for new infrastructure development compared with more comprehensive development in-situ for the disadvantaged regions.

Investment Opportunities

xvii. With improvements in the policy environment as proposed, and if the assessments outlined above are undertaken, the following investments have potential:

(a) Viable large farms with export-oriented activities. This could include: (i) quick gestation activities based on previous investment experience (like machinery and spare parts for rainfed foodgrain production), the promotion of wet corn production and bunker silage storage, liquid fertilizer production and mixing (including feeder inputs like monoammonium phosphate as well as off-farm fertilizer spreaders and injectors) and hybrid seed production; and (ii) longer gestation-potentially viable activities in both primary agriculture (land amelioration, high value tree crops) and non-primary agriculture (processing, marketing and technology development services).

(b) Viable enterprises arising out of the Program for Restructuring Weak Cooperatives. Initial requirement is the development of a framework to assess the needs for restructuring, rehabilitation, equipment, and training.

(c) Support for small farmers. This could include: financing of appropriate technology transfer (tilling machinery, tractors for contract work, pick-up trucks, harvesting equipment, manure spreaders); initial technology development involving TOPS and large farms; initial organization of contract/group support services for small farmers' marketing, input supply and
mechanization needs (with advisory and credit support); and special training programs.

(d) Continued restructuring of agro-processing enterprises along the lines of the World Bank agro-processing and livestock projects through lines of credit with commercial banks.

(e) Restructuring and investment support of marketing trusts to enable them to divest their non-strategic operational functions to "autonomous" enterprises.
L HUNGARY

AGRICULTURAL SECTOR STRATEGY FOR POLICY AND STRUCTURAL CHANGE

1. BACKGROUND

A. The Role of Agriculture

1.01 Value added in Hungarian agriculture (consisting of primary agriculture and food industry - both under the jurisdiction of the Ministry of Agriculture and Food) currently accounts for about 20% of total GDP. About 18% is accounted for by primary agriculture and slightly less than 2% by food industry. In 1985/86, farming was undertaken by 933,000 active earners on about 6.5 million ha of agricultural land (about 5.2 million ha under crops and orchards and nearly 1.3 million ha under pasture) comprising the following main categories of production systems/agents:

(a) 128 state farms cultivating approximately 0.98 mil ha (or about 7,200 ha each) and employing 17% of the active (full-time equivalent) agricultural labor force;

(b) 1,260 cooperative farms covering about 4.7 mil ha (about 4,000 ha each) and accounting for 74% of the active (full time equivalent) agricultural labor force;

(c) 1.44 million plots cultivated by about 1.5 million private (mostly part-time) small farmers on 0.5 mil ha averaging about 0.5 ha each plot (a large proportion being auxiliary plots allocated for the use of members or employees by cooperatives and state farms respectively).

Livestock and crops comprise approximately equal shares in the gross value of production with the following major components and their respective shares: slaughter pigs (22%); wheat (11%); corn (11%); poultry (9%); milk (8%); slaughter cattle (7%); fruits (5%) and vegetables (5%). Agriculture employs about 19% of the total labor force of 4.9 million, of whom about two-thirds are estimated to be engaged in basic (primary) agricultural activities. This is because many of the large farms (state or cooperatives) have enterprises which are integrated (marketing, agro-processing) and diversified (including manufacturing, construction, and service activities). While being technologically less sophisticated, small farms account for about 10% of cultivated area but 35% of the value of agricultural production - reflecting their important role in labor-intensive, high value agricultural production.

1.02 The primary role which agriculture and agro-processing plays in trade and income distribution is critical for Hungary. Thirty-five percent of the output from agriculture (excluding forestry) is exported — accounting for 20% of Hungary's total exports and 26% of exports to convertible currency markets. Nearly 70% of primary agricultural exports (60% for food industry) is sold for convertible currencies, a higher proportion than Hungary's other major economic sectors.1/ Exports of livestock and livestock products are,

1/ Among the more important earners of convertible currency (expressed as a percentage of the total for agriculture) are: pork (14%); poultry and wheat (11% each); live cattle (10%); tinned meat (9%); processed sunflower oil and beef (6% each); and live pigs and live sheep (5% each).
however, more important than exports of crops, accounting for slightly more than 60% of agriculture's convertible currency exports. Furthermore, because Hungary is self-sufficient in basic foodstuffs, agriculture's balance of trade is very favorable.

B. Sources of Growth of Agricultural GDP, Production and Exports

1.03 From the mid-1960's until 1984, agriculture and forestry (as a whole) grew at about 3.4% per annum. Since 1983, it has declined at an average of almost 1% per annum. Hungary's agricultural GDP performance (in constant price terms) is compared with the other major economic sectors below:

<table>
<thead>
<tr>
<th>Economic Sectors</th>
<th>Av. GDP Growth (Const. Price)</th>
<th>Share (in current price)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(% p.a.)</td>
<td>(% share of GDP)</td>
</tr>
<tr>
<td>Manufacturing &amp; Construction</td>
<td>6.0 2.9 -0.7</td>
<td>39 45 44</td>
</tr>
<tr>
<td>Agriculture &amp; Forestry</td>
<td>3.1 4.9 -0.9</td>
<td>26 19 21</td>
</tr>
<tr>
<td>Services</td>
<td>5.1 2.4 2.2</td>
<td>35 35 34</td>
</tr>
<tr>
<td>Total Economy</td>
<td>4.8 3.0 0.3</td>
<td>100 100 100</td>
</tr>
</tbody>
</table>

Av. Growth in Value of Agricultural Production (Const. Price)

<table>
<thead>
<tr>
<th>Subsectors</th>
<th>1965-80 1980-84 1984-86</th>
<th>Share (in current price)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(% p.a.)</td>
<td>1965 1980 1985</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(% of production value)</td>
</tr>
<tr>
<td>Crops</td>
<td>2.4 1.6 -1.0</td>
<td>54 50 50</td>
</tr>
<tr>
<td>Livestock</td>
<td>3.5 2.1 -2.3</td>
<td>46 50 50</td>
</tr>
</tbody>
</table>

Source: Annex 1.

A summary discussion of the sources of growth for each of those periods is given below. Details are given in Annex 1 by livestock/crop subsector, by types of producing agents (large farms/small farms), by expenditures on inputs and by subsector employment.

1.04 Agriculture's growth from 1965 to 1980 reflected Government's push for technological change in both the crop and livestock sectors. This was fostered through the economy-wide impetus set by the New Economic Mechanism (NEM) which was promulgated in 1968. With improved technological packages already available (mechanization, fertilizer, agro-chemicals and high yielding seed varieties) and the financial incentives through NEM which also fostered the development of commercial extension enterprises, cereal (corn and wheat) yield grew at 4.5% per annum, among the highest growth rates in the world. Pig and, especially, poultry production (at 3.7% and 5.6% p.a. respectively) grew at well above the average agricultural GDP rate. Their growth was accompanied by rapidly increasing imports of high protein feeds (7.6% p.a.). Among the industrial crops, sunflower grew the fastest (11.5% p.a.), albeit
from a very low base. This period saw the initiation of subsidized investment promotion programs for: cereals (primarily machinery and storage facilities) in the late 1960s and early 1970s; milk (buildings, equipment and breeding stock) in the mid-1970s; and comprehensive land improvement (drainage, soil chemicals, tilling) in the mid-1970s. It also saw the emergence of exportable surpluses in grains, particularly wheat, for convertible currency.

1.05 From 1980 to 1984, agriculture (averaging 4.9% p.a.) was the lead performer in total GDP growth. This period could be considered as the golden years of Hungarian Agriculture. The gains were particularly remarkable since they coincided with a serious national stabilization program (begun in 1979) to reduce the trade deficit and curb domestic consumption and investment. Part of agriculture's dynamic growth in this period was the result of past investments (especially dairy). Contrary to the rest of the economy (and except for a brief dip in 1980), gross fixed investment in agriculture in 1981 and 1982 stayed at the very high level of the late 1970s (as shown in Figure 1). The main reason for the acceleration of average GDP growth, however, was the increase in value added which resulted from slower growth in the consumption of inputs. Although agricultural terms of trade increased sharply only from 1979 to 1981, differential incentives favoring wheat throughout this period saw (i) wheat area expanding (at 3.4% p.a.) at the expense of corn and fodder, and (ii) wheat yield increasing (at 5.1% p.a.). A significant increase in the share of higher value-added production (e.g. fruits, wine, pigs and poultry) also occurred. Primary agriculture's share of dollar denominated exports to its total exports during this period was 80% while that for agro-industry was 63%. Overall export subsidies for agricultural exports to convertible currency markets were not too high (ceilings set were 20% in 1980 declining to about 13% in 1984).

1.06 The performance of agriculture from 1984 to 1986 was rather dismal. The effect of weather was an important explanation for the decline in the value of production for crops (-1% p.a.) and, to a lesser extent, for livestock (-2.3% p.a.). Every year since 1983, and especially in 1985, Hungarian agriculture has had to face drought and/or frost problems. Primarily because of this and the reduction in Government subsidies, fertilizer use per ha has declined. Similarly, the production of roughage and succulent feeds has also declined. The reduced rate of import of protein meal continued the slowdown experienced in 1980-84 and live weight yields of pigs continued to stagnate. Furthermore, world market price developments for Hungary's most important exports, (triggered partly by subsidy competition between U.S. and EEC) became more unfavorable — another important reason for the drop in intensity of fertilizer use. Government then increased its indirect tax refund on exports to convertible currency markets which increased the effective rate of export subsidies to 34-35%. This was done partly to offset the reduction of subsidies on inputs (farm machinery, fertilizer and plant chemicals) which took place mainly in 1983-84, but primarily to retain the relevant market shares in convertible currency markets. The share of primary agriculture's convertible currency to its total exports also dropped to 70% and that of agro-industry to nearly 60%. Finally, gross fixed investment in agriculture fell by about a third from 1982 to 1985 (contrasting with only a seven percent drop for the other sectors) as state investment grants and credits from the National Bank of Hungary were severely curtailed for the sector and the price of agricultural investment goods sharply increased. Agricultural terms of trade, which had been declining every year
ACRIC. GDP, INTERNAL ACRIC. TERMS OF TRADE AND ACRIC. CROSS FIXED INVESTMENTS


0 Agric GDP in Const. 1981 Fts

+ Internal Terms of Trade For Agriculture (Agric & Forestry deflator/composite
Deflator for other sectors)

O Cross Fixed Investment in Agric (in 1981 Fts)
since 1981, continued to decline at an average annual rate of 1.1% from 1984 to 1986 (Figure 1). In these three years, the terms of trade loss (at 1981 prices) was Ft 5.6 billion (Annex 1).

C. Social Aspects of Agricultural Performance

1.07 About 44% of the Hungarian population still resides in the rural (village) areas. This share appears to have stabilized in the 1980s, along with population growth. This implies a cessation of the rural-urban migration which had taken place in the past decades:

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Urban (small + large towns)</td>
<td>45.8</td>
<td>51.0</td>
<td>54.7</td>
<td>55.1</td>
<td>55.3</td>
<td>55.8</td>
<td>56.8</td>
</tr>
<tr>
<td>Rural (village)</td>
<td>54.2</td>
<td>49.0</td>
<td>45.3</td>
<td>44.9</td>
<td>44.5</td>
<td>44.2</td>
<td>44.0</td>
</tr>
<tr>
<td>Total Population</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total (in mil.)</td>
<td>9.96</td>
<td>10.32</td>
<td>10.71</td>
<td>10.71</td>
<td>10.71</td>
<td>10.70</td>
<td>10.69</td>
</tr>
</tbody>
</table>


From an income distribution perspective, the fact that over half of the labor living in the countryside were, by the early 1980s, working on industry or service jobs is significant. The number of active earners in agriculture, which had declined by an average rate of nearly 4% p.a. in the 1960s, has slowed to a decline of 0.5% p.a. since 1975. The proportion of the labor force in the economy working on agriculture has stabilized at approximately one fifth (see Annex 1). The urban-rural income gap may now "be one of the world's smallest" with "the depopulation of rural society, the industrialization of agricultural tasks and a congruence of urban and rural patterns of life and work." This result may be attributed to three important developments in the agricultural sector (to be discussed later):

(a) expansion of auxiliary activities by large farms;

(b) increased specialization in higher value, labor intensive agricultural production by private small farmers linked with large farms and processors; and

(c) subsidized investment programs to promote agriculture and agro-industries in "disadvantaged" (resource poor) areas.

Except for (c), income distribution has been largely sustained by increased income from improved efficiency of production.

D. Implications and Required Emphases

1.08 In brief, the achievements in Hungarian Agriculture until the early 1980s have been quite impressive:

2/ Kathleen Hartford, "Hungarian Agriculture: A Model for the Socialist World?" World Development, Vol. 13, No. 1, 1985. By 1973, cooperative farm families' average per capita incomes were already higher than those of working class households and were only 12% under the average of urban self-employed households (p. 128).
(a) its growth was among the most dynamic for Europe (including the CMEA countries);

(b) it experienced among the fastest improvement of average grain yields and fertilizer use in the world;

(c) its production expansion has simultaneously increased exports and provided for increased domestic food consumption per capita;

(d) agricultural exports had substantially increased its share in Hungary's total export and convertible currency earnings;

(e) its terms-of-trade for export (the average export price) and its internal prices relative to those of domestic industry had been increasing; and

(f) the urban-rural income gap became one of the smallest in the world.

The basic ingredients underlying these favorable results were Government investments, favorable state pricing and subsidies, improved commercial support services, and relatively favorable world market conditions.

1.09 Since 1983, agricultural GDP has on average been stagnant and its share of convertible currency exports has declined; its internal terms of trade (vis-a-vis non-agriculture) has been declining steadily since 1981; and, since about 1982, its external terms-of-trade (the average export price) for both convertible currency and CMEA markets have also declined. Weather (drought and frost) and world market difficulties are important explanations for this recent change in agricultural performance. However, their persistence has served to highlight a number of structural and policy inadequacies in the sector, necessitating an increase in government subsidies, especially for exports. Additionally, the continued dependence on agriculture for achieving income distribution objectives, places an extra burden on the required performance of the agricultural economy. A reevaluation of the problems, issues and priorities for agriculture is now critical. Two important sets of questions need to be faced:

(a) What should be the extent, emphasis and rate of future investment in the sector?

(b) What are the policy and institutional changes needed to revitalize the sector without aggravating budget costs?

1.10 Prescriptions or measures used in the past to address these questions are now not adequate; different approaches and emphases would be required:

- **Productivity improvements and technological change.** For primary agriculture, yield improvement measures alone will not be enough. They would have to be cost effective and would have to be assessed for their potential capacity for profit generation and improved economic efficiency. For food industry, where total factor productivity has been declining for more than a decade, restructuring initiatives are critical.
- **Production promotion for self-sufficiency.** This objective can no longer be justified on its own — especially where imported inputs are required. Explicit account would need to be taken of their potential competitiveness in exports or in substitution for imports. Domestic production should, therefore, be set against an international efficiency standard rather than domestic costs of production.

- **Improving the share of agricultural exports that are denominated in convertible currency.** Rather than the present consignment or "passive trading" approach, more imaginative ways to actively encourage export penetration in convertible currency markets, are needed. So is the need to develop more flexible measures to respond to changing world market conditions.

- **Improving competition at the marketing and trading levels** for both inputs and outputs should first: assess the lessons learned from previous break-up of monopoly trusts; re-evaluate the roles of the remaining ones; and analyze, in greater depth, the effects of feeder industry constraints on agriculture.

- **Enterprise restructuring and management improvement.** Successful measures to increase the independence of agricultural enterprises require not only profit orientation but also changed management-worker relationships consistent with increased managerial autonomy and accountability at the farm or enterprise level. However, because of their linkages, the changing roles of state farms, cooperatives and the private smallholder would also need to be re-evaluated.

- **The use of pricing, taxes and subsidies as instruments for resource allocation and production incentives.** In largely dismantling central controls at the production level with the NEM, indirect controls (involving pricing, taxation and subsidy instruments) have become so complex and cumbersome, that efficiency and resource allocation effects can hardly be discerned. The need is for a streamlining of these indirect control instruments. Most important would be the reduction and rationalization of subsidies rather than using them as compensatory payments to mitigate taxes or to promote uneconomic activities.

II. AGRICULTURAL POLICY PRIORITIES AND MEDIUM-TERM STRUCTURAL CHANGE

A. The Macro-economic Context

2.01 Government's medium-term program for the economy is directly related to recent economic developments. After a successful stabilization of the economy, supported by two stand-by agreements with the IMF in 1982-84, Hungary's overall economic performance has been relatively poor; GDP, which had been growing by 1.8% p.a. from 1979-1984, declined in 1985 and grew by only 1.5% in 1986. Exports to convertible currency markets declined in 1986 and imports have continued to rise because of adverse terms of trade developments, the removal of quantitative import.

restrictions in 1984 and weak demand management. Government took corrective actions to reduce the budget deficit from nearly Ft 47 billion (4.3% of GDP) in 1986 to 35 billion in 1987. These and other demand control measures helped reduce the current account deficit from a record $1.4 billion in 1986, heavily financed from external borrowings, to $847 million in 1987. Recognizing that the continuation of weak economic management would lead to unsustainable levels of debt and its grave consequences, the Government then prepared a medium-term program of stabilization and recovery aimed at: restricting the growth of external debt; restoring external and internal equilibrium by 1990; and promoting structural change through acceleration of the economic reform program. The emphasis would be on the reduction of consumption largely through the reduction of real wages (by 9-10%) and permitting consumer price increases (by 15%), the latter resulting equally from the reduction (or elimination) of consumer price subsidies and the introduction of the VAT.

2.02 In addition, Government expects to continue its program of structural adjustment and policy reform, supported by a series of World Bank Industrial Restructuring Loans, covering the following major policy areas: entry and liquidation of enterprises; international trade; pricing; taxation; wage differentiation and worker mobility; capital markets; banking system; enterprise management; direct foreign investment; and technology development.

B. Government Objectives and Emphases for Agriculture

2.03 The medium-term strategy for agriculture is given in the Government of Hungary's Seventh Five-Year Development Plan (1986-90). Underlying the tasks and targets given to the sector are the basic objectives related to: sufficiency of basic food supply; production and resource use so as to be internationally competitive; the restoration of financial equilibrium in both the Government's budget and, especially, the external trade accounts; and the maintenance of equitable income standards between the urban and rural populace. These are potentially conflicting objectives, but as discussed in Chapter I above, Hungary has been able to attain a reasonable balance among them between NEM (1968) and the early 1980s. The adverse developments since then, particularly in the first two years of the Seventh Plan have highlighted the fragility of simultaneously trying to achieve growth and social objectives. This has led Government to seriously re-evaluate its agricultural priorities in the context of ongoing structural change in the overall economy. The objectives for agriculture remain:

(a) Continuous and Ample Food Supply For Domestic Consumption.

Nevertheless, there will be efforts to reduce internal


5/ See Announcement of the President of the NPO (No. 800811986/Tg.En2r/OT on the Seventh Five Year Plan of the National Economy.

consumption in 1988 and 1989 (primarily through reduction of subsidies) and to focus on providing foodstuffs of appropriate quality and variety relevant to the differentiated demands of various market strata rather than just satisfying volume or quantity demanded in the domestic economy. Agroprocessing is expected to play a more important role.

(b) Improvement of the Balance of Foreign Trade. The focus will be on efficiency and competitiveness in both import substitution and export promotion rather than on simply increasing the volume of production for export which has often been unprofitable. Quality and variety for both CMEA and convertible currency markets will be stressed.

