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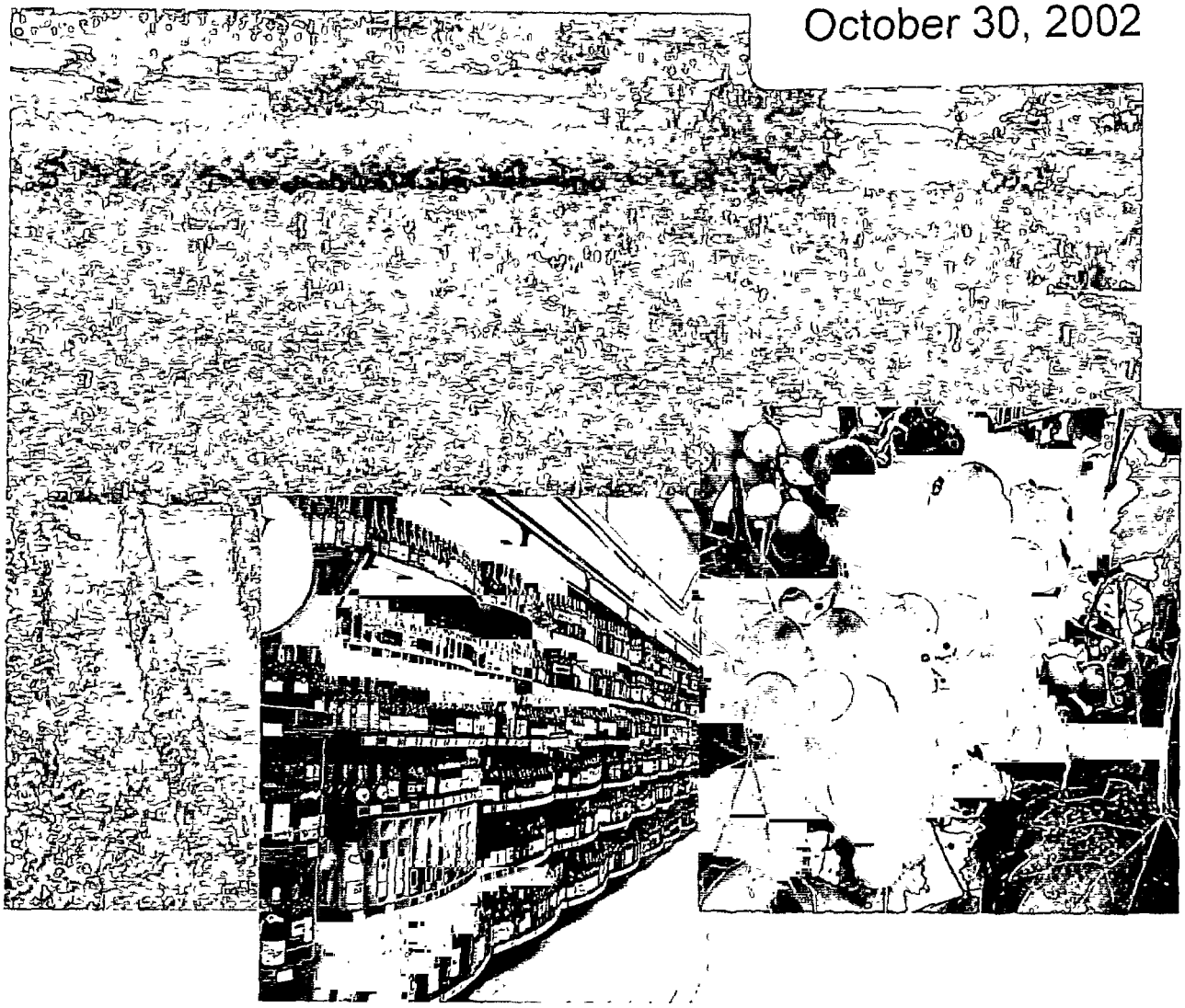

FYR Macedonia
Agriculture Sector Review

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Environmentally & Socially Sustainable Development
Europe and Central Asia Region
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Washington, DC