(c) Improvement of the Profit Generating Capacity of the Sector – particularly through increased production efficiency, cost reduction, greater use of market forces in pricing, and corresponding reductions in subsidies that such steps should facilitate. Better integration of crop and livestock activities and improved quality differentiation will be sought. For food industry, the priority will be for modernization and improved packaging to produce new products starting initially with wine, poultry and canning industries and later with meat, vegetable oils and grain industries. Diversification into services and trade will also be emphasized.

Except possibly for somewhat less emphasis on the fiscal objective, the above indicates that MEM is well aware of the difficulties facing Hungarian Agriculture and that they stem from more than the weather and world market difficulties of the past five years. The increased emphasis on quality and profitability are particularly opportune.

2.04 The need for structural change has been articulated by the Government for the overall economy. But, since it had been formulated primarily with the industrial sector in mind, the needs for Agriculture (comprising of primary agriculture and food industries) and how it might differ from industry's restructuring needs have not been assessed in depth. In light of the changed emphasis, this chapter assesses the problems and constraints in six critical areas and discusses alternative approaches or further studies needed to deal with them:

(a) improving the incentive environment for increasing financial and economic profitability (i.e., the role of prices, taxes and subsidies);

(b) cost effective production efficiency improvements;

(c) international trade and marketing;

(d) enterprise restructuring, competition and management; and
(e) selection of the necessary support services and institutions for improvement.

(f) agricultural development in "disadvantaged" areas.

With the exception of the issues related to support services (which are quite different for agriculture) and the problem of "disadvantaged" areas, the above are essentially key subsets of the focal themes for structural adjustment enunciated by Government in conjunction with the World Bank's Industrial Restructuring Projects (para 2.02) and the recent Industry Sector Adjustment Loan. However, the problems are, in general, more complicated for agriculture than for industry (because of weather risks and reliance on the sector for income distribution support). Agriculture could, therefore, require different emphases.

C. Pricing, Taxes, and Subsidies

2.05 The judicious blending of pricing, taxation and subsidy measures constitutes the most important tool used by Government to attain its multiple development objectives. Since its adoption under the New Economic Mechanism (NEM) in 1968, its use (especially incentive pricing and investment subsidies) has been particularly important in effecting the formidable technological changes experienced in the 1970s. When the primary goal was self-sufficiency (in cereals and milk), some of these measures might have been justified. However, with these objectives attained by the early 1980s, and with the difficult international marketing problems for these products, it is now necessary to re-examine Government's policy towards them. The objective of using these "regulatory instruments" is said to be to simulate "market conditions" and thus effect efficient resource allocation. In practice these indirect controls have grown so complicated and cumbersome that it is often difficult to discern the efficiency effects of their use. Government realizes this problem and plans to further move away from price regulation towards market regulation and reduce the distortions that taxes and inappropriate subsidies may create. In moving towards using prices as an effective market regulator, Government would have to liberalize the remaining administered prices and reduce the large distortions posed by the proliferation of taxes and subsidy instruments. A medium-term program in such a direction would require the design of a strategy for the transition period when market imperfections (e.g. existence of monopoly trusts) and social, political and institutional realities have to be contended with. These aspects are discussed below. Although very closely interrelated, pricing, taxes and subsidies are discussed separately for ease of exposition.

7/ To emphasize the potential seriousness of this point, it is necessary to paraphrase the puppet analogy attributed to Janos Kornai (see "The Hungarian Reform Process: Visions, Hopes and Reality", Journal of Economic Literature, Vol. XXIV, December 1986). During the pre-NEM era of centralized controls directing production, the puppet (representing the firm or even the economy) moves - albeit often in the wrong direction, but it moves. With the proliferation of puppet strings (the "regulatory instruments") as controls, the effect on the puppet could turn out to be no movement in any direction - just twitching and spasms, a situation which need not necessarily be superior.
Pricing Policy

2.06 Government's initiatives on agricultural pricing policy, announced in January, 1988, have made considerable progress in price liberalization. In line with its objective of moving away from price regulation, "free" prices (which accounted for 30% of agricultural value) have been increased to 50%.

Government's price liberalization process has been undertaken with the realization that prices play not just an economic role, but that price setting is required for many purposes other than resource allocation (e.g., revenue stabilization, minimization of impact on vulnerable groups and the prevention of market monopolistic exploitation). Thus, the categories of pricing systems in place for agriculture and food industry reflect these objectives. Once Government objectives are clear, the selection of an appropriate pricing regime is usually not difficult. If, for example, it can be established that instability in raw material prices could seriously jeopardize the assurance of regular supply of the final product, a minimum price regime may be justified. Similarly, a cap (for orientation prices) may also be justified because blindly freeing prices, without ensuring that their signals can be effectively transmitted (e.g. if monopoly control continues), is not a sufficient condition for using price as an effective market regulator.

The pricing regimes for agricultural products and the government's underlying objectives, as of January 1, 1988, are:

(a) **Fixed prices**, needed to control commodities which are critical to the cost of living of the population and/or whose shortages could strain consumer tolerance. For primary agriculture, only milk (7% of production value) is now in this category.

(b) **Orientation or indication prices** — prices which are permitted to fluctuate 5-10% around a centrally specified level. They apply mostly to raw materials for the agro-processing subsector (foodgrains, feed grains and slaughter cattle) for which close monitoring is required either because of complex inter-relationships among each other or because of the potential for market manipulation (e.g., oligopsony control). They represent almost 25% of agricultural production value.

(c) **Guaranteed prices**, a new category established only for slaughter pigs, is essentially a floor price set to cover average production costs plus an 8-10% producer profit margin — to ensure ample and regular supply. Slaughter pigs represent about 18% of production value.

(d) **"Free" prices** — which could be a "minimum" price or "completely free". The minimum price is a guaranteed floor price set to cover a "dumped" price level usually less than average production costs (with no fixed margins). It guarantees a minimum protection for producers of potatoes, some fruits and vegetables, chicken, eggs and soybeans. Unlike (b), these products are considered to be sold sufficiently competitively to not require a ceiling cap and represent about 50% of production value.

Where relevant, the price setting procedure starts at around May each year when MEM provides production costs and world market price trends. These are submitted to NPMB, NPO and MOF. After several rounds of discussions, a joint position (sometimes with dissenting views by the relevant ministry duly noted) is submitted to the Council of Ministers. Consultation with TOT (National Association of Cooperatives) is customary before final decision is made. These discussions are usually integrated with discussions on subsidies.
liberalization of prices, the Government is conscious of the fact that the market has to be made to work better and that monopoly or monopsony control of the internal market does not subvert the process. For example, the break-up of monopoly trusts for wine, poultry and the canning of fruits and vegetables in 1982 took place in conjunction with price liberalism. However, with the January 1987 breakup of the meat trust, Government has been more cautious as the prices for slaughter cattle and pigs have only been moved out of the fixed price category in 1988 but continue to be administered under orientation prices. Despite overall creditable progress, three major problem areas remain (details are in Annex 5):

(a) the lack of freedom of "free" prices for certain processed products at the retail level;
(b) the framework for setting the level of administered prices; and
(c) the distortions arising from the widespread prevalence of taxes and subsidies.

2.07 Where control by marketing monopolies has been neutralized, the liberalization of prices is supposed to enable them to be used as a barometer of market forces thus achieving greater efficiency in resource use. In the present Hungarian context, the "free" prices of certain agriculture products at the consumer level are still not really free since most products have to have their price increases announced in advance to the National Price and Materials Board (NPMB) on a no-objection approval basis. While the period of "no objection" is usually six weeks, it could sometimes take up to six months. Under the Bank's Industrial Sector Adjustment Loan (June 1988), Government has committed to: (1) review the level and the process for setting administratively determined maximum consumer and producer prices in all sectors with the view to reduce their scope during 1989; and, (2) reduce the number of goods covered by advanced reporting. Where advanced reporting is designed to permit monitoring of expected price developments, Government will replace it by ex-post reporting. Government's intention is to restrict price regulation to instances of possible unfair market practices, where "price consultation" will be triggered to restrain or monitor market control if enterprises exceed certain threshold market shares and as "unusual" supply/demand conditions develop.

2.08 Where administered pricing may be justified as a transitional measure, Government has to contend with the appropriate price indicator to use the target level to set. Producer prices should be set at levels which reasonably reflect the opportunity costs of production and do not require undue subventions from the Government budget. For traded goods, the goal should be to equate domestic prices to world market prices. The use of the "international market price" or "border price" as an efficiency standard requires careful choice of comparators to ensure equivalence in product quality. Furthermore, account should be taken of short-term distortions in the market (e.g., transitory trade dumping, unusual weather effects). The Government should consider using adjusted world prices as reference prices for many agricultural products, especially those with high effective protection and DRCs (like broiler, beef, and pork products). Recognizing that such adjustment cannot occur overnight, a gradual process is desirable. For tracking possible distortions in pricing policies and to ensure

9/ For example, certain meat and dairy products, certain breads, sugar, flour, paprika, rice, coffee and domestic beer.
that distortions are actually being reduced over time, the effective protection coefficient or the producer subsidy equivalent (PSE) coefficient 12 as calculated by AKI, should be used.

**Agricultural Taxation**

2.09 Enterprises in primary agriculture paid considerably more taxes in 1986 (Ft 21.3 billion) than those in food industry (Ft 8.7 billion) as seen in Table 2.01 below. At the enterprise level in primary agriculture, subsidies were mostly offset by taxes, yielding a net subsidy balance of Ft 4.6 billion. Food industrial enterprises on the other hand received net subsidies which were nearly seven times larger than those for primary agriculture (equivalent to 78% of all food industry enterprise subsidies). Even when subsidies and taxes on consumers are taken into consideration, food industry received larger net positive transfers (Ft 20.3 billion) compared with primary agriculture (Ft 5.1 billion).

| Table 2.01: Taxes and Support Affecting Socialist Enterprises in 1986 (millions Forints) |
|--------------------------------|------------------|------------------|
|                                | Food Industry    | Agriculture       | Total             |
| Enterprise Subsidies a         | 39,999           | 25,950            | 65,949            |
| Enterprise Taxes b             | 8,689            | 21,305            | 29,994            |
| Balance Enterprise Supports/Taxes(-) | 31,310     | 4,645             | 35,955            |
| Consumer Subsidies             | 11,567           | 2,349             | 13,916            |
| Turnover Taxes or Consumption  | 22,597           | 1,914             | 24,511            |
| Balance Consumer Subsidies/Taxes(-) | -11,030  | 435               | 10,595            |
| Total Balance Agricultural Sector Supports/Taxes c | 20,280   | 5,080             | 25,360            |

| a/ Includes production, investment, input, export and “non-normative” subsidies to lossmaking enterprises. |
| b/ Includes profit, production, municipal, land, earnings and wage, and accumulation taxes. Excludes social security payments which is considered a cost for the enterprise rather than an enterprise tax accruing to the budget. |
| c/ If social security payments were treated as a tax (MEM’s view), total net support balance for food industry (Ft. 15.3 bil. instead of Ft. 20.3 bil.) and primary agriculture (Ft. -10.8 bil. instead of Ft. 5.1 bil.) would equal Ft. 4.5 billion instead of Ft. 25.4 bil. |

Source: Annex 5

2.10 Until December 31, 1987, many different types of taxes were paid by agricultural enterprises. They were inter-alia: a gross income tax unique to 10/ PSE coefficient is the ratio of domestic price (adjusted for taxes and subsidies) to the international market (or border) price. It is essentially the nominal protection coefficient (NPC) adjusted for taxes and subsidies (See Annex 3, Appendix Table 1). 

11/ Details are in Annex 5
Agriculture; land tax; production tax (on non-agricultural activities); municipal tax; and accumulation tax on investment.

2.11 In a move towards greater standardization, the profit tax levied on gross income of enterprises, municipal tax, accumulation tax on investment and production tax have been eliminated under the 1988 tax reform. These taxes have been replaced by three new taxes: a linear profit tax (LPT) set at 50% of net income, a Value Added Tax or VAT (15 or 25%), and a personal income tax (PIT). Wages on workers' principal jobs are being increased ("grossed up") by the enterprise to enable workers to begin paying PIT. Differential treatment has been granted to agriculture and food industry under the new tax system (e.g. lower LPT and exemptions from, or lower rates for, VAT of agricultural inputs like fertilizer). Agricultural enterprises will pay, however, the higher profit tax rate on all their non-agricultural activities.

2.12 Because unacceptable pressure could be placed on the Government's Stabilization Program, two "temporary" demand management features will apply to the tax system until 1992: an earnings regulation scheme which is designed to prevent "excessive" wage increases; and a VAT on investment goods. The government has determined that enterprises may not increase their total wage bill (in current price terms) by more than 3% in 1988 with bonuses paid above that level to be highly taxed. With inflation expected at 15%, real wages are therefore expected to decline. For agriculture, instead of this 3% limit, government has introduced a special system of earnings regulation which could likely result in this limit being exceeded (see Annex 5). The rationale for this special earnings regulation system is not clear. We believe that, given the critical macro-economic need to reduce real wages under the government's medium-term stabilization program, agriculture should not receive such a special treatment. This aspect is being re-evaluated by government in proposals for national wage reforms to be introduced in 1989.

2.13 The other measure, the 25% VAT on investment goods, is expected to be applied for a 5 year period. A portion of this tax is recoverable by the enterprise making investment in each of the next five years but the application to agriculture is more favorable than for other sectors of the economy: the tax paid on investment in livestock is totally recoverable in 1988 effectively exempting it from this tax; other designated priority areas for investment in agriculture (such as irrigation, farm road construction, export promotion, land amelioration and storage) are subject to an accelerated VAT recovery schedule.

2.14 Small-scale agricultural producers will also enjoy favorable treatment under the new personal income tax system. Other than the land tax (Ft 400-500 per 0.5 ha plot), families having sales revenue of less than Ft 500,000 p.a. (estimated by MEM to cover 90% of private farm households) will be completely exempt from taxation. Those with sales revenue of more than Ft 2.0 million will have to pay an entrepreneur tax (as in other sectors) on 25% of sales with the balance subject to the regular PIT schedule. Those in between will pay a tax of 30% of sales revenue on crops and 10% on livestock, irrespective of costs. This differential rate was established to reflect the average difference in gross margins between the two types of enterprises represented by "typical" smallholders. Since this differential taxation would, in practice, fall only among the top 10% of all small farmers, it would be highly unlikely that the gross margins of affected farmers would reflect the "typical" situations used to calculate the taxation. Hence, this
Intermediate level of income taxation is likely to be distorted. Ideally, taxation based on net income would be the most equitable. However, Government argues that net income computations would be impractical for most smallholders and that tax revenues from this in-between category would add proportionately very little to tax revenues. If this is the case, then it would be preferable to have just two categories: those who have to pay the entrepreneur tax and PIT; and those who are exempt. The cut-off level, especially, if it is to be based on gross incomes, should be determined from a more careful assessment of the smallholder situations and their financial status (see para 2.82 below). MFM acknowledges this point but feels that further revisions in 1989 before anticipated comprehensive changes in a few years would only be confusing to the smallholder and could therefore be counterproductive.

Agricultural Subsidies

2.15 The use of subsidies, subventions or fiscal support - the third set of "regulatory instruments" - is the key incentive instrument used in Hungarian agriculture. The costs of these programs are very high — Ft 67 billion (USD 1.5 billion) for the agricultural sector in 1986. This is summarized in Table 2.02 below:

<table>
<thead>
<tr>
<th>Agricultural Subsector</th>
<th>Forint (billion)</th>
<th>Dollar (million)</th>
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<tbody>
<tr>
<td>Large-Scale Socialist Agricultural Enterprises A/</td>
<td>26.0 (38%)</td>
<td>564</td>
</tr>
<tr>
<td>Small-Scale Agricultural Producers</td>
<td>1.0 (2%)</td>
<td>22</td>
</tr>
<tr>
<td>Forestry</td>
<td>1.5 (2%)</td>
<td>33</td>
</tr>
<tr>
<td>Food Industry</td>
<td>40.0 (58%)</td>
<td>870</td>
</tr>
<tr>
<td>TOTAL</td>
<td>68.5 (100%)</td>
<td>1,489</td>
</tr>
</tbody>
</table>

\(a/\) Including cooperatives.

Source: Annex 5.

These figures exclude the cost of consumer subsidies, an additional Ft 14 billion in 1986. Direct consumer subsidies were mainly provided for meat and milk products but the intent of a number of other types of support provided to enterprises is also to protect consumers.\(^{12/}\) The total of all supports provided to agriculture in 1986, including consumer subsidies, amounted to Ft 82 billion, 14% of total government expenditures that year, and 8% of GDP at current producer prices.

\(^{12/}\) For example, the subsidy in the category "Enterprise Supports" for the bakery industry was primarily intended to prevent price increases on bread. The milk production subsidy, paid out at the processor level, essentially acts as a consumer price subsidy.
The different types of Government support or subsidies provided by the State to agricultural enterprises are summarized in Table 2.03 below for 1986, the latest year for which detailed information is available:

**Table 2.03: Supports/Subsidies Affecting Socialist Enterprises, 1986**

<table>
<thead>
<tr>
<th>Type of Supports</th>
<th>Food Industry</th>
<th>Primary Agriculture a/</th>
<th>Total Agriculture b/</th>
<th>Total (billion $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Production Subsidies</td>
<td>1.2</td>
<td>8.4</td>
<td>9.6</td>
<td>0.2</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk Production Subsidy</td>
<td>-</td>
<td>(8.8)</td>
<td>(8.8)</td>
<td>(0.12)</td>
</tr>
<tr>
<td>Cattle Price Subsidy</td>
<td>-</td>
<td>(1.8)</td>
<td>(1.8)</td>
<td>(0.06)</td>
</tr>
<tr>
<td>Other</td>
<td>(1.2)</td>
<td>(1.1)</td>
<td>(2.4)</td>
<td>(0.08)</td>
</tr>
<tr>
<td>2. Input Subsidies</td>
<td>-</td>
<td>4.4</td>
<td>4.4</td>
<td>0.1</td>
</tr>
<tr>
<td>3. Specific Enterprise Supports</td>
<td>4.4</td>
<td>1.4</td>
<td>5.8</td>
<td>0.12</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grain Trust Subsidy</td>
<td>(0.6)</td>
<td>-</td>
<td>(0.6)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Meat Trust Break-up Subsidy</td>
<td>(2.0)</td>
<td>-</td>
<td>(2.0)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Special Subsidies to Loss Making Enterprises b/</td>
<td>(0.2)</td>
<td>(1.4)</td>
<td>(1.6)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Other</td>
<td>(1.6)</td>
<td>-</td>
<td>(1.6)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>4. OHEA Trade-Related Supports</td>
<td>23.4</td>
<td>1.2</td>
<td>24.6</td>
<td>0.55</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHEA Price Equalization g/</td>
<td>(8.8)</td>
<td>(0.8)</td>
<td>(9.3)</td>
<td>(0.20)</td>
</tr>
<tr>
<td>Other Subsidies on OHEA Trade g/</td>
<td>(14.7)</td>
<td>(1.3)</td>
<td>(16.2)</td>
<td>(0.38)</td>
</tr>
<tr>
<td>5. Subsidies for Non-OHEA Exports</td>
<td>9.7</td>
<td>1.4</td>
<td>11.1</td>
<td>0.24</td>
</tr>
<tr>
<td>6. Investment (Accumulation) Subsidies</td>
<td>1.2</td>
<td>1.1</td>
<td>2.3</td>
<td>0.16</td>
</tr>
<tr>
<td>7. Subsidy for Disadvantaged Areas</td>
<td>-</td>
<td>4.2</td>
<td>4.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Total Agricultural Supports/Subsidies g/</td>
<td>40.0</td>
<td>26.0</td>
<td>66.0</td>
<td>1.43</td>
</tr>
</tbody>
</table>

---

a/ Excludes Ft 1.5 billion given to the forestry subsector (primarily as production subsidies) and Ft 1.0 billion for the private smallholder sector.
b/ Az Eredmenyelszamolalt Koveta Folyo
c/ Kasponit alapokbol ("Non-normative" OHEA Subsidies)
d/ "Normative" OHEA Subsidies
e/ Numbers do not add up due to rounding.

Source: Annex 5, Appendix tables 1 and 2
The two most important sets of support (accounting for 56% of total agricultural supports of Ft 66 billion ($1.43 billion in 1986) are related to trade: CMEA trade-related supports of Ft 25.3 billion (about $550 million); and Non-CMEA export subsidies of Ft 11.1 billion. A significant portion of the former are primarily compensatory in nature (i.e. to alleviate the impact of implicit taxation on agriculture's production and to ensure "sufficient" incentives to supply to the CMEA market). The latter are essentially direct supports, above those given to other ("normative") exports, to retain Hungary's market position in various non-CMEA countries. As may be seen from Table 2.03, these supports are predominantly food industry-related (Ft 9.7 billion). The rationale and effects of these trade subsidies are discussed in Section E.

2.17 The next important group of supports are the production subsidies (Ft 9.6 billion) classified as such, because they can be tagged to particular products or subsectors. Input subsidies, primarily fertilizer (claiming about Ft 4.4 billion), can also be added to this category. Essentially, these production supports constitute enterprise subsidies mainly for primary agriculture and are usually part of production programs being actively promoted. Investment subsidies (Ft 4.5 billion) are also paid mainly to primary agriculture in relation to these production promotion (technology transfer) programs thus making total subventions in primary agriculture production equal to Ft 14.1 billion (nearly 25% of all agricultural supports). Among the subsidized production programs, those for livestock were substantially more important than for crops. These programs are discussed further in Section D. Except for nearly Ft 1.4 billion of special subsidies to loss making agricultural enterprises, most of the specific enterprise supports are related to food industry; 65% being in the form of special support to marketing trusts (grain and meat) — discussed later in Section F. However, the Ft 1.2 billion of production subsidies and the Ft 1.6 billion of remaining specific enterprise supports for food industry (excluding export subsidies) are not inconsequential.

2.18 The subsidy for "disadvantaged areas" (FT 5.2 billion) rounds up the list of key subsidies. It supports Government's core efforts in income distribution and employment generation in resource poor areas and comprises primarily production subsidies (given as a percentage of gross revenues) which vary with the "crown value" (based on soil quality) of the land. A large part of the Ft 1.4 billion subsidies for loss-making enterprises (para 2.17) are also earmarked for the "disadvantaged" areas.

Excluded from Table 2.03 are various indirect subsidies: indirect subsidies for inputs and equipment produced by domestic industries (and paid to the industrial sector); various types of rebates (e.g. accumulation tax); interest rate subsidies; and the provision of supporting infrastructure and support services (including hidden subsidies to private smallholders by the large farmers or cooperatives).

2.19 The foregoing enumeration of direct and indirect subsidies shows the variety of objectives they serve ranging from promotional (production programs) to compensatory (for other economic distortions and weather effects) and income distributional. Catering for these wide objectives sets apart agriculture from other sectors of the economy. However, the essential questions concerning subsidies, irrespective of the type, are: Can the country afford the explicit and implicit costs to the economy; to what extent
can this burden be eliminated or reduced; and how can this be done with minimum compromise of the original objectives of the intervention (if they are still judged to be important)? The total amount of subsidies given to agriculture (including consumer subsidies), expressed as a percentage of agricultural GDP are given below for Hungary and selected OECD countries (Table 2.04):

### Table 2.04: Relative Agricultural Supports - Hungary and OECD

<table>
<thead>
<tr>
<th></th>
<th>1986</th>
<th>OECD (average for 1984-86)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hungary</td>
<td>EEC</td>
</tr>
<tr>
<td>Agricultural Subsidies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(including Consumer Subsidies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As % of:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agric. GDP a/</td>
<td>43</td>
<td>129</td>
</tr>
<tr>
<td>Agricultural Current Expenditure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As % of total Current Expenditure b/</td>
<td>13</td>
<td>1.5</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a/ The GDP for OECD countries has been adjusted for comparability with that of Hungary by netting out subsidies derived from sectoral PSEs</td>
<td></td>
</tr>
<tr>
<td>b/ Total agricultural subsidies less agricultural investment subsidies/Total Current Expenditure.</td>
<td></td>
</tr>
<tr>
<td>c/ Simple average of Germany, France and the U.K.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Derived from: (i) OECD National Policies and Agricultural Trade, May 1987 and updates; and (ii) Annex 5, Appendix Tables 1 and 2.

While the argument can be made that Hungarian subsidies to enterprises in primary agriculture are offset to some extent by taxes, the same cannot be said for food industry (para 2.09). Where there are high taxes, explicit or implicit, they should be reduced as a means to facilitate lower subsidies, thereby reducing distortions and efficiency losses for the economy. From another perspective, the current support for agricultural enterprises (Ft 61.5 billion) represents 28% of the current financial supports to all enterprises from the Central Budget. The challenge for Hungarian agriculture is to reduce these levels of subsidy without unduly compromising the goals set out for them. This requires a careful evaluation of these subsidies; whether they are still needed in relation to changed priority objectives; and, if needed, how each can be attained at lower costs. As this is done, taxation should not be increased such that agriculture's disadvantaged terms-of-trade vis-a-vis industry (para 1.06) deteriorates further.

2.20 Government has announced its firm intention to reduce subsidies in the coming years. The progress on the reduction of consumer food subsidies (consisting only of food industry products) is expected to be substantial - in line with the macro-economic stabilization objective to reduce consumption. These subsidies which totaled Ft 14.8 billion in 1986 and Ft 13.9 billion in 1987 are expected to be reduced to Ft 4.5 billion in 1988 - a reduction of 13.

13/ Total agricultural supports (Ft 66.0 billion) less investment subsidies (Ft 4.5 billion).
Milk will be the only product to receive "consumer price equalization" and, even then, the rate of subsidy is expected to decline from about 45% in 1987 to 18% in 1988. Aggregate subsidies to State Agricultural enterprises involved in primary production (Ft 25.6 billion in 1987) is expected to be reduced by Ft 3.0 billion — significant (12%) but not substantial in comparison to consumer subsidies. Milk producer subsidies, remaining at Ft 2.9/liter, will contribute almost nothing to the subsidy reduction effort. Maximum export subsidy rates to convertible-currency markets have been decreased from 31% including the indirect tax refund in late 1987 to 28% from January 1, 1988, but whether or not the actual amounts of export subsidies would decline is still unclear given projected increases in output and exports. In any case, the subsidy burden would have to be reduced from its presently untenable level and critical trade issues have to be faced (Section E). Investment subsidies, other than for exports to convertible-currency markets, will also be reduced, the extent of which is not clear. Overall, the subsidy reduction initiatives in 1988 at the consumers level are very encouraging and a start is being made to further reduce agricultural supports for the rest of the Seventh Plan period (through 1990). Under the Agro-processing Modernization Project (May 1988), Government has agreed that: (a) primary agricultural supports for non-trade related activities, which declined from Ft 22.7 billion in 1986 to Ft 19.7 billion in 1987, will be further reduced by one-third by the end of 1990; and (b) agro-industry supports (including consumer subsidies) which remained virtually unchanged from 17.9 billion in 1986 to Ft 17.7 billion in 1987, will also be reduced by about one-third to Ft 11.9 billion in 1990. With the fruits of agro-industrial restructuring and potential improvements in the world market outlook in the 1990s, the Government hopes to then reduce its production support more drastically. The remaining sections of this report discuss the feasibility of further reducing various subsidies for agricultural production and enterprise support (Sections D and F) and trade subsidies in agriculture (Section E).

D. Priorities For Subsector Production

Crop Production and Efficiency

2.21 The actual priorities assigned to the production of field crops may be seen from the performance of various efficiency and performance indicators. Expanding grain production has been a cornerstone of Hungarian agricultural policy for the last two-decades (see Chapter 1 and Annex 1). The government subsidized wheat and offered it positive rates of protection until the early 1970's when the country achieved its original goal of cereal self-sufficiency through dramatic yield improvements and began exporting. Although cereals have advanced to the point where they now show significant comparative advantage as measured by the cost of domestic resource needed to produce one unit of value added in foreign exchange (DRC), both wheat and maize have been developing under conditions of high negative protection since the early 1970's. Yield improvements have been similarly impressive for sunflower, sugar beets, potatoes, and vegetables, the first two enjoying increased effective protection from 1977 to 1983. The consistent increases of producer prices which
of crop production when self-sufficiency has been exceeded; (b) increased protection of deficit or import substitution crops (sugarbeet, sunflower for oil); and (c) low priority for potato and fodder production.

2.22 In the medium term, the fiscal and balance-of-payment problems of Hungary require the realignment of production programs and projects. Government support for production improvement would have to be more stringent, particularly when substantial imported inputs and hence external financing are required. In such cases, further work is necessary prior to investment, to calculate indicators of economic efficiency such as the domestic resource costs (DRC) ratio or net economic profitability (NEP) ratios which can be used to measure the cost of producing goods for export. The use of such indicators for the selection of profitable export-oriented investments would mean that crops with traditionally low DRCs such as wheat, corn, sunflower, hybrid-maize seeds and seeds of certain vegetables would be good candidates. However, other agricultural products, which on average have high DRCs, may also be produced profitably for exports. As is shown in the World Bank assisted project for agroprocessing, with appropriate technological improvement, enterprise restructuring and proper marketing plans, profitable exports can also be produced by certain fruit and vegetable processing, poultry and wine enterprises though these subsectors have been associated in recent years with relatively high DRCs.\textsuperscript{15} For such subsectors, however, particular care has to be taken to assess the economic as well as financial viability of investments. On the other hand, support to generally export efficient subsectors may also be questionable (e.g. the capital- and energy-intensive investment required for supplemental irrigation of maize being tried under the "Super Corn" Program). Other programs, whose scope of expansion need reevaluation include: the Soybean Promotion Program, an important part of a larger import substitution program for plant proteins; and the Land Amelioration Program. These, together with the Cereals Program, are discussed below.

Cereal Production Programs

2.23 Cereal performance has been particularly remarkable because, since the early 1970's, technological change (yield increases) has been so spectacular that it permitted Government to extract fiscal surpluses through its pricing policy (by keeping domestic prices below world market prices) and to simultaneously generate increasing exportable surplus. By setting cereal prices below their world market prices until 1986, Government policy has given rise to a number of distortions with important implications for production efficiency:

(a) a large proportion of wheat (44%) and virtually all maize are used as animal feed, thus effectively subsidizing livestock production (especially poultry and swine); and

(b) in combination with artificially high prices and import licensing restrictions for soymeal in 1982-85, suboptimum feeding regimes are established, which neither favor meat quality improvement nor cost competitiveness. Subsequently, soymeal import restrictions were lifted.

Within the cereal sector, natural comparative advantage (which has evolved differentially between wheat and maize) has resulted in wheat production being more profitable than maize production. (In 1985, the profitability differential was 25%). A comparison of the ratio of domestic price to material costs showed that a much faster decline for maize than for wheat occurred from 1968 to 1982, thus shifting relative profitability in favor of wheat and industrial crops like sunflower. In 1986–87, Government offered positive protection for the first time with an after-tax subsidy (Ft 800/ha) for maize production to offset wheat's profitability advantage. However, no significant switch from wheat to maize took place. This subsidy has been phased out in 1988 in line with a producer price increase of about six percent. However, producer subsidies at a higher rate has been retained for the "super-corn" program. The present intra-cereal profitability and comparative advantage situation does not imply that wheat should be encouraged to replace corn in Hungary and that corn could be imported. Besides the foreign exchange shortage situation, there are economic reasons why this is not practical. First, as wheat expands at the expense of maize, maize productivity on remaining areas would increase and profitability equalization would take place. Second, the imported price of maize would be too high to be competitive with domestic production as internal European transport costs are prohibitive and it would require wheat export prices to be twice the maize import price to make the substitution an economic proposition. Cereals pricing policy should align wheat and maize prices closer to the world market price or, more appropriately in the Hungarian context, set the PSE coefficients closer to 1.0—which means that wheat prices should be raised relative to maize.

2.24 The "Super Corn" Program. To be able to obtain the full results of the genetic potential of hybrid maize in about 9 out of 10 years, supplemental moisture (as overhead irrigation) has to be made available mainly in July and August. In the South, where conditions for improvement are the most favorable, yields can thereby be increased from 7–8 tons/ha (without irrigation) to 13 tons/ha with irrigation. A trial program of overhead irrigation was started on about 14,000 ha in 1987 with an additional expansion of 13,000 ha to 27,000 ha in 1988. Because of foreign currency and forint liquidity constraints, leasing or hire/purchase contracts have been established by several TOPS with four foreign firms for the use of overhead irrigation equipment. Those who contract with the program but do not achieve the expected yield increase (5 tons/ha) will have to repay a specified portion of the support. The cost of production, revenues and gross margin with and without irrigation in 1987 are summarized as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>For Wheat</td>
<td>0.60</td>
<td>0.63</td>
<td>0.52</td>
<td>0.61</td>
<td>0.77</td>
</tr>
<tr>
<td>For Corn</td>
<td>0.91</td>
<td>0.87</td>
<td>0.56</td>
<td>0.68</td>
<td>1.09</td>
</tr>
</tbody>
</table>

16/ See AKI, Efficiency Studies; Ch IV, Operations for Restructuring Grain Production in Hungary, 1986.
17/ In 1986, U.S. maize imports landed in European ports cost about $80/ton and it costs $75–80/ton to transport it to Hungary.
18/ The relevant PSE Coefficients in the latest five years where calculations were available (see Annex 3, Appendix Table 1) are:
Yield Without irrigation (Ft/ha)  With irrigation (Ft/ha)

<table>
<thead>
<tr>
<th></th>
<th>8 tons/ha</th>
<th>13 tons/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Cost</td>
<td>14,900</td>
<td>31,500</td>
</tr>
<tr>
<td>Overheads</td>
<td>4,500</td>
<td>9,500</td>
</tr>
<tr>
<td>Total Prod. Cost</td>
<td>19,400</td>
<td>41,000</td>
</tr>
<tr>
<td>Value of Production</td>
<td>28,480</td>
<td>46,280</td>
</tr>
<tr>
<td>Gross Margin</td>
<td>9,080</td>
<td>5,280</td>
</tr>
</tbody>
</table>

\[a/\ 64,480 with subsidy
\[b/\ 23,480 with subsidy

Source: Annex 3.

As the profitability (gross margin) per ha of "super corn" production would be about 40% below the level of non-irrigated maize production, the Government has established, as an incentive, a special price support of Ft 1,400/ton ($30/ton) or about 40% over the normal farm gate price bringing the farm gate price of "super corn" to Ft 4,960/tons.

2.25 The Government's current Five Year Plan is to increase cereal production by 30% (from 14 million tons in 1986 to 19 million tons) by 1990; and the 'super corn" program was to have been one of the primary means by which Government had hoped to realize the goal. An additional 13,000 ha of "super corn" has been added under contract obligation in 1988 but further expansion in 1989 has been suspended pending further experience from these areas.

2.26 Hybrid Maize Seed Production. Government intends to promote the production of hybrid maize seed, for which excellent export opportunities exist. (Exports in 1986 were 20,000 tons to EEC, 28,000 tons to USSR, while 30,000 tons were used domestically). Hybrid maize seed is sold in Hungary for the equivalent of $1,000/ton, but in France for $1,500 equivalent. Supplemental irrigation of hybrid corn seed fields can reportedly double hybrid corn seed yields. This activity, which is more profitable than the super corn program, should be assessed on its own merit as an export revenue generation activity and promoted as such.

2.27 Further Rainfed Cereal Production. In order to ensure cost effective increases in yields, however, continued investment is needed for rainfed grain production in which about 200,000 tons of additional production can still be absorbed by the USSR market (Annex 4). Perhaps less than half of maize and wheat area has the up-to-date rainfed equipment which is essential for realizing the physical potential of the crops in the most cost efficient manner. Spare parts requirements for Western-made machinery are also in high demand and far from being adequately catered for at present. Increasing the volume of fertilizer use is less important as a target than increasing its efficiency. Other than the weather (drought) factor, which has been a valid

reason for reducing fertilizer intensity since 1983, many farms have also achieved the stage of diminishing financial returns given the relative price of fertilizer to output. Because fertilizer recommendations are made on the basis of physical units, care should be taken to calculate the incremental returns from application. As has been demonstrated in World Bank supported projects, however, more efficient fertilizer application (rather than quantity increases/ha) can be profitably promoted in many areas. World Bank support for liquid fertilizer production and mixing has indirectly encouraged the establishment of 33 locally financed smaller plants thus generating the demand for feeder inputs like monoammonium phosphate as well as on-farm fertilizer spreaders and injectors which appear sufficiently profitable to be encouraged without the aid of subsidies.

**Fodder and Oilseed Production**

2.28 The Five-Year Plan calls for a reduction in fodder production on arable land to be facilitated by improving yields of remaining fodder crops and thus achieve a more efficient pasture and grazing system. Fodder production has been conspicuous within the crop subsector for its area decline since the turn of the 1980's. Although yields have improved slightly, this has barely compensated for the decline in total area sown from 980,000 ha in 1979-81 to 865,000 ha in 1985-86. This situation may partly be drought related, but it also reflects the poor quality of land on which fodder is generally produced, the lack of attention to research and development and, most importantly, the more intensive feeding of cattle. Increased attention to forage production is now required to enable cattle and dairy to be produced more competitively by using: specific forage lines of maize and sorghum for silage production on the better quality lands; and grass and legumes (either separate or mixed) on the less productive soils.

2.29 Government has initiated a program to increase local production of soybean together with other beans and the establishment of a lysine plant to increase the availability of total protein and reduce the import content of plant protein in livestock feeds. Recognizing the inefficiencies generated from suboptimal use of protein in animal feeds (See para 2.43 below), Government has opted for increasing domestic oilseed production for processing rather than higher soymeal imports as the solution. In 1987, Hungary's total soymeal deficit was 100,000 tons (about 20% of imports). By 1990, Government plans to add about 60,000 ha. to the 25-30,000 ha currently under soybean cultivation (presently producing about 50,000 tons of beans). The biggest problem Hungary faces in attempting to become an efficient producer of soybean for its meal is that soybean varieties appropriate for northern climatic zones have been developed only recently. Before 1987/88, the retail price of imported soymeal in Hungary was fixed at a high level to discourage consumption while locally produced soymeal was sold at below costs. According to AKI's efficiency study (applicable to 1985/86), Hungary's domestic cost of production per ton of soymeal (Ft 12,757) was 16% higher than the cost of importing (Ft 10,957); and production is subsidized and enjoys floor prices to ensure a sufficient return for producers. Furthermore, because soybean expansion will have to be in areas under other crops (especially wheat), import substitution may have substantial costs in terms of overall reduced net export earnings. The AKI study (1985/86) shows that for every dollar of foreign exchange saved through domestic production of soybean, at least
two dollars were foregone in exports due to substitution out of wheat, in which Hungary has comparative advantage. Furthermore, climatic conditions in Hungary are less favorable for soybean production than for internationally competitive crops such as grains, sunflower, or even peas (since soybean yields are more likely to be affected by insufficient moisture). Thus, the large scale expansion under the new soybean promotion program should be reexamined carefully. If the 1987/88 special production subsidy of Ft 2,500/ton to promote soybean expansion continues to be needed, Government subsidies could cost up to Ft 300 million from 1988-90 to reach the target of 90,000 ha. However, it is the intention of Government to eliminate this special subsidy in 1989 thus providing for budgetary savings. Whether soybean area could reach 90,000 ha will, therefore, be market determined. In the interim, Government might wish to consider a producer pricing policy which uses an international price formula for soybean and soybean meal as an efficiency standard. Combined with the imposition of a variable import levy, it could serve to ensure more stable prices domestically and permit the Government to take fiscal advantage of unusually low international prices of imported oilseed/oilseed meals (e.g. 1985/86) and not jeopardize the more efficient production. When world prices increase (as is being observed in 1988), a ceiling could be set on the maximum price of imports to stabilize imported prices of soybean for the domestic vegetable oil industry. Government should continue to monitor and, if necessary, evaluate the needs of the processing industry (the oil processor and lysine plant) and the livestock subsector with the prospects for developing economically viable production of oilseeds (including better prospects than soybean like sunflower and fodder beans) and imports.