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ACRONYMS

ADUR	Agency for the Development of Underdeveloped Regions
AK	Agro-kombinat – State Owned Agricultural Enterprise
CAP	Common Agriculture Policy of the EU
CEEC	Central and Eastern European Countries
DOF	Forestry Department
EU	European Union
FI	Forestry Inspectorate
FTA	Free Trade Agreement
FYR	Former Yugoslav Republic
HACCP	Hazard Analysis and Critical Control Point
IRRP	Irrigation Rehabilitation and Restructuring Project
ISO	International Organization for Standardization
MAFWE	Ministry of Agriculture, Forestry and Water Economy
MECC	Macedonian Economic Chamber of Commerce
NPC	Nominal Protection Coefficient
PFE	Public Forestry Enterprises
PFSP	Private Farmer Support Project
SAA	Stabilization and Association Agreement
SEE	Southeastern Europe
SFE	State Forestry Enterprise
SOCR	State Office for Commodity Reserves
VEU	Veterinary Epidemiology Unit
WMO	Water Management Organization
WUA	Water User Association

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The first draft of the document was completed in June 2001, but the planned mission to discuss it with the government was postponed due to unrest in the country. The final report has taken changes in the country situation and the country's desire for membership in the WTO and EU into account. Issues of international agricultural trade and competitive agriculture were emphasized in the agriculture strategies and discussed fully during the roundtable discussion involving Macedonian agricultural policy makers, mission members and representatives of other donors in April 2002. The final report was sent to the government on November 15, 2002.

The main authors of this report were Rapeepun Jaisaard, Garry Smith and Garry Christensen. Peer reviewers were Messrs. Csaba Csaki, Mark Lundell, Rodrigo Chaves, John Nash and Cees van de Meer. Numerous comments were received from donors, Macedonian academics, Erika Jorgensen (Country Economist) and Andras Hovai (Country Officer). Comments were also received from World Bank managers, Mr. Joseph Goldberg (Sector Manager), Ms. Laura Tuck (Director) and Mr. Christiaan Poortman (Country Director).

EXECUTIVE SUMMARY

Macroeconomic and Institutional Situation

1. Economic progress in FYR Macedonia has been variable and slow overall during the last 10 years, as the country achieved independence in the break-up of the Yugoslavia Federation and endured a succession of regional and domestic crises. This slow progress is attributable to the succession of political and economic shocks, and the failure to complete economic reform. Due to the recent security crisis GDP dropped by 4.1 percent and substantially higher-than-planned fiscal and trade deficits occurred in 2001. They were 6% and 10% of GDP, respectively. While ethnic tensions remain, the possibility of further unrest has receded, and modest growth of 3% in 2002 and 4% in 2003 is projected.

2. Agriculture is an important sector in the Macedonian economy, with production and processing contributing around 18% of GDP. Extensive structural reforms have been realized in agriculture since 1994, including partial privatization of public enterprises (in agriculture known as agro-kombinats – AKs) and a major reduction in the level of budgetary support. Some rationalization of institutions has also begun, and the private sector is becoming increasingly influential. But the potential benefits to the rural sector from these changes in the legal, institutional and economic frameworks have been slow to materialize, due to political and economic shocks, incomplete reforms and the continued use of inappropriate policy.

Agricultural Trade and the Incentive Structure

3. As a small economy with a structural deficit in most food commodities, agricultural trade is essential for FYR Macedonia. Current agricultural trade policy, however, constrains agricultural trade. Most Macedonian imports (over 75 percent) are covered by free trade agreements with the EU under the Stabilization and Association Agreement and with regional trading partners, but some imports continue to face a combination of high tariffs and variable levies, and import and export licenses and quotas apply to some commodities. Fortunately, a comprehensive reform of current trade policy is now scheduled following accession (subject to Macedonian parliamentary approval) to the World Trade Organization (WTO), in October 2002. The new trade regime will have a major impact on the incentive structure for Macedonian agriculture, with profound medium and long-term implications for the level and composition of agricultural output. The FTAs with regional trading partners are characterized by widespread use of tariff quotas for agricultural products and will not be affected by WTO membership

4. Direct support for agriculture derives from the budget of MAFWE and the activities of the State Office for Commodity Reserves (SOCR). Budget support is minimal due to the severe current fiscal restrictions. Most direct support comes from the SOCR, through its purchases of wheat and tobacco to maintain official floor prices. In both cases these floor prices are well above import parity prices.