Land Amelioration

2.30 The Government has continued to provide incentives for soil protection and land improvement in order to maximize the productive potential of land. The Government's Land Amelioration Program is designed to overcome: (a) temporary surface water retention, primarily in the East and Southeast which has caused crop losses on 20-160,000 hectares per year over the last 20 years; (b) erosion affecting hilly areas in the West; and (c) production problems related to alkali or sandy soils in the East Central and Northeast regions. These factors have contributed to the net decline in crop area by about 5% in the late 1960s and early 1970s. Without diligent efforts on large scale farms through regular soil testing (since 1968) and through the complex land amelioration program (since 1975), the overall decline may well have been worse than as shown in the area planted figures (in '000 ha) given below:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>4,879</td>
<td>4,522</td>
<td>4,696</td>
<td>4,595</td>
<td>4,630</td>
</tr>
</tbody>
</table>

An international price standard for a forthcoming season could be a three year average f.o.b. price of a major exporter of soymeal to Hungary plus transportation and handling to Hungary (two previous years and one year ahead). A variable levy could be invoked if actual imported prices fell below this standard (say as a result of transitory trade dumping in the world market or unusually good weather conditions) to ensure relatively stable prices to producers in unusual years and yet provide tax revenues to Government (See Annex 5).
2.31 The complex land reclamation and drainage program expanded substantially under the Sixth Five-Year Plan (1981-85) and is being continued under the Seventh. The measures undertaken under this program are more comprehensive than before the mid-1970's and could (depending on conditions), involve drainage, water management, field restructuring, provision of access roads, subsoiling, and chemical treatment to lower acidity or salinity on large contiguous areas of land involving numerous farms. The program operates in 7 of Hungary's 19 counties and is targeted on those areas where incremental production potential is greatest and the payback period is expected to be the shortest. The average payback period for such investment is 6-12 years. In practice, this means drainage for grain production is given priority thus actively supporting Government's objective of increasing grain production. Erosion measures are preventive in nature and, with a longer payback period than drainage, is considered second priority.

2.32 Rather than claiming new arable land or generating new employment, the objectives of amelioration are increasing average yields and labor retention. The cost of the program under the Sixth Five-Year Plan was approximately Ft 11 billion affecting 700,000 hectares. The State paid 67% of this amount and farms covered the remainder, primarily through retained earnings, but partly through loans. Rapidly escalating costs for this type of work have already increased cost estimates to Ft 17.5 billion for the current Seventh Five-Year Plan which targets improvements on 600,000 hectares. The State is continuing its subsidies for land amelioration because it believes they are a necessary incentive to convince farms to undertake these investments; and, since most counties in the program are resource disadvantaged areas, it also supports Government's income distribution goals. It is, however, not clear that the costs to Government are justified: the state subsidy proportion for each farm varies according to its income level, but is now expected to average 53% (versus 67% under the Sixth Plan). This reduced subsidy rate would still require Government to expend about Ft 9.0 billion (Ft 15,000/ha) to meet the 600,000 ha target for land improvement under the Seventh Development Plan (1986-90). Given the present budgetary difficulties faced by Government, such a level of subsidy is not justified. Government intends to reduce the subsidy to 40% and make it available irrespective of the income status of the beneficiary. This will reduce the disincentive to be efficient under the present system where farms which improve their incomes would subsequently get less subsidies. The area to be covered under this Land Amelioration Program should in any case be restricted to those where technology transfer (land improvement) has the potential to be successfully implemented. There are economic reasons for subsidizing such technology transfer only; but, when such a transfer has been effected, maintenance subsidies would have to be phased out. To encourage greater self-financing of viable investments, government should:

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21/ For example, even if investments are determined by Government to be potentially viable, a number of potential participants, given their time preference and risk profile and the size of the investment, may still not be easily convinced that the returns are worth it. In this case, there are "externalities" to program participation since such a program generally can fail if a significant number of "hold-outs" make the reclamation of the otherwise scattered (non-contiguous) areas economically non-viable. Hence, subsidies at the developmental and "technology convincing" stage may be justified.

22/ This would involve stratifying the conditions for land amelioration into a larger number of subcategories taking into account the agro-climatic riskiness, slope, soil and existing cropping systems. The results would enable more flexible and cost-effective recommendations to be made instead of the single standard recommendation presently being used.
(a) continue to monitor and, if necessary, reevaluate the subsidies (cost-recovery) situation with the objective of encouraging greater use of credit; and

(b) at the research and development level, assess whether less intensive developments could be viable.

If land amelioration is to be justified for income and employment enhancement reasons in the disadvantaged areas, the cost effectiveness of this program in catering for these social goals should first be compared with other measures (including non-agricultural) or programs addressing those goals.

Livestock Production and Efficiency

2.33 Although plant production and horticulture led agriculture in the 1950's and 1960's, the livestock and animal products subsector has contributed more to output gains (but not value added) since that time. Increasing domestic demand for meat and the potential for high value exports to convertible currency markets spurred serious Government attempts to develop commercial animal production, beginning in the late 1960's, for swine and poultry and then beef and milk in the mid-1970's. The output gains of the subsector have come at the expense of high protection and subsidies, which have yet to culminate in improved efficiency or profitability of exports. Protection has increased since the early 1970's and value added had become negative for most products in 1986 as shown by Effective Protection Coefficients (EPCs) computed by AKI. Except in the case of milk, domestic Resource Cost (DRC) ratios for the last few years had been above one and rising (or turned negative because of negative value added) — indicating serious deterioration of international competitiveness.

2.34 Many of the problems affecting competitiveness and efficiency are common throughout the livestock sector. While the nature and relative importance may vary, the most significant problems are: low productivity of labor; inappropriate nutrition; insufficient utilization of genetic potential of animals; excessive use of arable land; and declining prices and weak demand in traditional export markets. These factors contribute to the large number of enterprises making losses on livestock production at present. Nevertheless, in each branch, there appears to be significant potential for efficiency gains. This is indicated by large variations in yields, profitability, and costs among producers facing similar technical and resource constraints. These aspects and their implications for efficiency improvements are discussed below for each major livestock branch.

Dairy Production Promotion Programs

2.35 Although dairy stocks have declined steadily since 1976, milk production had increased to an annual level of 245 billion liters by the mid-1980's; and yields have been increasing at a rate of 5% p.a. (from 2,400 to 4,500 liters/head/year). The most important explanation for these remarkable gains is that large Government subsides were given to milk producers for investment and for output prices since the early 1970's when production promotion programs were initiated to provide for domestic self-sufficiency and lower consumer prices. The introduction of specialized dairy breeds and modern technology that these subsidies facilitated were the main factors contributing to the growth in yields at large scale farms, which account for 70% of produc-

\[23/\] Details are in Annex 2.

\[24/\] See AKI, Agricultural Price and Foreign Trade Study, 1985 (and 1987 updates) summarized in Annex 2, Appendix Table 2.
The essential question is what has been the net benefit of the various subsidies and have they been worth the cost to Government? An attempt was made to quantify the incremental costs and benefits of the milk promotion program from 1970 to 1990 (see Annex 2 for details). The internal rate of return ranged between -2% and +3% depending on the assumed level of investment subsidies — not sufficient in retrospect to have justified such high levels of subsidies.\(^\text{15}\) The analysis also concluded that:

(a) Subsidies on incremental yield and investment were more effective in increasing yield and production than either production subsidies alone or raising official procurement prices.

(b) The financial costs of supporting the program have exceeded the benefits, and current levels of subvention can essentially be justified only on income distribution or employment grounds. Milk self-sufficiency could probably have been achieved at substantially lower costs to the economy by utilizing: less capital intensive technologies; feeds which utilize more fodder and roughage for nutrient content; and cross-bred herds. Certain farms have also overinvested as a result of generous subsidy programs and thus require continuing subsidization to sustain production at current levels.

(c) If government's objective is to offset losses sustained on dairy operations by large scale farms for income distribution or employment reasons (see discussion on "disadvantaged area" development in paras 2.95-2.97 below), then targeting subsidies to specific enterprises would be a more cost-effective alternative than the current method of high across-the-board production subsidies (Ft 2.9/liter).

**Efficiency in Dairy Production**

2.36 The DRC ratios for milk calculated by AKI ranged from 6.1 - 1.3 from 1976-81, essentially dropping over the period, indicating improved competitiveness. Only after Hungary became a net exporter of milk (in 1981) did milk production become internationally competitive in that the DRC ratios dropped below one (except in 1985). This ratio should, however, be viewed for its year-to-year changes rather than as an absolute measure because only small amounts of milk have been exported to date (less than 1% of production). Special cheeses (in particular, white cream cheese), which are efficiently produced, have become less competitive in exports in recent years because of declining world prices.

2.37 Another AKI study\(^\text{16}\) also showed significant ranges for costs and profitability in dairy production. Among the 878 large scale dairy producers surveyed in 1985/86, there were almost eight-fold differences in profit per head for farms utilizing comparable technology. AKI estimates 400-500 head as the minimum herd size necessary to achieve profitable dairy operations if modern equipment is to be optimally utilized. Economies of scale, however,

\(^{15}\) Especially since increases in the effective rate of subsidy that may have occurred through government decisions to raise procurement prices are not considered. Neither have the costs of secondary distortions (such as shifts in land use) or consumer subsidies on milk (Ft 6.3 billion in 1986). Research Institute for Agricultural Economics, "Agricultural Price & Foreign Trade Study", 1985.

\(^{16}\) Research Institute for Agricultural Economics, "Efficiency Studies", 1986, Ch. II.
are not typical of dairy operations in countries where small producers have reasonable access to modern technology and breeding stocks. Since larger enterprises in Hungary have a greater capacity to generate internal resources, they are often able to invest more in modern equipment and herds thus giving the appearance of capturing scale economies. Smaller dairy operations on socialist farms in Hungary are characterized by poorer herd composition and obsolete plant and equipment; and their scarce development resources are generally invested in the most profitable lines, usually not dairy despite its subsidies. Poor feed management is another factor contributing to low profits on dairy operations. Loss-making farms utilize 37% more feed to produce the same unit of milk as profitable farms. Loss makers, however, also tend to produce less of their own feed. In terms of land use: Hungary utilizes three times the amount of arable land to produce one ton of milk as Denmark; yields of silage maize have been stagnant for the past two decades and best lands are generally devoted to foodgrain maize since the latter's subsidies and prices are more favorable. Labor productivity is also low, particularly at farms with less than 200 head where output per worker is only 10-15% of the results achieved at small modern family farms of 2-3 members in Denmark. Explanations for this phenomenon lie in the system of wages which fail to punish lossmakers and the excessive unproductive staff burden (only 63% of workers on large scale dairy farms are directly involved in production) — features linked to government's full employment policy.

2.38 Some of the 249 dairy enterprises that made losses in 1985 could have achieved profitability if they had access to loanable funds and equipment to modernize production. Many of the enterprises, however, are located in resource poor areas and cannot reasonably be expected to achieve profitability in intensive dairy production due to environmental constraints. This group includes most of the 70 large scale dairy operations which have sustained losses since the early 1980s. These factors, however, do not preclude the possibility of a profitable dual-purpose operation with greater emphasis on efficient meat production (para 2.45).

2.39 Milk production systems at farms with small, inefficient herds that are sustaining chronic losses should be substantially changed or eliminated. This could be done without seriously jeopardizing national production and Government efforts could commence with the reduction of production subsidies (presently at Ft 2.9/liter at the processing level). Regional supply problems or production shortfalls could be overcome by increasing production at profitable dairy operations or transferring cattle to household producers. This alternative would reduce government outlays as well as free up arable land and labor for other productive uses. Even where employment is a primary objective of such production, investigation is necessary to determine whether there may be lower cost alternatives for achieving desired levels. It may also be necessary to waive the investment subsidy repayment penalty for those farms which drop dairy production systems for which they had earlier received state assistance.

2.40 The profitability of household and auxiliary dairy producers (accounting for 30% of dairy herds) has not been clearly determined and needs to be examined carefully as part of a restructuring plan for dairy, taking into account their linkages with large farms and differential pricing at the procurement level (para 2.90 below).

27/ Part of the advantage of profitable farms is, however, an economic illusion because home produced feeds or fodder are valued at cost instead of the opportunity cost.
2.41 The biggest potential for improving efficiency still lies in the area of improved nutritional management. With the emphasis which has been placed on grain and cereal production, there has been much more progress in making available maize (dry and high moisture) and wheat for cattle feeding than on providing high quality forage. Increased attention to forage production is now required using specific forage lines of maize and sorghum for silage production on the better quality lands, and grass and legume (either separately or mixed) on the less productive soils.

Efficiency in Swine Production

2.42 Since the late 1970s, Hungary has not demonstrated comparative advantage in producing pork (sides) and live (for slaughter) pig for exports. The sharp declines in export prices have generated negative value added at border prices and thus negative DRCs (especially for live pigs) in 1985 and 1986. Production per sow is one third higher and cost per kg is 23% lower at profitable large scale farms compared with the unprofitable large farms. Variations in production costs are largely explained by factors similar to dairy especially with regard to the productivity of feed and labor and the level of husbandry (para 2.37).

2.43 In order to improve the quality of output and increase lean-to-fat ratios, the current grading system must be reformed. Differences in grades are not wide enough to provide sufficient financial incentives for improving quality through better feeding and improved breeds. The problem is even more acute in the case of the small farmer for whom lack of grading requirements and the willingness of purchasers to pay for quality gives inadequate incentives to improve quality of output. Feed utilization ratios are higher on small farms, partly because they utilise more grain (90%) in feeds than large farms. This oversubstitution stems from the fact that most small farmers who are members of cooperatives are entitled to approximately 2.5 tons of maize each year from the cooperative (output of 1/3 ha.). They must, however, buy protein supplements in the market at high prices. Thus, small farmers have less of an opportunity to optimize the protein content in feeding than the large farms and therefore achieve lower levels of technical efficiency. In addition to changes in the grading system, consideration should be given to a modified feed system whereby small farmer entitlements to maize would first go to the cooperative feed mill for optimal mixing with protein supplements. Otherwise, optimal protein contents may not be achieved thus compromising quality and profitability. Further use of vertically integrated production systems (whereby the small-scale producer furnishes facilities and labor and the integrator furnishes the pigs, health supervision, and feed) would also increase carcass quality.

Efficiency of Beef and Sheep Production

2.44 Since the early-to-mid 1970s, Hungary has not demonstrated comparative advantage in the production of live cattle and beef for exports. The impact of declining world prices has seriously aggravated the situation.

28/ Even if the low international prices were discounted, by using average 1981-83 prices for outputs and inputs, DRCs for pork sides for 1985 and 1986 averaged 1.9 (compared with 1.7 for av. 1981-83) and DRCs for slaughter pigs were 2.6 compared with 1.4 for corresponding periods.
In 1985 and 1986 negative DRCs were encountered for the production of live (for slaughter) cattle and beef. Beef at present price levels ranks near the bottom of export-oriented investments; and, with high subsidies to contend with, the Government's policy towards beef production needs to be seriously examined. The decline in competitiveness appears to be linked to: (a) the decline in the use and thus the domestic production of fodder for cattle production; and (b) the decline in the world market terms-of-trade of beef/slaughter cattle with respect to maize. The latter is largely outside Hungary's control; but, if Government is really serious about reducing its subsidies, the former would have to be remedied and management would also have to be improved.

2.45 According to AKI, only 30-40% of enterprises producing beef cattle were profitable in 1985, but variations in production costs of Ft69-205 per kg. for live cattle indicate that there is significant potential for some producers to improve efficiency. Other indicators such as the average weight of weaned calves and progeny rates fall as much as 25% and 50% below breed potential underlining management deficiencies. Too large a portion of high cost concentrate feeds is used for certain stages in the beef production cycle and focus on the development of low cost production methods is needed. The economic cost of encouraging high cost beef production could be very high. In 1985/86, beef exports of about 180,000 tons (of which about 129,000 tons or nearly 72% was destined for CMEA countries) produced economic losses equivalent to Ft 11.5 billion. There is potential for using marginal land for beef cattle and sheep; and, if milk production continues to be of importance, better systems for producing beef as a by-product may well be the only viable alternative left and must therefore be seriously explored. Except for areas of poor fertility where there is no better alternative for utilizing land, enterprises incurring large and sustained losses on beef production should eliminate cattle and utilize land for more profitable crops. In 1985, yields of 2.5 tons/ha of wheat, 3.5 tons/ha maize, and 1.2 tons/ha of sunflower equaled the gross foreign exchange value of beef requiring the same amount of land input. These crop yields are attainable even on poorer quality land in Hungary.

2.46 For sheep and lamb, production and exports of live animals (and, to a lesser extent, mutton) have been quite competitive except during the early-to-mid 1980s. However, since 1985, DRC ratios have improved for live sheep but not for mutton. Part of the reason may well be the recent reduction of production and export of live sheep by Yugoslavia and Turkey to Europe and the Middle East; whereas Australia and New Zealand have exerted increasingly competitive pressure for mutton. Since the potential for increased exports for sheep and lamb are much better than for cattle, focus should be given to improving production for the European (especially Italy) and Middle East markets for live sheep. Two important changes are...

29/ This reflects their negative value added expressed in dollars. Even if adjustments were made by substituting average 1981-83 world market prices, the average 1985-86 DRC ratios for live cattle (1.8) and beef (4.2) are significantly higher than the "good year" average (1981-83) DRC ratios of 1.4 and 3.0 respectively.

30/ Subsidies at the primary production and food industry level in 1986 totalled Ft 2.2 billion.

31/ Value added for domestic beef production at world market prices in 1985/86 was minus $277.40/ton (see AKI's update of the 1985 Price and Foreign Trade Study). The 180,000 ton export therefore encouraged negative value-added of up to $49.9 million. With a DRC of Ft 230/$ (i.e. it costs Ft 230 to earn an extra dollar of foreign exchange), the economic loss of producing beef for exports was therefore almost Ft 11.5 billion and the loss attributable to CMEA trade would therefore be Ft 8.3 billion.
necessary: (a) lambing must be programmed to provide milk fat lambs in April and December; and (b) breed composition must also be changed to provide meatier and higher quality carcasses. The necessary research data for production systems to meet these needs already exists. In order to reduce production costs, research is needed for improved production of forage on marginal lands and on lower cost housing of sheep.

Poultry Production Efficiency

2.47 The poultry branch of livestock is not internationally competitive at present. The DRC ratio of broiler chicken, which averaged 1.7 in 1981-83, has increased to an average of 3.7 in 1984-86. World price declines were particularly responsible for the high value of DRCs obtained. When average 1981-83 world prices were used in the DRC computations, the 1984-86 average dropped to unity — indicating improvements in domestic costs compared to 1981-83. Nevertheless, subsidies of Ft 5.3 billion (15% of the gross value of production in 1986) were provided to processors in order to enable them to maintain exports and domestic sales. Two important impediments need to be remedied for broiler chicken production: (a) inefficiencies at the grow-out stage, and (b) the shortage and high prices of protein sources for feed formulation. Measures of technical efficiency at the grow-out stage show Hungary lagging behind major competitors such as the United States in terms of unacceptably high mortality rates and feed conversion ratios.

2.48 If Hungary is to improve production efficiency and profitability and reduce the budgetary drain caused by the subsidies in poultry, soymeal or cheaper plant protein imports have to be increased at least in the short term. Otherwise, consideration should be given to reducing the current level of poultry production in line with fiscal reality. Mortality ratios can be improved by better feeding as well as through better veterinary practices and care during transport to the processor. Modernization and financing of higher value poultry products that will take place under the Bank's Agro-processing Modernization Project should improve efficiency and profitability at the processor stage. A more active marketing strategy that will also be implemented under this project should also help expand sales of higher value products in convertible currency markets.

E. International Trade and Marketing

Recent Developments and Key Problems (Annex 4)

2.49 In 1986, Hungarian exports of agricultural products amounted to Ft 84 billion (US$1.83 billion), one fifth of the total Hungarian exports in current prices. Approximately 56% comprises exports for convertible currency, at least 35% of which are derived from CMEA trade. Rouble trade accounted for 44% of total agricultural trade. Between 1976 and 1986, the average rate of growth of agricultural exports (measured in constant 1975 prices) averaged 5% p.a. — in line with that for the overall economy. From 1980-86, however, agricultural trade in roubles (6% p.a.) has grown much faster than non-rouble agricultural trade (3% p.a.) and continued to increase in 1985 and 1986 even when total agricultural exports at constant prices were stagnant or declining. Thus, two important trends in Hungary's agricultural exports are noteworthy: first, the proportionately higher volume of exports to the CMEA; and second, within CMEA trade, an increasing proportion denominated in roubles relative to convertible currency. The external terms-of-trade for agriculture, which improved from 1975-80 for rouble-denominated trade, has
consistently declined since then. Rouble terms of trade declines were offset somewhat by improving terms of trade for the convertible currency accounts through 1982 as the second round of OPEC price increases in 1979 strengthened prices for primary commodities which helped Hungary's export value for wheat and livestock. However, successive declines in the terms of trade since that time for both rouble and non-rouble trade have been a major disincentive to export. This situation particularly characterizes agro-industries (especially poultry and fruit and vegetable products) which developed large surpluses and faced market absorption difficulties after 1983. These adverse developments are reflected in Hungary's overall trade in non-CMEA markets: its peak current account deficit (US$1.24 billion in 1976), which briefly changed to a slight surplus in 1983-84 (US$0.31 billion), reverted to a record deficit of US$1.42 billion by 1986 and remained high (nearly US$1.0 billion) in 1987.

2.50 Given the urgency of reducing the balance of payments deficit vis-a-vis the convertible-currency market, it is critical to analyze the constraints faced in improving agricultural exports. While the impediments to agricultural market penetration are multi-faceted, ranging from the final export marketing level to that of the primary producer, the basic problem may be summed up as the tendency for producers (especially in the food processing sector) to favor production for the domestic and rouble markets and the inability of Hungarian agriculture (consisting of primary agriculture and food industry) to respond flexibly and efficiently to changing world market conditions. Four aspects of this problem are particularly relevant:

(a) barriers to entry and export market competition faced by Hungary for its agricultural products in non-CMEA markets;

(b) the inflexibility of having to meet previously negotiated CMEA requirements and the distortions arising from existing arrangements for CMEA trade which penalize agriculture and require costly compensation for producers;

(c) lack of marketing intelligence and appropriate strategies for facilitating favorable market penetration; and,

(d) internal policy (such as support of loss making enterprises) and institutional constraints at the marketing and agricultural raw material supply levels which handicap production capable of catering to market lines with convertible currency export potential.

Items (a), (b), and (c) are discussed below; item (d) is discussed in section F.

Barriers to Entry and Export Market Competition

2.51 Hungary faces many barriers to entry in its convertible currency markets (especially in the EEC). They comprise, not only tariffs and quantitative restrictions, but also non-tariff barriers (e.g., legal, hygienic requirements). For the EEC market, Hungary has to compete with other more

32/ For example, fixed tariffs for poultry are equivalent to about 32-43% of the import price; and, Hungarian wine, disadvantageously classified as "liqueur wines", faces import tariff equivalents of 40-50% (see Staff Appraisal Report, Hungary-Agroprocessing Modernization Project, January 15, 1988, especially Annex 2).
favored exporting countries (e.g., the developing countries of the Mediterranean rim). But, more importantly, there is a tendency for oversupply and competitive subsidization of exports to Hungary’s convertible currency markets for many of the average fair quality products exported (frozen broilers, cereal products) and for which it does not have seasonal advantage (fruits and vegetables). A consequence has been the declining prices experienced for Hungary’s exports.

2.52 One response by Government was the increase of its "maximum" export subsidies to 34-35% in 1985/86-86/87 (from about 13% in 1982/83-84/85) for agricultural products destined for non-CMEA markets. In 1986, the cost of this export subsidy was about Ft 11 billion ($241 million), about 35% of the value of non-CMEA agricultural exports. Investment subsidies for export-oriented investments and the reduction of profit taxes (in the form of a 50% interest rate rebate on investment loans) to increase exports to non-CMEA markets constituted an additional budget outflow of at least Ft 2.2 billion (nearly $47 million) for primary agriculture and food industry products.\(^\text{33}\)

2.53 The subsidies may well be helpful to maintain market share and earn scarce foreign exchange in the short term and in the context of competitive subsidization by others. However, the budgetary costs are not sustainable for the economy over the longer term. The Government thus needs to develop a trade strategy for agriculture, as well as for other sectors, which provides a medium-term plan to gradually change the export mix toward those products which have current and future market acceptance and which can be produced in Hungary on a competitive basis with other world suppliers. In those markets with declining interest such as frozen broilers, pork sides and beef quarters, Hungarian producers will have to take the decision to reduce their availability and substitute those products with higher valued ones such as fresh (i.e. not frozen) poultry parts and special cuts of pork and beef for final supermarket sale. In the light of the need to maintain foreign exchange earnings in the short run, these subsidies should be reduced in line with improvements in efficiency of production and processing as well as the implementation of trade promotion and market development support.

2.54 Subsidies were also justified by the Government on the grounds that tariffs exist for non-CMEA imported agricultural inputs.\(^\text{34}\) However, the present degree of maximum subsidization of 28% cannot be justified as being needed to offset direct and indirect taxes on Hungarian agriculture, since the introduction of the VAT will reduce differential taxation on inputs. This is especially applicable to agro-processed commodities with very high domestic resource cost (DRC) ratios (substantially greater than unity) such as livestock products, fruits and vegetable products of the canning industry and sugar products.\(^\text{35}\)

2.55 Some subsidies for non-CMEA exports may still be justified on the basis of (a) the temporarily greater risks and uncertainty associated with

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\(^{33}\) Based on the conservative assumption that at least 50% of the total investment subsidies were allocated to agriculture and food industry in 1986. (See Annex 5).

\(^{34}\) Up to 10% for raw material inputs and 20-25% for processed agricultural products. These tariffs may, therefore, be used to justify export subsidies to offset their anti-export bias.

\(^{35}\) See Annexes 2 and 3
penetration of new lines or products; (b) temporary disruptions in the import market (e.g. weather factors and short term export subsidy conflicts); (c) compensatory payments to offset remaining Government policy distortions against convertible currency exports (e.g., import licensing of inputs); and (d) competitive subsidization in special markets with major OECD exporting countries.

2.56 Government already realizes that the financial strain of the "export for export sake" policies of the early to mid-1980's cannot continue and has, in fact, begun to press for the reduction of exports of products with high or negative DRC ratios like beef, slaughter cattle, pork and broilers in the face of declining prices. Given the way export subsidies are determined for agricultural products,\textsuperscript{36} a more appropriate policy response would have been to further reduce export subsidies in tandem with the implementation of more effective trade promotion and market development (see para 2.60 below).

2.57 Another of Hungary's responses has been to initial a trade agreement with the EEC in July 1988. While some headway in tariff reduction has been recently negotiated, no significant new markets will appear overnight. Since various automatic mechanisms will exist in the EEC to protect domestic producers from competition,\textsuperscript{37} expansion of substantial market penetration of "high exposure" bulk exports with little quality discrimination (e.g., broilers, pork sides) is unrealistic. Emphasis would have to be placed on catering for more specialized or quality market needs which require substantially greater knowledge of market niches and a more efficient, flexible, and yet disciplined approach in producing for them. The agreement also calls for reduced import barriers including import duties into EEC, which further weakens the case for the present level of subsidization of exports to EEC countries.

\textsuperscript{36} Basically, the Ministries of Finance, Trade and Agriculture review the "petitions" of firms for financial support of "losses" they would have to incur in retaining existing export markets, taking into account (among other things): world market and price trends for the relevant products, the burden of existing net taxes; and the pool of funds "available" for the purpose. Maximum ad valorem subsidy rates are then set for subgroups of commodities or products. In recent years virtually all food-industry products received the maximum rate. Such a system can easily turn out to be expensive bailouts for firms producing for exports.

\textsuperscript{37} Instead of variable levies there are levies tied to "sluicegate" prices to ensure imports from entering too cheaply. Furthermore, although not often used, there are outright bans when EEC judges that its absorption of CMEA exports are "sufficient".
Export Promotion and Market Development

2.58 Producing for the non-CMEA export market means facing greater uncertainties and requirements not found in producing for domestic consumption or for CMEA. While most export difficulties in recent years are linked to such uncertainties as the world commodity markets, weather factors affecting supply and increased protectionism in the West, these developments have served to highlight Hungary's critical need to directly improve its competitiveness in international trading and marketing. Hungary's lack of market intelligence, its primarily consignment-oriented trading and the lack of flexibility in responding to changing world market conditions represent another set of difficult constraints to overcome. They arose out of: (i) the traditional trading approach which seeks, mostly on an ad-hoc basis, to export the products exporters have been used to providing through traditional channels; (ii) the use of importing and exporting agents, foreign trading companies and trusts (the last ones being trading and market monopolies) which acted more as "common agents" or passive sellers with little responsibility or incentive to actively search for new markets or niches; (iii) the relative isolation of the producing enterprise from the foreign buyer; (iv) lack of initial support services in export promotion; and (v) pricing, subsidy and taxation signals set by the state which often do not reflect world market signals and, jointly with an inadequate accounting system, distorted the "true" profitability of firms, thus encouraging uneconomic investments.

2.59 Government has striven to remedy some of the constraints through its economy-wide Export Promotion Program. The key measures and their implications for agriculture are summarized below:

(a) A series of devaluations of the forint (against a basket of convertible currencies) were undertaken in 1986 (5.4%) and 1987 (eight percent in March and five percent in November). These, in combination with substantially higher export subsidies (para. 2.52), were apparently insufficient to prevent the decline in agricultural export volume and value since the early 1980s.

(b) The average level of nominal tariffs has been progressively reduced and many explicit quantitative restrictions have also been eliminated. These measures have enabled producers to have a greater access to technological inputs and services than in the past and this has permitted a gradual improvement in the quality of certain final product lines. However, the existence of import licensing may act as a significant constraint to obtaining sufficient amounts and, especially for agriculture, timely availability of inputs.

(c) Financial incentives have increased, in the 1980s for investments directed at exports to convertible currency markets. However, these incentives (investment credits and tax exemptions) have not borne fruit in terms of significant expansion in the production capacity for the quality agricultural products needed for further market penetration.
Liberalization of trading activities took place in the mid-1980s through: (i) increasing the access of selected large enterprises to final markets by the granting of direct rights to export and import; (ii) abolishing "profile" (commodity) restrictions for foreign trade organizations (FTOs); and (iii) increasing incentives to establish multi-function trading houses. About 15% of food industry exports were through direct sales in 1986 and some progress has been made in instilling competition in a few subsectors (notably meat and processed fruits and vegetables) but a number of agricultural subsectors (e.g., cereals and sugar) have been excluded from this liberalization.

The MEM has, in addition, been "deepening" the promotion program through actions, in 1982-86, to: (i) eliminate the monopoly trusts which handled resource allocation, marketing and sales of numerous agro-processing enterprises like fruits and vegetable canning, poultry, wine, and (recently) meat (see paras. 2.71 - 2.72 below); and (ii) complete a series of market studies by internationally-known firms and organize marketing and technology workshops on meat, processed fruits and vegetables, wine and fruit juices, poultry and wood products. These are important steps in the right direction, but greater initiatives are needed for: more effective trade promotion and market development initiatives which provide better incentives for expanding convertible currency exports; and selected liberalization of import licensing of raw materials and inputs for expanding "hard" exports.

Trade promotion and market development are particularly important for agro-processed products because of the heterogeneity of product types and markets and the fact that market penetration requires diversification from bulk products (para. 2.57). Since direct access to the foreign market is relatively new to enterprises, and given the important economies which could be derived from Governmental support infrastructure both in Hungary and abroad, centralized assistance from Government would be necessary for a transition period. Under the Bank's Agro-Processing Project (May 1988), the Ministry of Trade would, through its associated agencies, increase trade promotion by: (i) establishing an Export Promotion Agency for agro-processed products which would eventually include other agricultural products; (ii) collecting and making available key foreign market information to enterprises; (iii) expanding the program to introduce foreign buyers of agro-processed products to Hungarian enterprise managers through existing agencies, i.e., Chamber of Commerce, HUNGEPO, and through the commercial attachés located in the embassies abroad; and, (iv) developing advertising slogans in target countries such as the "Gutes aus Ungar" quality product program in West Germany. One of the most important and difficult aspects of successful export marketing would be to reorient the present consignment ("passive trading") approach to a more proactive ("active marketing") approach. This reorientation is unlikely to emanate from just bureaucratic Government support. It would require further loosening of controls and changes in strengthening the incentive environment.

38/ Foreign Trade Organizations used to monopolize specific lines of exports (e.g., meat, canning, wine) termed "profile" activities.
2.61 If markets are to be properly developed and maintained, commitment to the markets are required on the part of the producer, its trading company and/or the foreign counterpart to ensure the consistent delivery of a good to the specification, time and price agreed. Important prerequisites at the marketing level are: better strategic planning of all aspects of the operations; appropriate grading and quality standards and their effective monitoring to ensure consistency of product; and greater awareness of the ultimate buyers' changing needs. Training in marketing is necessary for effective action by enterprises but providing the financial rewards for successful initiatives in market penetration is critical. The necessary conditions now exist with the liberalization of the trading process and the opportunity for direct contact between the export producer and the final importer. These conditions have yet to be fully taken advantage of.

2.62 On the import side, the existence of import licensing (para. 2.59(b)), particularly for raw materials and feeder industry inputs, may have constrained the cost-effectiveness of producing for exports. Government realizes this and is in the process of revising the system to rescind import licensing for a positive list of priority goods like machinery and equipment, priority spare parts, agro-industry feeder inputs and other key agricultural inputs like plant proteins.

F. Enterprise Restructuring, Competition and Management

2.63 A review of the trade and pricing issues emphasizes the fact that, to cost-effectively expand exportable production: (a) various regulations and policies impeding the development of a more competitive environment would have to be removed; and (b) the restructuring and improved management of production enterprises, to efficiently and flexibly provide the type of products needed, would have to take place. No analysis on how to improve the performance of key enterprises to enable them to respond to world market demand and improved market signals can be complete without a review of how the different agricultural production and marketing enterprises have evolved. Since agriculture has been at the forefront in terms of innovations in enterprise restructuring, organization and management, the lessons learnt and the requirements for further improvement should also be useful for the rest of the economy.

The Large Farms

2.64 Agricultural cooperatives and state farms have had decentralization of control and restructuring (refloatation) of enterprises in the 1960s and again in the mid 1970s. They primarily involved the absorption of smaller loss-making cooperatives thus greatly expanding farm sizes and permitted the introduction of technological changes to exploit economies of scale in the production process. Management incentives also provided an overall increase in professionalism in running the enterprises. The flexibility permitted in the evolution of large farms led to the widespread diversification in their activities as shown in table 2.05 below.

Table 2.05: Activities' Share of Gross Output Value By State Farms and Cooperatives

<table>
<thead>
<tr>
<th>Activities</th>
<th>Agriculture Cooperatives</th>
<th>State Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agric. Production</td>
<td>74</td>
<td>72</td>
</tr>
<tr>
<td>Agric. Services and Auxiliary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Food Processing</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Industrial</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Construction</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Transport/Trade/Other</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Total a/ (In bil. Fts) b/</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>(61.2)</td>
<td>(98.1)</td>
</tr>
</tbody>
</table>

a/ Totals do not add up due to rounding
b/ In current price terms

Source: Statistical Annex, Tables A60 and A61.

Although both the agricultural cooperatives and the state farms substantially expanded their share of non-primary agricultural production (in gross value terms), their contributions to profit were even greater in comparison with the so-called "profile" activities. Also, the state farms seem to have moved much faster (and farther) in expanding the share of agro-processing and agricultural service/auxiliary activities, while, for the cooperatives, the industrial activities were more dynamic. Much of the expansion of non-agricultural production activities was in line with comparative advantage was like downstream processing of the primary or "profile" products (e.g., feed mill, canning); but a large number (especially for state farms) also grew out of economic necessity because large non-agricultural state enterprises could not provide for their needs. For example, a number of expanding rabbit breeding farms had to fabricate wire cages themselves and a few (e.g., Kornyei State Farm) had expanded further downstream into small-medium scale industrial activities making kitchen utensils and flatware for exports. Others fabricated "feeder industry" products (e.g., pumps, spare parts, valves) for their own and associated farms' needs and then branched off to providing related products (e.g., plumbing accessories) for non-agricultural use.

2.65 Government initially tolerated these activities and, when it realized the income distribution and employment advantages for the rural areas, promoted them through tax relief and subsidies. Other advantages relate to the ability of the large farms to weather short-term unfavorable developments affecting their primary agricultural production activities. Because, in many cases, "profile" activities do not contribute to a majority of the large farm's profits, internal cross-enterprise subsidization of profit served an important stabilizing function which would otherwise be costly to the Government's budget.

2.66 The present situation for large farms is variable. At one extreme are large, extremely well-run and powerful state farms and cooperatives which are at the frontier of innovation in management and operating efficiently using the latest technical, financial, cost-centered accounting and computerized management information systems supported by technically capable staff. These

40/ For example, the Babolna State Farm, Papa State Farm, Petőfi Cooperative.
tend to be those with diversified activities and are relatively favorably located. At the other extreme, are "critical" loss-making agricultural cooperatives (approximately 10% of the total of 1,260) which account for about 8% of the land and 6% of the production value of all agricultural cooperatives. Together with perhaps another 15% of the "financially weak" cooperatives (which would be loss-makers without government subsidies), these loss-makers were responsible for the Ft 1.4 billion paid out by the budget to make up for their losses in 1986. The remaining, more healthy cooperatives, however, function and are managed in virtually the same manner as state farms. In any case, with cycles of sustained losses which have increased indebtedness, the restructuring of the loss-making and financially weak large farms has to be initiated. Even for the existing profitable large farms, the running down of productive capital without reinvestments (because of high taxation) could constitute a long-term problem if nothing is done to remedy the situation in the medium-term.