5. As a result of the trade and direct support policies, nominal protection coefficients (NPCs[1]) are high for most major agricultural commodities (wheat, maize, potatoes, tomatoes, cucumbers, milk, butter), which indicates that they are uncompetitive in export markets and maybe in the more open domestic markets that are coming).

6. High NPCs are not inevitable, however, as agriculture in lowland FYR Macedonia benefits from good climate, fertile soils and natural upland pastures. Evidence from the Central and Eastern European countries further ahead in their transitions indicates that transition countries with good agricultural resource endowments are potentially competitive at least in crops. Depending on what happens

[1] Nominal protection coefficients are the ratio of domestic price to border price

elsewhere in the economy, effective agricultural and other economic policies could spark a significant improvement in agricultural efficiency. Even at this time and under present policies, high *average* NPCs do *not* indicate that there are no competitive farmers and processors. The most market-aware farmers currently appear to be drawn to horticultural products (i.e., fruit, berries, mushrooms, flowers, and early season vegetables) and may have already developed comparative advantage within this product category. If labor supply problems are solved, FYR Macedonia may also have comparative advantage in small ruminant production on natural upland pastures.

The Rural Economy

7. Agriculture is an important sector in the Macedonian economy. Using 2000 data, it currently contributes an estimated 10% to GDP and is the only sector to have increased output since independence. Adding marketing and processing activities raises agriculture-related production to about 18 % of GDP. Similarly, agricultural exports, consisting mostly of wine, tobacco, horticultural products and lamb, amount to about 17% of total exports. Imports of agricultural products are about 13% of total imports, as well. It is difficult to assess agriculture's true share of employment, which is measured at 12%, but about 45% of the population (some 800,000) and 36% of the labor force live in rural areas. Approximately the same number live in the five largest cities, with the remainder in smaller towns.

8. FYR Macedonia has 1.28 million ha of agricultural land, about half cultivable and half pasture, the latter mainly upland and one million ha of forest. Individual farms (mostly highly fragmented very small farms) contained 79% of cultivable land in 1999 and produced 67-99%, of all crop and livestock varieties, except sunflower. Agricultural enterprises (privatized ex-AKs, as yet unprivatized AKs and cooperatives) farmed and produced the remainder. All socially owned land was nationalized in 1993, financial support to the AKs formally ended in 1995, and more than 50% of AK assets has been privatized. Existing irrigation schemes, which once covered 40% of the area suitable for irrigation, has been reduced to 13% coverage. The state of the country's irrigation system, however, is poor, and crop damage during the variable summer dry period is prevalent.

Agroprocessing and Wholesale Marketing Facilities

9. FYR Macedonia inherited an inordinately large agro-industrial sector with about 425 agroprocessing enterprises. Many of these had production and processing capacities to provide food products for the larger market of Former Yugoslavia and, in some cases, significant exports to the EU and the region. Most of these enterprises were parts of 147 parent AKs. Privatization was delayed, but by September 2002, all but 16had been sold, mostly through staff buyout. Many of the ex-AKs are essentially insolvent. Debt service costs and excess employment absorb available cash flow and prevent management from re-tooling with the up-to-date technology necessary for competitiveness. A limited but growing number of new, smaller, private-sector agro-enterprises have been developing alongside the former AKs. In contrast to many former AKs, they tend to be business-and market-oriented with a focus on profit, growth and market.

10. The post-harvest assembly, distribution and management system for fresh produce in FYR Macedonia is highly rudimentary. Produce quality suffers from lack of needed infrastructure supporting post-harvest treatment and packing. These activities are essential to compete in export markets and, increasingly, in the domestic market that is now being influenced by international supermarket chains, which are becoming dominant players in Eastern Europe and the Balkans. The purchase of bulk loads by supermarket chains has tremendous opportunities in terms of volume, but these volumes must meet stringent quality standards, which Macedonian products do not now meet. There are very few farm-produce assembly stations in FYR Macedonia and even fewer with facilities for sorting, grading, cooling, packaging and storing fruit and vegetables. Wholesale markets are basically large fields where farmers' vehicles park in the sun for a day or two or until they have sold their load. Urban green

markets are similarly rudimentary. Although there is some need to upgrade market facilities in the medium term, the wholesale market system will probably be by-passed in the longer term by individual traders who carry out post harvest sorting and packing and sell directly to supermarkets from their own cool stores.