**Food Industry Enterprises**

**2.67** Separate from the large farm subsector, "free standing" food industry enterprises (which contribute to nearly 10% of national output value but barely 2% in value added) constitute an even more important category requiring restructuring assistance. Without the buffer of diversified activities of the large farms, food industry enterprises have been caught between impediments at the output as well as the raw material supply levels, especially in producing for exports (see Section E). Add to this the problem of poor management and it is not surprising to find that the food industry branch has been the worst performer among all the industrial firms experiencing declining total factor productivity since the mid-1970's — as can be seen from the comparison of DRC ratios given below:

**TABLE 2.06: DRC Ratios — Food and Wood Processing Versus Other Industry Subsectors, 1983**

<table>
<thead>
<tr>
<th>DRC Ratio</th>
<th>Canning Industry</th>
<th>Spirits and Starch</th>
<th>Tobacco</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0 - 1.5</td>
<td>Meats and Dairy</td>
<td></td>
<td>Fruit Juices/M investor</td>
</tr>
<tr>
<td>1.0</td>
<td>Sugar Industry</td>
<td>Lumber</td>
<td>Flour Milling</td>
</tr>
<tr>
<td>1.0</td>
<td>Sweets/Confect.</td>
<td>Wine</td>
<td>36 Other Industry</td>
</tr>
<tr>
<td>1.0</td>
<td>Subsector</td>
<td>10 Other Industry</td>
<td>Subsectors</td>
</tr>
<tr>
<td>1.0</td>
<td>Other Industry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\* negative value added


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41/ Details are given in the SAR, Agroprocessing Project and its annexes.
42/ The lack of quality raw materials is an important aspect. However, part of the problem is also historical in nature. Large processing facilities set up during the centrally controlled era (prior to 1968) were expanded rather than decentralized in relation to the diverging sources of raw material supplies thus leading to locational disadvantage.
Financial management of corporate assets is also hampered by the lack of financial accountability and loose financial discipline. The foregoing factors are reflected in the high underutilization of production capacity, excessive build up of inventories of raw materials and finished products, and excessive delays in collecting accounts receivable and in paying suppliers. Furthermore, inadequate financial leverage for investment may be attributed to the excessive recourse to Government support. Excluding investment subsidies and CMEA trade supports, subsidies which directly or indirectly support food industry enterprises amounted to at least Ft 15 billion ($326 million) in 1986 (para 2.17).

The Private Small Farmer

2.68 The small farm sector has taken on increasing importance in terms of its share of output despite its declining numbers and land area. The structural evolution of the small farm has been intimately linked with the large farms as the latter have given up their share of labor intensive and higher value crops (like fruits and vegetables and intensive fattening of livestock) to the former; and vice-versa for machinery-intensive maize, fodder and slaughter cattle. Thus, by giving increased importance to small farmer production, Government has satisfied several important economic and social goals: First, it has contributed to increased agricultural production over the long-term by promoting a rational division of labor between land/capital intensive and labor intensive farming activities. As such division developed, household producers showed an increasing tendency to produce for the market and thus became important suppliers for agro-processing firms, particularly for livestock and preserving industries. Second, the small farm sector has increased the demand for labor in agriculture, thus promoting full employment and reducing migration to the cities. Analogous to the expansion of auxiliary enterprises of large farms, the State has thus been able to pursue its rural income and employment enhancement policies without sacrificing production incentives and efficiency. Household and auxiliary plots introduce into the socialist economy private incentives that induce workers to substitute work for leisure. Small farmer production, which is actually a second job for most workers, represents the equivalent of full time employment for about 960,000 persons. This is only slightly lower than the total number of active earners in agriculture (981,000) in 1985. The increases in employment which result from household production occur in two ways: (a) persons already "fully" employed are willing to increase their hours of work; and (b) retired persons, and dependents are willing to work on the household plots or tend livestock at home. This increases the number of laborers in the workforce or, in the case of retired persons, extends their

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44/ See Annex 1.
45/ In 1970, 72% of household vegetable production was consumed on-farm; but by 1984, the proportion had dropped to only 27%. In poultry, subsistence production declined from 88% in 1970 to less than 50% in 1984.
Incremental income from household production has therefore enabled agricultural workers, whose incomes traditionally lag behind other sectors, to raise their living standards. Third, it has provided workers with an outlet for investing their savings in productive assets although, compared to the large farm sector, machinery and building investments are very low relative to their 35% share of agricultural output. However, a survey done by AKI in 1982 showed some evidence of progress in that the number of small tractors in the country grew from 1,382 in 1972 to 7,224 in 1981. Nevertheless, Government has not had to directly subsidize the production of the smallholder sector in a big way. Some assistance may, however, be required with the scarcity of locally-produced and imported machinery appropriate to small holders' needs at an affordable price (see para 2.88 below).

Promoting Enterprise Restructuring and Management

Government's "new" enterprise management system, begun in 1985, has now been extended to 231 of the 270 state enterprises under MEM. With 23 more firms formerly under the Meat Trust to be added in 1989, the coverage will be 94%. MEM will retain control over tobacco, vegetable oil, distilling and those firms under the Milk or Grain Trusts. Thus, management control would have been transferred from MEM to "enterprise councils" which represent workers and management in large firms (more than 500 workers) or to "assemblies" of workers or their delegates in smaller firms. Workers can elect their managers. Although MEM retains influence over the selection process through prescreening candidates against established professional criteria, the new system implies an important shift in managerial attention from the vertical linkage with MEM towards that of the interest of the firm itself and its market linkage. MEM's influence now rests even more on the "indirect" controls through the regulatory system or directly to "fulfill intergovernmental agreements, ensure supply of basic staples, or when liquidating, relocating, or establishing enterprises." Other measures to increase the profit orientation of firms include: relating bonuses of managers more directly to profitability; and the trial introduction (in 1988) of "profit coupons" which would mobilize capital and entitle employee-purchasers to a share of profits and thereby link workers/managers' interest with those of the state or "owner" of the state enterprise (see para. 2.90).

These measures constitute an important start in helping a large segment of agricultural and food industry enterprises to improve their performance. However, an in-depth assessment of their efficiency effects has yet to be undertaken. In preparing the Bank's Agro-processing project in 1987, it was clear that, at the firm level, the biggest gap for food industry enterprises is effective management based on improved management information systems (including greater transparency of accounts and audit) which can permit the monitoring of economic and financial profits of their product lines. This is being tackled in the Bank's project assistance through the

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46/ The average farm family member spends an additional 1.8 hours per day working on small farm production. Retired persons and homemakers work an average of 2.6 to 2.9 hours per day.

47/ Subsidies to smallholders amounted to only one billion forints in 1986 (see Table 2.02).

48/ For example, a 14 HP tractor in Hungary costs as much as a 60 HP automobile and there are few suppliers.
requirement of a restructuring plan for loan review by the commercial banks. This measure, together with the initiatives proposed for trade and marketing (Section E) and the requirement to produce an export marketing plan are key steps in the restructuring process. The development and monitoring of financial efficiency indicators in relation to efficiency norms relevant to Hungarian conditions should also be seriously pursued. For primary production enterprises, farm managers have to be more profit conscious in commodity production, investment and in their non-agricultural auxiliary activities. Furthermore, Government should encourage strategic business planning and installation of management information systems such as those supported by the Bank in its Crop Improvement Project (e.g., Papa Farm). Finally, there is still an important need to look at agricultural production activities as an interrelated system rather than as separate, self-contained activities. All these also call for improved training programs.

2.71 With agro-processing enterprise restructuring underway, the restructuring of loss-making and financially weak large farms has to be undertaken as a matter of priority. MEM STAGEK has undertaken a study on "Number and Major Data of Loss-Making Cooperatives and State Farms Between 1976-86". It shows that about thirty-seven percent of the agricultural-related cooperatives and state farms in Hungary experienced at least two years of financial "loss" between 1980 and 1986. Considering the fact that this "loss" already includes enterprise subsidies, the situation is serious. The study provides a useful guide to the characteristics of the loss-makers -- the most important being poor natural resources, infrastructure, and proximity to markets. It also showed that the chronic loss-makers tend to be cooperatives rather than state farms. In effect, the loss-makers are low efficiency farms in depressed areas. However, systematic analysis has not been undertaken to compare loss-makers with successful large farms under similar conditions (i.e., farm size, types of activities, extent of unproductive labor, agro-ecological endowment). The computation of key financial ratios (e.g., financial indicators used by STAGEK for the subsector enterprise analyses under the agro-processing project) will permit the identification of key reasons for poor performance and also the potential areas for the loss-makers to improve. The Government can then be in a better position to successfully restructure the chronic loss-makers and determine the alternative production possibilities, including industrial, which are less sensitive to natural resource constraints. The possibility of moving toward alternative organizational models such as more loosely based "agricultural associations" are also being examined in an effort to improve profitability. In some cases, it may be desirable to place greater emphasis on household production of fruits and vegetables and other labor intensive products along the lines of the "Special Cooperatives", a model that presently exists in certain vineyards. In the special cooperative, most land is divided among private households which undertake production, while administration, mechanization, and post-harvest technology and services are, to differing degrees, provided by the central cooperative unit.

49/ One out of 28 state farms (4%) were "deficit" in at least for two of the seven years between 1980 and 1986 but the corresponding figure for agricultural-related cooperatives were 417 out of 1098 (38%). See Annex 6, Table A67 for details.
2.72 Cooperatives' losses on common production often coexist with private profits by members on their household plots, even in the resource disadvantaged areas of the Northeast. This phenomenon not only raises the issue of whether it is not desirable to increase the proportion of land farmed by households, but it also raises the question of whether there are hidden subsidies built into the current integrated system of large and small farms. A recent revision of the Land Act permits an individual to now own up to 15 ha of agricultural land and long-term leases for larger areas will now also be possible for loss-making cooperatives' land. Whether these changes will facilitate better utilization of land in the disadvantaged areas is, however, not immediately obvious, as there are usually better alternative uses for private investment funds. As long as cooperatives are taxed and face a soft budget constraint (i.e., Government underwrites losses) and income from household production is substantially tax free, the members/owners of the cooperative will have the incentive to maximize joint after-tax income by increasing household profits at the expense of the cooperative. An assessment of the extent of such hidden subsidies is needed (para 2.83). If there are subsidies which household producers enjoy through underpricing central services and sheltering income from taxation, this results in losses or reduced earnings for the cooperative and higher profits for the household. Thus Government would eventually bear these costs through budgetary transfers or lower net tax revenue. Unless the pricing of services is done on a basis which fully reflects their opportunity cost and cooperatives are made to face a hard budget constraint, shifting more land to private producers or even attempted restructuring of cooperatives may therefore not solve the problem of sustained losses.

2.73 An outline of a framework for developing a program for the restructuring of "financially weak" cooperatives is given in Appendix 1. In developing the restructuring program, special attention is needed to realistically evaluate the extent to which Government's role can be kept at a minimum and the extent the market can do the job.

Promoting Market Competition

2.74 Efficiency improvements at the enterprise level can also be facilitated by increased competition in the purchase of their products. Commodity marketing trusts had their place during the period of large concentration in both large farms and food processing plants and when production and trade were centrally controlled. Their role was strongly questioned in the late 1970s when Hungary's balance of payments difficulty was at its peak. In 1982, the trusts for poultry, canning (primarily fruits and vegetables) and wine were broken up and subsector marketing and pricing began to be liberalized. The trusts practiced policy "brokerage", as is customary among large scale enterprises, by negotiating on behalf of the firms for subsidies (with MEM and Ministry of External Trade) and permissible consumer prices and profit and wholesale margins (with Ministry of Domestic Trade and the National Materials and Price Board). In early 1987, the Meat Trust was also dismantled. The role of these trusts was essentially as follows:
(a) **Planning and resource allocation**, which includes: (i) setting market production targets (including product mix) for firms; (ii) setting "accounting" prices for firms depending on their cost of production; (iii) pooling of enterprise profits and state funds for allocation/reallocation to firms for investment or capacity expansion; and (iv) distribution of subsidies; and

(b) **Marketing services**, including: (i) arranging for transport, collection and sale of products usually through trading corporations; (ii) overseeing the standardization and quality of product; and (iii) arranging for input procurement, usually through trading corporations.

With the break-up, a number of constraints to efficiency improvements were at least alleviated if not removed. These were primarily:

(a) the pooling of profits which was a disincentive for improving efficiency.

(b) the constraint of an extra, bureaucratic layer which was neither cognizant of producers needs nor in a position to respond quickly when the need arose (as decision making at the Trust board level was cumbersome).

(c) the "targets or quota mentality" and the uncertainty about the Trusts' objectives vis-a-vis main ministries, meant that there was practically very little flexibility in enterprise management.

(d) the regulatory restrictions which prevents the market from working more efficiently (e.g., county restrictions to movement of livestock).

2.75 As the assessments of the 1980-85 performance of the canning subsector by STAGEK reveal, a number of constraints remained; and the unexpected effects of internal price liberalization, income regulation policy and world market developments hampered the substantial improvement in the financial efficiency of the enterprises. Except for the first year (1982/83), no increase in net revenues was observed for the canning industry. Although output prices rose sharply as consumer subsidies were removed, so did

50/ In fact, during the first year of break-up of the Canning Trust, for example, efficient firms only realized how profitable they were when they were given their real share of profits from sales. Before that, compensation was a fixed profit rate with excess profits used to cross-subsidize the loss-making firms.

input costs (especially energy) and changes in the system of income regulation (from industry structure to agriculture structure) which offset the output price gains. The output price increases had two effects which led to large exportable surpluses: (a) supply response from producers; and (b) demand decline of consumers. Government had to step in to assist in encouraging exports and enterprises were given "export-interestedness" incentives in the form of:

(a) tying salaries of top level managers of enterprises to exports;

(b) increased quantities of canned goods in CMEA contracts; and

(c) in 1985, a sharp increase in the export subsidies to convertible currency markets, the continuance of which has also been due to a further softening of the world market.

The push for getting rid of these surpluses has, therefore, been costly to the Government's budget. This has, in effect, meant that the marginal firms have continued to be shielded from market effects and thus incentives to improve financial performance are further compromised. Liberalization at the trading level [para 2.59(a)] has, unfortunately, not had the positive effect expected.

2.76 While the experience of the break up of the various commodity trusts has not turned out to be as positive as was hoped for, the situation could have been worse had nothing been done. The rationale and break up of the meat trust (January, 1987) has followed similar lines except that the transition process has been more carefully planned (See Appendix 2). The main requirement in completing the transition of the dismantling of trusts is a re-examination of the financial situation of the continuously marginal firms (formerly under trusts) to determine their restructuring needs and their contribution to the dynamization of the subsector in light of market prospects. With reflotation and liquidation regulations and procedures in place under Government's economy-wide enterprise restructuring program, firms which cannot be refloted should be liquidated. Finally, an assessment should be made concerning the advisability of maintaining the remaining trusts (grain and milk) in their present form. Experience from other countries (e.g., the equivalent of the Grains Trust in France) has shown the benefits of separating and divesting actual implementation functions such as trading, storage, processing and marketing operations from the functions of policy and subsector planning, quality control, setting regulations and state trading negotiations. With annual support from the budget of at least Ft 700 million at stake, it is even more important to reevaluate the original objectives and functions of these remaining trusts to see if present conditions warrant revision. Such an assessment could conclude that the total monopoly of flour milling and grain imports could be liberalized. For example, actual imports of raw materials (such as protein feed stocks) could be permitted for large enterprises such as feed mills or trading organizations. With 50% of feed milling already undertaken outside the Grains Trust as precedence, and with tighter market control standards, there does not appear to be any reason why the Grain Trust's disengagement of the operations of its flour mills (123 in total) cannot follow suit.
G. Support Services for Agricultural Production

2.77 The role played by research and extension support services in the successful improvement of yields in agriculture has been discussed in Section A. The development and expansion of the Technically Operated Production Systems (TOPS) has, however, been primarily for the benefit of large farms. Thus, most of the benefits of research and extension have gone to cooperatives and State farms and small farmers' benefits have been indirect — through their link with the large farms. With the increasing importance of the role of the small farmers in agricultural output value and the critical need for Hungarian agricultural production to be more competitive, agricultural research and extension need to be reevaluated. Furthermore, as the role of the State in the financial supports for the production of primary agriculture and food industry continues to diminish, the extent to which financial support services can be obtained through other sources (commercial banks or informal) becomes very important. This section looks at how support services, both technical and financial, can be improved for agriculture.

Agricultural Research

2.78 Agricultural research is carried out or supervised by scientists located in the universities and research institutions. The more basic and some applied research are conducted at these institutions while most applied research is done on state farms or cooperatives in cooperation with local management and technicians from TOPS. The transfer of technology in Hungary is quite different from that of most countries; and, for large-scale farms, it is quite efficient. When funding is provided by TOPS or any production unit, the funding entity becomes the "owner" of the technology with the right to sell it to interested producers. This is true even when research is done by Government institutions under contract. Hence, the system has been effective in promoting "relevant" research by non-governmental institutions and, at the same time, permitted public institutions to retain high quality staff despite low public service salaries. The minor disadvantage of the system may be some disincentive for scientists to do certain basic research. However, the quality of research scientists in Hungary is generally excellent. The availability and quality of laboratories are variable but these are not limiting constraints to research programs. Apart from the lack of emphasis on smallholder production needs, the major weaknesses in research relate to: (a) ineffective prioritization of research funding, particularly at the subsector level and the virtual absence of monitoring or evaluation of projects financed by the State; (b) overemphasis of physical productivity performance without complementary economic studies needed for practical recommendations; and (c) the tendency of research to be oriented towards specialized projects without adequate consideration of a multidisciplinary systems approach.

52/ In 1986, small scale producers accounted for 43% of the value of livestock output and 26% for crops and horticulture.
2.79 An elaborate and interlinked system for establishing priorities for scientific research exists in Hungary and the MEM Agricultural Research and Development Council (RDC), headed by a Deputy Minister of MEM, forms an integral part of the system. The system enables broad objectives and priorities for the sector to be set. However, the multiple sources of state financing, the lack of specific requirements to resolve well-defined research problems in research project proposals and the lack of effective monitoring and evaluation of state-funded projects mean that, in practice, the definition of research priorities and proper selection of research projects have not been very effective. Research project proposals presented for financing under the World Bank Integrated Livestock Project provide a good illustration of the problem. The following inadequacies were found which made it extremely difficult to identify priorities and make a proper selection among research proposals submitted:

(a) little or no identification of the constraints to production for which the research is expected to alleviate;
(b) only general ideas of the research proposed and only an overall budget are usually given;
(c) little or no indications are given concerning whether the research is really needed or if the experimental design will present reliable results.

53/ National scientific research priorities are set by a national body (comprising the Academy of Sciences, National State Development Office and the Science Political Committee) which: (a) formulates the emphases to Year 2000; and (b) determines the priority functional tasks (e.g., Biotechnology, electronization, productivity of agriculture, soil fertility) for the Seventh Five Year Development Plan (1986-90). The Research and Development Council of MEM develops its programs within the broad objectives and tasks of the National Seventh Plan Research Program and the priorities specific to agriculture and food industries. Review of proposed emphases are made by various socio-political bodies with ultimate approval by the Council of Ministers. Actual approval of research programs under state funding are made by an Evaluation Committee of the NARDC.

54/ MEM; National Technical Development Office; National Academy of Science; Ministry of Industry.

55/ For example, local funding has been provided for embryo transplant and social behavior of pigs. In the first case, adequate research has been done and only training of technicians is required. In the second case, while the study may be interesting, there are other, more pressing constraints to be dealt with.
The framework used to remedy these deficiencies should be more widely used and proper monitoring and evaluation of the results of the research in terms of its applicability to actual farm or firm conditions should also be initiated.

2.80 In addition, priorities would also need to be delineated at the subsector level. Our assessment of the priorities for consideration at the subsector level for livestock are: (a) Poultry - (i) high efficiency - low cost feed formulation; (ii) hatchery management; and (iii) housing; (b) Swine - (i) high efficiency - low cost feed formulation; (ii) development and promulgation of genetic lines with low body fat; (iii) disease prevention and control; (c) Cattle - (i) higher fiber and lower energy rations for dairy cattle; (ii) marginal land forage and fodder production; (iii) low cost or zero housing for beef cattle; and (iv) management systems for increasing meat production from dairy calves; (d) Sheep - (i) pasture and forage based production systems; and (ii) breeds and crosses for improving weight and quality of lamb and mutton.

2.81 For crop production, research focus is needed for: maize and sorghum for silage production; legume and grass production on the less productive soils; economic levels of input use and mechanization for wheat and maize; seed production for crops with export potential like pulses; and more economic and less intensive levels of land amelioration (para. 2.32). From a systems perspective, emphasis should be on integrating crop and livestock thus focusing on systems linking proper management of forage with feed and animal production rather than narrowly conceived animal genetics research. One important area of this systems approach is the relative advantage of producing beef as a co-product of milk production compared to specialized beef systems. Research should also be conducted on reduced cost, lower input production systems, which could also reduce the potential for surface and underground water pollution. In addition to increased organic fertilizer use, such research should focus on: cultivation systems to reduce herbicide use; and rotation of legumes with cereals and grains for natural nitrogen fixation and for increasing soil organic matter. Such production systems would probably have a negative impact on total production of some export products but would also reduce the levels of imported inputs (research in the U.S. and France has shown about a 15% decrease in production but at the same time some 30% reduction in purchased inputs). The reduction of the domestic resource cost

56/ A project supervision mission in June 1987 left an outline for the form of presentation of project submissions which included:

(a) Justification of the project. Importance in resolving one or more constraints to livestock production in Hungary;

(b) Review of literature. A review of existing or completed research projects in Hungary or countries where results would be locally adaptable. This was to prevent duplicative research, determine if basic or adaptive research was needed (or if results could be immediately applied) and expose researchers to approaches to the particular problem outside Hungary; and

(c) Experimental methods. A complete description of physical resources to be used, experimental animals, methods of analysis and a detailed cost table (investments, animals, salaries, operating costs).
(DRC) coefficient for livestock, for example, could result in the reduced need to subsidize their exports.

**Agricultural Extension**

2.82 For agricultural extension, the evolutionary nature of the TOPS is worth recounting. The technology packages used for the spectacular expansion of production and yields in the late 1960s and early 1970s were initially developed by special units established by a few large farms using both imported technology and that developed through local research. This is particularly applicable to large farm cereals (wheat and corn) and industrial scale poultry and swine production. These units were called TOPS when they expanded to other farms for a fee and also provided services to cover additional crop and livestock needs. Eventually, they became more independent and formed themselves into cooperatives with membership comprising the state farms or cooperatives using their services as well as research institutes and individual scientists. These TOPS evolved their commercial services from advisory to technical (including soil testing), then to the supply (and, for some, even manufacturing) of inputs and to machinery and equipment repairs. However, they have remained very commodity specific with organizations specializing on individual products like corn, sunflower, wheat, cattle, swine, sheep and poultry. TOPS specializing in crops may have neglected fodder crops in the past, since fodder crops are primarily of importance to the livestock sector. Livestock TOPS, on the other hand, have developed less dynamically than those in the crop subsector and tended to focus too heavily on machinery procurement and maintenance and not enough on management, efficiency and profitability. This may be another reason why the production of livestock products is less efficient (in DRC terms) than crops. A reorientation towards better crop-livestock integration which combines technological transfer with management assistance, should replace output-oriented production services for both crop and livestock TOPS in the future. Even now, the TOPS within their own specializations are rather variable in the range and quality of services offered; but, with increased competition among them, the less efficient systems (or lines of activities within systems) will probably disappear.

**Research, Extension and Associated Support For Small Farmers**

2.83 The extent to which Government-initiated research and extension are needed to support private small farmers needs priority assessment. Excellent information on large farms can be obtained from the surveys of the Central Statistical Office and MEM STAGEK. Although STAGEK also keeps information on a 2,000 small farmer sample, relative to the large farms, there is a lack of knowledge of how small farmers function especially with respect to the incentives and constraints faced by them – as the answers to the following questions illustrate:

(a) Is the main source of extension advice from fellow small farmers, large farms, or processing plants? It varies with types of products produced but the extent is unclear.

(b) What are the investment patterns of small farmers and their sources of funds?
AKI surveys show very low levels relative to their contribution to value added and that they prefer to invest on mechanization rather than on buildings; KSH statistics, however, show otherwise. Although conventional wisdom suggests other household income as the main source of investment funds, little empirical information is available.

(c) What are the cost and returns associated with agricultural activities of the various categories of small holders, their risk profile and the opportunity costs for the use of the labor time of various family members (the active wage earner, home-maker, elderly)? What is the extent of hidden subsidies provided for the small holders by cooperatives (e.g., tractor and other support services)? Very little is known.

(d) What is the proportion of production sold in local markets compared to those sold to large farms, agro-industries or even small-holder producer associations? Very little is known.

A small farmer study, using the STAGEK sample as an initial base, is proposed in Appendix 1 to better answer the above questions.

2.84 These answers are important for designing a program of support services which takes into account the following key ingredients: (a) the availability of relevant technology to benefit from the comparative advantage of the private smallholder; (b) options at the level of input supply and utilization and output marketing to overcome the disadvantages associated with small size; (c) the form of technical assistance for extending appropriate technology; and (d) the distortionary role of government policy (especially in pricing, taxation and subsidies) as a constraint to improving cost efficiency in production.

2.85 Relevant technology needs to be tailored to the high labor husbandry requirement of smallholder production but should enable him or her to produce the more stringent quality needed for exports. In livestock production, for example, some of the research results of larger farms can be applied to the small-scale producer (e.g., breeds, crosses, basic nutrition, maize production). However, certain problems are scale specific (e.g., buildings, equipment, machinery, low-cost feeding, forage production) and have to be designed in relation to the small farmers' actual conditions. Two types of machinery which are particularly useful to the small farmers are suitable tilling machines (for their relatively small and dispersed plots) and pick-up trucks which can more economically carry smaller loads than are normally used by the large farms. These are essentially unavailable to the smallholder. Much of the suitable technology is known. The key problems are adaptive development, training, extension and credit support.

57/ A small farm survey by AKI in 1981 showed that 38% of all animal stalls in small farm households were built before 1930. Small farmers' purchase of small tractors, on the other hand, jumped from 1,388 units in 1972 to 7,224 units in 1981 - still minor compared to the 400,000 small farms in Hungary. However, KSH data shows investments solely for construction (see Statistical Annex, Table A38).

58/ In a recent joint endeavor between the Petrofi Cooperative and the AgroBank to solicit proposals for technology relevant to smallfarmers by the smallholder members themselves, 50 of about 400 such proposals were considered feasible and suitable for financing support.
2.86 The disadvantage of size, especially in the purchase and use of inputs and sale of output can be remedied through greater joint efforts among smallholders. Collective purchase and use of farm machinery by groups of small producers are possible where individual investment is not economically viable. Alternatively, individual small producers/entrepreneurs could purchase and rent equipment to others for a fee (the current arrangement for most of the small-scale machinery owned by small farmers) or undertake commercial tractor ploughing services themselves. However, the latter is constrained by the prohibition of greater than 30 HP tractor purchase by small farmers. Furthermore, private tractor services are constrained by subsidized services undertaken on behalf of potential small farmer clients by cooperatives. These constraints will have to be removed if a viable private commercial tractor service is to come about. There are also associations of small-scale producers for some commodities (e.g., rabbits, honey, fruits and vegetables) which are independent of large farms. These provide some technical assistance to their associates. It is possible that such associations could be expanded to provide more complete services and cover other commodities as price liberalization and increased quality control are implemented.

2.87 In terms of support services, the traditional relationships between large farms and agro-processing firms with the small farmers have worked reasonably well, but to elicit the improved quality required for exports, closer interactions (especially for swine) would be needed. The starting point has to be market availability or demand for the products whose production can be promoted. However, without proper packaging of support services at all levels of the marketing/production/input supply chain, success in smallholder production for exports will be difficult to achieve. A more systematic approach is, therefore, needed to ensure that, market opportunities can be translated into actual production at the farmers plot. At the production level, direct involvement of TOPS, especially at the technology development stage, would be critical. In conjunction with this, a reform of the grading system (particularly for swine) is needed. Differences in grades for live pig have, hitherto, not been wide enough to present sufficient financial incentives for small producers to improve the quality of their output through better feeding. Government's recent introduction of a wider and more stringent grading system linked with more appropriate price differentials for swine is an important improvement. Poor feed formulation is also affected by relative price distortions which keep grain prices low and that for imported protein feedstuff high. This distortion has particularly hurt small enterprises in resource disadvantaged areas (who depend on

59/ Recent initiatives in developing a program to produce exports of special pickled cucumbers (gherkins) to France provides an excellent example. The AgroBank initially identified the market opportunity for such small cucumbers in a Trade Fair in France. In a joint initiative with KITE (a TOPS), a Debrecen cannery and two cooperatives, a project was started for smallholders. Common land in the cooperatives was used for establishment, extension and input services to be provided by KITE in conjunction with the Cooperatives' staff. Selected participants had to adhere to strict labor intensive husbandry and harvesting routines which are needed to get the required standard ripeness and size for sale to the canning factory. AgroBank provided the credit for development and maintenance and a small trading company was brought in to handle the actual exports.
purchased feeds) and small farmers who lack sufficient resources and financial incentives to optimise their own feed mixing. With a better understanding of the relative costs and benefits to small scale producers, proper decisions can then be made on pricing and taxation policy.\(^6\)

**Financial Support Services**

2.88 Along with the development of more efficient support services for research and extension, an improvement of the financial instruments for mobilising and allocating capital more efficiently is needed. The Banking system has been reorganized by separating the central banking functions of the National Bank of Hungary (NBS) from its commercial credit functions and, in the process, the number of autonomous banks has been expanded to encourage competition. Agriculture now has a wider choice of institutional credit sources. However, in new banks, in addition to capital mobilization difficulties, their capacity to evaluate, service and approve large sub-loans for the agricultural sector needs to be considerably strengthened. This is particularly necessary because the "commercial banks" in working with large enterprises under a socialistic system such as Hungary's will not have the possibility of using collateral like land to ensure security of loans and minimize their risks.\(^6\) Initiatives for strengthening such capacity has already begun,\(^6\), but significant progress is not expected for at least a few years. Technical assistance to Hungary, in the interim, would need to ensure a higher quality of loan requests from large borrowers so that, with appropriate criteria for lending and technical support for the analysis of loan request, proper loan approvals would be facilitated. As the banks improve their capability, less "hand-holding" would then be required.

2.89 Apart from their own retained earnings, government transfers and generally shorter-term bank loans, Hungarian enterprises are relatively lacking in alternative sources of funds. The capital structure of most agricultural firms, particularly those in agro-processing reflect this in that they appear to be underleveraged. Although it is unclear whether this is more due to constraints on the demand or supply of loanable capital, it is clear that the supply of long-term capital by Hungarian banks for enterprise investment has been inadequate in the past. The development of other sources of finance is the motivation behind ongoing reform of the financial system. The presence and rapid growth of the Hungarian bond market since 1981, although still small,\(^6\) could present subsector enterprises with the opportunity to improve their capital structure, and to introduce new pressures for managerial accountability.\(^6\)

\(^60\) For example: the need to eliminate differences in procurement prices for cattle and swine between large and small farms; the establishment of a pricing regime to reflect differential quality and collection costs; and an appropriate level of taxation which will not jeopardise supply response from the smallholders.

\(^61\) However, for small farmers who have ownership rights of up to 0.8 ha per adult family member, land can be used as a collateral but the political exposure of taking away land from a defaulter gives this option less clout.


\(^63\) Total bonds issued to date amount to less than 1% of GDP, 3% of bank deposits and 3% of fixed investment in 1986.

\(^64\) Hungarian authorities estimate that 20% to 40% of the 6.5 billion forints invested in the local bond market since its establishment in 1981 represents incremental savings.
2.90 In addition to improving the efficiency of the bond market, government is also examining measures that would allow firms to mobilize additional equity capital and provide "ownership" interests to employees at state enterprises. Although aggregate data for agro-processing firms show very low debt-equity ratios (indicating that it is efficiency rather than a shortage of equity capital which is the problem), worker productivity and managerial accountability in state enterprises might nevertheless benefit from the sale of equity-like instruments. The introduction of profit coupons in 1988 represents an important complement to the new enterprise management system in state enterprises since it could combine workers' new role in strategic decision-making with a direct interest in profits. Important remaining issues concern their value, transferability of profit coupons outside the firm, and their tax treatment. The marketability of such instruments will be important for ensuring liquidity for investors as well as allocative efficiency as expectations on profitability will be reflected in the market. Each enterprise should be permitted to regulate the marketing and exchange of its own coupons.

2.91 With respect to credit support to the small farmer, the biggest obstacle is the absence of an effective mechanism for providing the package of services needed to make export-oriented ventures successful. Efforts by the AgroBank in conjunction with various technical and marketing enterprises indicate that, since a well disciplined system of quality control is required at virtually all stages of production and marketing, joint venture approaches through the cooperatives have possibly the best prospects for success (para 2.85). In trying to provide the support services for new categories of smallholder customers, the AgroBank realized that it needed to encourage technical support at the same time. "Service units" have therefore been established to encourage "hobby" smallholder farmers to purchase appropriate machinery and technology (ploughing, fertilization and pest control) for vineyard and vegetable growing. These service units are small capital venture groups (Ft 2 million) comprising about three "experts" who could potentially expand to become small venture companies. From a macro-economic standpoint, such ventures run a high risk of aggravating the balance-of-payments problem if the technology involves imported items and the products are consumed locally.

H. Development of "Disadvantaged" Areas

2.92 For both economic and social reasons, Government is putting greater emphasis on the development of Hungary's resource poor or "disadvantaged" areas. A "Program For The Development of Disadvantaged Areas" prepared by the National Planning Office (NPO) was approved in October 1986 with the objective of finding ways for such areas to keep pace with other parts of the country. The framework for development was undertaken jointly with MEM and other key ministries. Using criteria based on soil quality and agro-ecological conditions (as reflected in the "crown value" of agricultural land), 23 regions (subcounty level) located in seven counties were selected for the program. Ft 3.0 billion has been allocated for 1987-1990 with Ft 600 million to be used for "central coordination" (supplemented by the relevant Ministries' own budgets) and Ft 2.4 billion to be allocated to the 23 regions according to, inter alia: the crown value; number and size of settlements; number of agricultural enterprises and their level of production; employment structure and levels; and level of infrastructure.

65/ See SAR, Agro-Processing Project.
66/ Borsod-Abauj-Zemplén, Szabolcs-Szatmár, Vas, Zala, Békes, Szolnok and Baranya (see map attached).
development. The allocation of a modest Ft 300 million ($6.5 million) to this program for 1988 reflected Hungary's fiscal reality. However, MEM subsidies with a high incidence in the disadvantaged areas (notably production and land amelioration subsidies and subsidies to loss-making enterprises), which totaled nearly Ft 6.8 billion ($148 million) in 1986, makes the support of disadvantaged areas far more important than is reflected in the NPO Program.

2.93 There is a need to unify the criteria for allocating resources to these programs so that the basic objective of employment and income enhancement can be achieved at the lowest budgetary cost. The framework and criteria already developed under the national (NPO) program provide a reasonable starting point. With some modification to give greater priority for foreign exchange earning capacity of potential investments, consideration should be given to requiring all ministerial programs in these disadvantaged regions to adopt them. Since refloatation and liquidation of loss-making cooperatives would need to go through the county councils (especially in relation to the critical need for providing alternative employment for displaced cooperative employees), integrating the restructuring of these loss-makers into this framework would be an immense advantage. Care, however, be taken to avoid the instituting of specific subsidies (for certain products, inputs or even interest rates for loans) such that resource allocation would be distorted.

2.94 Agricultural solutions in agricultural resource poor areas are not easy to find. Even so, there are certain foreign exchange earning activities linked to agriculture for which these areas can claim some comparative advantage: (a) for crops—organic gardening in areas least damaged by environmental pollution; fruit trees (e.g., sour cherries), rye seed multiplication and selected land improvement; (b) for livestock—less intensive husbandry of dual purpose cattle, goat, sheep; and agricultural and forestry related activities associated with tourism—hunting, game keeping, horse riding—starting with low infrastructure requiring attractions like camping and expanding to more sophisticated levels when infrastructure improves. The study on the restructuring of loss-makers and its linkage with the small farmers (Appendix 1) should identify, in more detail, these and other possibilities. In any case, the potential viability of agricultural alternatives would necessarily have to depend on parallel non-agricultural developments in the region or county. Under the national Disadvantaged Area Program framework, there is the possibility of pursuing a "growth pole" approach where appropriate large towns within the disadvantaged counties could be developed to provide the employment and income improvement opportunities for the rural labor located in the nearby disadvantaged regions.

I. Environmental Implications

2.95 Agricultural development has had a number of environmental effects, the implications of which need more careful consideration and quantifications. For
example, substantial increases in fertilizer and especially herbicide use in the 1970s have resulted in surface and underground water pollution but the extent is not very clear. The "Super-Corn" Program would have more serious implications. In addition to assessing the extent of such pollution, research on lower input production (para 2.81) and the encouragement of greater organic fertilizer use are required. Improper land use has also resulted in erosion affecting hilly areas, especially in the West. The amelioration of erosion is one of the objectives of the Land Amelioration Program of MEM, but measures to remedy the problem has been judged to be less viable and less critical than cereal land improvement (para 2.31). Problems with environmental pollution from agro-processing does not appear to be very serious as government guidelines have been found to be acceptable and most subsectors attempt to fully utilize their by-products. Thus, overall, while environmental problems related to Agricultural in Hungary exists and the seriousness of their extent may be variable, they are not considered to be alarming.