Rural Poverty

11. Poverty incidence sharply increased between 1993 and 1995 as the economic transition took hold and reached 21% in 1998. Median monthly adult equivalent consumption in 2001 was MKD 10,610 (US$ 150), giving (at 60%) an official monthly poverty line of MKD 6,366 (US$ 90). Poverty is more extensive in rural than in urban areas: 25% in 1998 compared to 17% for the urban poverty rate. Non-agricultural rural households have replaced agricultural households as the largest group of poor. The government provides social assistance to 13% of the population and has a small development program for underdeveloped regions. Unemployment of rural youth is a serious problem; particular attention needs to be given to secondary education.

12. Women constituted 48% of the labor force (1994census). Female-headed households actually have a lower poverty rate than male-headed households. Formal employment of women in agroprocessing is low at 30%, but employment of women takes on pivotal importance in alleviating poverty, since two wage earners in a household protect against poverty, virtually regardless of the level of earnings. For small farms, promotion of income generation for women can also be a powerful weapon against poverty. It is, thus, more beneficial to foster employment of women in poverty households than to aim at putting a floor under the wage rates for male household heads. For women in farm families, such employment could be in micro livestock, herbs, mushrooms or agro-tourism.

13. An increase in the value of agricultural production, which derives from effective policies and investments and involves small farmers, processors, traders and their spouses can have a large impact on poverty, first of all through incremental family income, which has been shown in FYR Macedonia to powerfully reduce poverty, and, second, through the derived increase in off-farm employment in related agriculture-support, business support and retail activities. Other poverty-amelioration approaches, to reach the chronic poor or as provide effective secondary education, will require targeted assistance programs. The Government has prepared a National Poverty Reduction and Strategy Paper (PRSP) develops a long-term agenda for poverty reduction and sustained economic growth.

Issues of the Private Sector in Agriculture

14. In line with the latest Country Assistance Strategy agreed between the Bank and FYR Macedonia, the priority areas for agriculture, the expansion of production and increase in productivity, require that resources be available to efficient, private producers, including efficient small ones, at every stage in the production, processing and marketing chain, so that they can expand in areas where they are competitive. This will require a comprehensive restructuring of government policies and support. At present, farm structure, the land market, rural credit institutions and practices, processing and input monopolies, trade restrictions, and investment rules and restrictions present a set of interlocking constraints that inhibit the ability of efficient farmers (including efficient small and farmers foreign investors) to expand production.

15. The chain of logic on how FYR Macedonia's agriculture can be restructured for greater competitiveness starts with the recognition that, in a modern agricultural economy, competitive agriculture-based products can only be produced by specialized industries that have sufficient economies scale at each level in the value chain to keep costs down and that also make use of overall economies of scope to capture information and technological externalities. Small farms contributing to a value chain do not necessarily have high unit cost, for instance, but small slaughterhouses probably

do.

16. To survive, Macedonian producers will need to be competitive in their domestic market with the products of foreign firms that can climb the moderately protective wall that will remain under WTO and FTA rules. In export markets, Macedonian industries will need to be able to compete with the same foreign producers but on more demanding terms. Both domestic and export markets are continually changing under relentless developments in technology, materials and communications. Producers must be able to access the investment finance necessary to stay competitive.

17. It is uncertain how successful Macedonian producers can be in either the domestic or export market in the future and, thus, highly uncertain that Macedonian agricultural production will expand overall even in the medium-to-long term. It may, rather, severely contract. As liberalization following WTO membership proceeds, currently viable producers may be hard-pressed to maintain their current share of the small domestic market, let alone expand production. If sustained expansion in any significant subsector does take place, it is, therefore, likely to be in export markets, which are typically huge relative to Macedonian production capability.

18. When the minimum size of production needed for competitiveness with imports in a domestic market is larger than the market share it can obtain, that industry is headed for rapid decline unless it can achieve the needed size and competitiveness to export its way to profitability. This is doubly true for higher-value products, where the internal market will usually be very small. Stated another way, many agricultural products will be imported for lack of efficient Macedonian producers despite import protection and natural barriers. This reality looks likely to force significant variety changes on commercial crop and livestock producers as the agricultural economy liberalizes.