III. RECOMMENDATIONS

A. A Medium-Term Strategy for the Development of Hungarian Agriculture

3.01 From the onset of the New Economic Mechanism (in 1968) until 1983, Hungarian agriculture had performed very well by European and CMEA standards with GDP growing at 3.2% per year. The sources of growth had been largely yield increases for cereals and milk, expansion of higher value products and livestock population growth. Government provided enormous investment subsidies and pricing incentives to effect technological change which has paid off for cereals (particularly wheat), milk/cheese and perhaps poultry by enabling their production to become internationally competitive. However, beef and swine production has been achieved at too high a cost from the perspectives of the Government's budget and the earning of foreign exchange. Since 1983, agricultural GDP growth has declined marginally, largely as a result of continuously unfavorable weather and adverse world market demand conditions. The competitiveness of Hungary's agricultural subsectors has also declined: first, commodity DRC ratios have deteriorated; second, 37% of large farms (state farms and, especially, cooperatives) are now loss-makers; third, the food processing subsector has the least competitive enterprises within the industrial sector and require increasingly larger export subsidies for their products; and fourth, the private smallholder, who had been adept in responding to the domestic demand for labor-intensive primary products, cannot readily cater to the quality demands needed for successful non-CMEA market exports. These developments, set in the context of the country's serious macroeconomic problems, have highlighted the fragility of balancing agricultural development to simultaneously achieve growth and social (income distribution and employment) objectives. The potential u sustainability of the country's balance of payment and budget deficit problems, in particular, requires that the agricultural sector shoulder its share in alleviating the country's macroeconomic morass; but the cost of adjusting to the required structural changes has also to be more equally shared — especially on the part of the consumer and of the enterprises which have been highly subsidized. At the same time, Government would have to rethink through its employment and income distribution objectives, how much it can afford to spend on achieving them, and the role agriculture might play. Hitherto, agriculture has had to shoulder the bulk of these social responsibilities.

3.02 The medium-term strategy for agricultural development in Hungary, therefore, requires:
(a) Substantial reduction in the subsidies burden for agriculture which, at 43% of total agricultural GDP (1986), the Government can ill afford. This means that trade-offs in policy and program objectives for production, consumption, marketing and trade would have to be faced in light of changing macroeconomic priorities.

(b) That key subsectors be put to the test of the market by liberalizing price controls, permit greater imports and eventually equating world prices with domestic prices. In transition, world prices would have to be used as efficiency standards for the setting of administered prices. Furthermore, to ensure that the instability of world prices does not jeopardize the incentives for efficient production, a mechanism would need to be instituted to manage transitory low prices (due to trade dumping or excellent weather) and yet reduce the budget deficit without compromising production efficiency.

(c) The streamlining and reduction in the use of subsidy, taxes and price control instruments which have proliferated to such an extent that their effects cannot be easily discerned (and thus monitoring would be practically impossible). Reduction in subsidy levels and the number of subsidy tools would permit commensurate reduction in taxes and also give rise to fewer distortions to the economy; subsidy reductions would also be accelerated if the overall subsidy support to agriculture in agricultural producer countries were reduced.

(d) The promotion of further exports to convertible-currency markets (without undue strain on Government finances) by moving away from primarily bulk commodities and taking advantage of special market niches through the encouragement of a more proactive (“active marketing”) approach in contrast to the present consignment (“passive marketing”) approach.

(e) An increase in the flexibility by which Hungarian agriculture can respond to changing world market conditions through the reduction of impediments posed by: (i) bureaucratic controls at both the import and export levels; (ii) catering to the requirements of CMEA trade; and (iii) dominant, albeit declining, Government control of the marketing and trading functions.

(f) The restructuring of the main producing agents to cater for the changing macroeconomic priorities by: (i) subjecting large farms and food processing enterprises to hard budget constraints and pursuing, not just technically efficient but more profitable lines of exportable products; and (ii) better integrating the private smallholder with the large farms, processors and the marketing system to produce the increased quality required for exports.

(g) Further promotion of competition in marketing and trade by ensuring divestiture of the non-strategic operational functions of commodity trusts to “autonomous” enterprises.

(h) That agricultural support to “disadvantaged areas” be programmed and implemented within the framework of the national program developed by the National Planning Office. The critical rationale for any agricultural support should be its cost effectiveness in generating income and employment for the disadvantaged area inhabitants in comparison with other (nonagricultural) alternatives.
3.03 The remaining chapter discusses how the strategy, including transition actions, can be implemented. It ends with a brief discussion of the external financing and investment opportunities associated with the strategy.

B. Key Specific Recommendations

3.04 The specific recommendations arising from the review of Hungary’s agricultural strategy are summarized in relation to key problems under the following headings: (a) pricing and tax policies; (b) agricultural production programs; (c) international trade and marketing; (d) enterprise restructuring, competition and management; and (e) support services for agricultural production. Recommendations on subsidies, being policy and program specific, are covered in (b) - (d). External financing and investment opportunities are discussed at the end.

Pricing and Taxation Policy

Problem A-1: Lack of freedom of “free” prices at the consumer level (para 2.07). Action taken/being taken: reduction of product categories subject to prior announcement (through Industry Sector Adjustment Loan). Further action: Government should ensure that agricultural products are included in the derestriction.

Problem A-2: Setting an administered price, which is relatively ad hoc and not related to an efficiency standard, is highly distorted by varied taxes and subsidies (para 2.08). Further action: move towards equating domestic price with the world price (for equivalent qualities) in the medium term. In the interim, develop a systematic approach to administered price setting which takes into account: the international price and the producer subsidy equivalent (PSE) as efficiency standards (paras 2.08 and 2.23); and, for products which are important for exports, the domestic resource cost (DRC) coefficient as calculated by AKI or any other indicators which can measure economic efficiency of exports (para 2.22). Furthermore, to ensure that the instability of world prices does not jeopardize the incentives for efficient production, a mechanism should be instituted to manage transitory low prices (e.g. due to trade dumping or excellent weather) and yet reduce the budget deficit without compromising production efficiency (para. 2.29).

Agricultural Production Programs

Problem B-1: Expensive and uneconomic supports of production programs pose a substantial strain on Government budget and, where imported inputs are used, on the balance of payments. Proposed action: (a) Develop systemic and more stringent criteria and assessments which use indicators of efficiency that can measure the net economic benefits and the balance-of-payment costs of producing agricultural goods for exports (para 2.22). (b) Monitor, and if necessary, reevaluate the economic rationale of the "supercorn" program (para 2.25) and the soybean production program (para 2.29) with the objective of restricting their scope to potentially profitable areas with subsidies to be given only as a transitional measure; or, for soybean, simultaneously initiate
a producer pricing policy which uses an international price formula combined with variable levies to ensure greater price stability and reduce government budget deficits without jeopardizing the more efficient production of soybeans for meal (para 2.29). (d) Further reduce subsidies in land amelioration by increasing cost recovery from beneficiaries and by eliminating subsidies which are currently based on ability of enterprises to pay (para 2.32).

Problem B-2: High protection and inefficient production (e.g. high DRCs, low feed conversion ratios) of livestock and meat (para 2.44) have worsened in recent years thus increasing the extent of loss making enterprises and their need for support from the budget. Proposed action: improve cost efficiency of production systems and withdrawal from, or drastic restructuring of, substantially inefficient activities. Specifically:

(a) For live cattle, milk and beef –

(i) establish a program to develop improved lower cost forage (as a feeding source) especially specific improvements for forage lines of maize and sorghum for silage production (on better lands) and grass and legume (on less productive soils) (para 2.41);

(ii) substantially reduce milk production subsidies and cattle price subsidy (para 2.39) and phase out live cattle, beef and milk enterprises which incur large and sustained losses (paras 2.39 and 2.45), but if producer subsidies are needed for employment/income distribution purposes in disadvantaged areas, targeted subsidies to these areas would be preferable to the present country-wide system (para 2.45);

(iii) explore prospects of producing low cost beef as part of the dairy enterprise (para 2.45);

(iv) improvement of management and cost accounting of relevant product lines (para 2.70).

(b) For poultry and swine –

(i) remedy the shortage and high price situation of protein feed ingredients by rescinding the import licensing of plant protein meals like soybean meal (para 2.48) but allow the lower imported costs to be better reflected in, a stable manner at the level of feed prices set by Government (para 2.29);

(ii) improve the quality of pork and live pig output to (reflect the need for increased lean-to-fat ratios, through an improved grading system and commensurate prices (para 2.43);

(iii) modify the small farmer maize entitlement system to ensure the availability of good quality feed (para 2.43);

(iv) ensure better linkage and support between small farmers in the vertically integrated processing system at the large farm or agro-processing firm level (para 2.87).
International Trade and Marketing

Problem C-1: Export subsidies to non-CMEA markets are very costly both in terms of the Government budget ($240 million in 1986) and in terms of distortions in resource allocation, especially for the production of export products with high or negative DRC ratios (e.g. beef, slaughter cattle, pork and broilers) thus jeopardising production efficiency (paras 2.52-2.54). Proposed action: reduce export subsidies in tandem with trade promotion and market development support, taking into account other countries' subsidies (para 2.56 and 2.60).

Problem C-2: Import licensing makes it difficult to obtain raw materials and feeder industry inputs which contrains the cost-effectiveness of producing for exports (para 2.59[b]). Proposed action: rescind import licensing for a positive list permitting the import of products or inputs critical to production for convertible currency markets (paras 2.27 and 2.59).

Enterprise Restructuring, Competition and Management

Problem D-1: Loss making agriculture and food industry production enterprises constitute a large drain on the Government's budget. Actions already taken: the initiation of a "new" enterprise management system since 1985 (para 2.69) and the initiatives taken under the Agro-processing Project (para 2.70) will likely have an impact only on the average and better performing enterprises. Proposed action: develop a medium-term program for restructuring the financially weak large farms (primarily cooperatives) taking into account the improved integration of the small farmer. Systematic analysis has to be undertaken on two very important aspects before a proper restructuring program can be devised: (a) a comparison of loss-makers with successful cooperatives under similar conditions, i.e., farm size, types of activities, agro-ecological endowment (para 2.71); and (b) an identification of the prospects for potentially viable activities to earn foreign exchange in disadvantaged areas especially through improved integration of the small farm sector (para 2.87 and Appendix 1).

Problem D-2: Marketing trusts, and the firms associated with them, absorb large amounts of support from the State, are cumbersome to administer and do not encourage the competition that is necessary to improve efficiency and performance of their constituent enterprises. Actions already taken: the break up of commodity trusts took place in 1982 and 1987 (para 2.74). Proposed action: (i) update the reevaluation of the effect of the breaking up of trusts (using canning, poultry and meat as examples) and recommend changes for their final transition towards autonomous management (para 2.76); (ii) evaluate the original objectives and functions of the Cereals and Milk Trusts and make an assessment of the feasibility of disengaging their implementation functions (e.g. flour milling, milk processing) in line with present and prospective conditions of the relevant subsector (para 2.76); and (iii) prepare a program for Restructuring of Cereals and Milk Trusts.
Support Services for Agricultural Production

Problem E-1: State research funding lacks clear priorities at the subsector level and has a generally narrow orientation and insufficient economic emphasis (para 2.79). Proposed action: MEM should ensure that state financed research approved by the National Agricultural Research and Development Council enunciate subsector priorities more clearly and impose a more rigorous framework for submission and approval of research proposals. Emphasis should be to encourage a systems perspective (combining both technical and managerial) with increased economic/financial focus and remedy certain gaps in basic research (para 2.80 and 2.81).

Problem E-2: Lack of information and a well conceived program of assistance to small farmers (para 2.83). Proposed action: (a) Undertake an assessment of: (i) the available intermediate technology; (ii) the available options to overcome constraints linked to the small size of the enterprise; (iii) the incentive structure of the private small holder family in terms of the effect of government pricing, taxation and subsidies, their risk profile and investment patterns; and (iv) improved linkage between TOPS/large farms/agro-processors and the small farmers (para 2.43 and 2.87); and (b) Prepare a small farmer assistance program in conjunction with that proposed for problem D-1 (See Appendix 1).

C. Investment Opportunities

With improvements in the policy environment proposed, and if the assessments outlined above are undertaken, the following programs have investment potential:

(a) **Viable Large Farms with export-oriented activities:** (i) Quick gestation impact activities based on previous investment experience like investments in rainfed grain production to take advantage of the potential production efficiency improvement and location advantage vis-a-vis the East European and Russian markets. Only one third of Hungary's corn and wheat area has up-to-date equipment which has significantly reduced production costs. Spare-parts requirements for Western made machinery are also high in demand and far from being adequately catered for at present. The promotion of wet corn production and bunker silage storage with complementary support of new feeding equipment associated with this activity has potential because of the significant energy savings which would contribute to reduced livestock production (feed input) costs. World Bank support for liquid fertilizer production and mixing has encouraged the establishment of 33 locally financed smaller plants thus generating the demand for feeder inputs like monoammonium phosphate as well as on-farm fertilizer spreaders and injectors which appear sufficiently profitable to be encouraged without the aid of subsidies. The import of these feeder inputs would require financing assistance. Hybrid seed production, especially maize, would also have financing prospects (paras 2.26-2.27). (ii) Longer term gestation-potentially viable activities which could include primary agriculture (land amelioration, high value tree crops) or non-primary agriculture (processing, marketing and technology development services).
(b) **Viable enterprises arising out of the program for Restructuring Weak Cooperatives and State Farms.** Initial requirement is the development of a framework (Appendix I, Section I) to assess the needs for restructuring, rehabilitation, equipment, training and liquidation (if needed) for financially weak large farms.

(c) **Support for small farmers** which could include: financing of appropriate technology transfer (tilling machinery, tractors for contract work, pick-up trucks, harvesting equipment, manure spreaders); initial technology development involving TOPS and large farms; initial organization of contract/group support services for small farmers' marketing, input supply and mechanization (with advisory and credit support); and special training programs (See Appendix I, Section II).

(d) **Continued restructuring of agro-processing enterprises** along the lines of the World Bank's agro-processing and livestock projects through lines of credit with commercial banks.

(e) **Restructuring and investment needs** to enable remaining marketing trusts to divest their implementation functions to "autonomous" enterprises (See Problem D-2).
HUNGARY
AGRICULTURAL SECTOR STRATEGY

PROGRAM FOR RESTRUCTURING OF COOPERATIVES WITH
EMPHASIS ON THE IMPROVED INTEGRATION OF SMALL FARMERS

Such a program could consist of the following elements:

I. BASIC OBJECTIVES

Improve profit generating capacity and reduce the need for subsidies of both large farms and their associated small farmers.

II. ANALYSES OF PROBLEMS AND CONSTRAINTS TO BE OVERCOME

a. The serious Loss Makers and Sources/Reasons for Their Condition (e.g. do they tend to be located in resource poor areas and/or tend to produce similar products? Are inputs used at intensities which may be inappropriate to the agro-ecological conditions? What are the loss making lines and functional activities? How do their performance compare with profitable farms with similar conditions?)

b. The Efficiency, Financial and Management Problems of Financially Weak Cooperatives.

- Organization and management gaps (management information system, instilling performance incentives for profitability performance).

- Surplus/unproductive labor problem.

- Extent of unpaid support of small farmers and the profitability effects.

- Extent government regulations constrain effectiveness and flexibility to improve profitability (e.g. the extent capital payback requirements before full depreciation is hampering ability of enterprises to switch into other, more profitable lines of activity).


- Problems of lower quality, quality standards and pricing incentives (especially pig production)

- Availability of appropriate technology

- Extension and Credit as constraints

- Extent of direct and indirect subsidies
III. OPTIONS FOR REFORM

a. The "Special Cooperatives Model" - Its Applicability and Needed Modifications.
   - Need to provide security of tenure in transferring land to members.
   - Feasibility of "Land Rights Coupons" which can be redeemed by member from the cooperatives so that the cooperatives can resell the coupons to anyone who can demonstrate that they can more productively farm the land.
   - Development of appropriate Cooperative land-use plans.
   - Allocation of services to centrally located cooperative units and those for which small farmers are themselves responsible for.

b. Other Cooperatives or State Farms (Not in Special Cooperatives Prog.)
   - Reduction of soft budget constraints - What opportunities?
   - Treatment of surplus labor.
   - Improving organization and management.
   - More disciplined linkage between cooperatives and small farmer (e.g. for pig production probably need a more integrated input supply - husbandry support package from the cooperatives like that for poultry).

IV. TRAINING REQUIREMENTS

   - Management training programs (particularly for managers of financially weak cooperatives or state farms).
   - Use of key profitability indicators in conjunction with appropriate management information systems.

V. INVESTMENT REQUIREMENTS

   a. Cooperatives/State farms
   b. Small farmers
   c. External assistance needs
In January 1987 the Government dismantled the Meat Trust. Up until this time the Trust was responsible for all marketing of beef and pork on the domestic, convertible currency and COMECON markets. The total outputs of the processing plants were controlled by the Trust and they were instructed as to how their production would be allocated to the internal market (through the Meat Wholesale Enterprise) or for export (through TERIMPEX). TERIMPEX was responsible for seeking convertible currency markets and meeting contract agreements with COMECON countries. For this service TERIMPEX received a 1.5% commission.

All receipts from exports were passed to the Meat Trust which also received a global export subsidy from the Government. These funds were then distributed to the processing plants without consideration of the actual prices received for products and in such a way as to equalize profits of the different firms. The Trust underwrote all risks and financial obligation for the meat processors and determined which plants would receive investment funds for modernization or development of new products.

Under this system there were few initiatives for the Meat Trust, TERIMPEX or the processing plants to increase operational efficiency, seek out small, premium priced market niches or to develop new products. In fact the more efficient processing plants subsidized the less efficient because profits from subsidiary enterprises were pooled and allocations were based on needs rather than performance. There was no communication of specific market needs to the processors. In the case of domestic marketing there was no incentive for quality production. The Ministry of Agriculture established the volume of domestic distribution and set producer prices. In order to hold down consumer prices, Government paid the Trust a consumer price equalization subsidy.

The first step towards restructuring the Meat Trust was taken in January 1986 when processing plants were allowed to compete for slaughter cattle and pigs. Thus the enterprises were allowed to pay transport and quality premiums in order to increase the total volume of purchases or the acquiring of better quality animals.

In January 1987, the Meat Trust was abolished. In its place a Meat Industry Center (MIC) was established with control being vested on the managers of the meat processing enterprises. Officials of the Ministry of Agriculture (MEM) also participate in the MIC. The MIC has the responsibility to plan for supply of the three markets, ensure adequate livestock supplies, advise on new investments to be realized and monitor overall financial performance of the processing enterprises.
6. There is still some Governmental control of Enterprises through targets established by MEM for generation of foreign exchange and profitability. The bonuses of Enterprises generally and managers specifically depend upon meeting these targets. The volume of COMECON exports are established by Government and there is guidance to the minimum domestic market needs.

7. The MIC has control of the Meat Wholesale Enterprise (domestic market) and TERIMPEX (exports) and both are now operated as cooperatives. As would be expected after such a major reorganization, there are still "birthing problems" in the organization and operation of MIC. Processing plant managers, not having experience in export marketing, must depend on former TERIMPEX staff for this function, and have not yet established full control over this organization. There are also undefined linkages between the Ministry of Foreign Trade and TERIMPEX staff which gives certain advantages of foreign travel outside MIC control. The export marketing budget for TERIMPEX was approved before MIC was fully organized but in 1988 and onwards the managers of MIC will have much more control of both domestic and export marketing.

8. With the freeing of most domestic consumer prices in January 1988 there will be scope for increasing local market competition. This may be through expansion of processing enterprises' retail outlets or increased sales efforts to state or private butcher shops. This will be good for the processors since it can provide "hands on" experience in downstream activities. It is also expected that processing enterprises, through their managers or marketing units to be established, will expand their knowledge of requirements of convertible currency markets. Thus, even though most or all exports will continue to be through TERIMPEX, the opportunity will exist to produce new products, improve the quality of existing products and even for establishing brand name products from some Enterprises.

9. Even with the continuation of certain governmental control of Enterprises and their markets, there is clearly a possibility to improve product quality and diversity as well as the incentive system to do so. It is important that the Government continue to reduce its role and participation in the entire marketing system.