19. The main impediments to FYR Macedonia developing competitive farms and processors concern land, finance, irrigation and transport, investment conditions, regulatory burden, company governance and management, and legal and government institutions. Certain technological supports are also crucial. These impediments and crucial supports and the requirements for restructuring in key sectors are discussed in some detail in the main text. The overall strategy should be to help all elements in agriculture value chains to become entrepreneurial and dynamic by reducing impediments and ensuring the availability of technological supports. Government should not attempt to "pick winners" by favoring particular commodities, industries, work forces, types of enterprise or export destinations but rather aim to develop an enabling environment for investment and production. Fast-moving international and increasingly competitive domestic markets will pick the winners (and losers) on a continuous basis. Governmental regulations and "help," which insulate their intended beneficiaries from the consequences of poor market performance, ultimately, cause the "beneficiaries" to fall far behind.

20. A simple spreadsheet model, with three scenarios –base case and gradual and rapid reform - was used to analyze the impact of policy reform on producers and consumers of wheat and lamb. The model demonstrates that getting trade and price policy right will be important after FYR Macedonia joins the WTO. A key conclusion from the analysis is that a sharp drop in the wheat tariff would result in a small rise in consumer prices for wheat products, while a gradual drop in the tariff would result in a sharp rise in consumer prices. The current high lamb tariff, however, is shown to have little impact on either consumer or producer prices; thus, abolishing the tariff or setting it at a low level could rightly be on offer in the WTO negotiations.

Requirements for Restructuring in Key Sub-Sectors

21. Processing and Trading. Marketing cooperatives potentially have an important role in high-quality post-harvest activities and some processing, but private, entrepreneurial agroprocessors and traders will have the leading role in developing competitive high-value agricultural production, if – a

big if - there is a conducive business environment for them to operate in and grow. The reasons for the non-responsiveness to demand of most large processors milk processing, meat industries, fruit and vegetable processing and wine production undoubtedly reflect the ills of the ex-AK processors in inadequate management, dysfunctional ownership structure, lack of working capital, antiquated equipment, out-of-date processing technology, high cost, low volume of marketable products, poor packaging, poor quality raw material, non-compliance with export standards, etc. There are dozens of small, cottage-industry-scale agroprocessing companies emerging from rural communities, retail stores and petty traders, however, typically manufacturing a single product line in competition with ex-AKs and imported products. A number of these have already reached medium-scale, for example, producing yogurt or canned vegetables, and on a level playing field may simply grow and displace existing large, but uncompetitive incumbents. Foreign direct investment should have a constructive role to play in bringing management skills, market knowledge and technology in both domestic and export markets.

22. Agriculture and Horticulture. There is considerable scope for improving the quality and yields of all crops. Traditionally, crop yields and productivity were lower on private farms compared to the AKs, since the latter had better access to inputs and technical advice. Following recent changes in Government policy, however, this trend is now being reversed, with the private sector having better access to inputs and technical advice and a limited amount of financial resources with which to access them (mainly through remittances). Recent changes have encouraged the development of a more dynamic private-sector farming community with a growing number of entrepreneurial farmers accessing new technology and inputs from an input-supply and powered-implement sector that includes support from EU and other international companies. Irrigation, which is needed for supporting most high-quality, high-yield crops and farming systems during the dry summer season, is serious disarray due to low efficiency, low coverage and institutional meltdown. Substantial investment and capacity building will be required to establish a modern seed regime. Despite the emergence of private input supply companies with an array of advanced products, usage is still low. With neither the input supply companies nor financial institutions providing sufficient seasonal credit, this situation is likely to persist. Marketing of fresh horticultural produce is now largely dominated by small private traders, but there is only rudimentary wholesale marketing of horticultural produce and little standardization or grading of produce.

23. Livestock. Livestock production in FYR Macedonia is characterized by a large number of very small, subsistence oriented farm households, a limited but growing number of small, commercially oriented family farming businesses and a decreasing number of large, specialized poultry and pig enterprises, former AKs. While the pig industry has grown substantially and the dairy industry modestly, the cattle, sheep and poultry industries have contracted markedly, the latter due to the collapse of AK and ex-AK production. A view widely held in the country is that the livestock industry will prosper through support of the large livestock enterprises. In fact, the limited research available suggests that family farming in FYR Macedonia provides equal and possibly better returns to land, labor, and capital than enterprise farming. The Government appears to have provided AKs and ex-AKs with long term leases for state land, including pastureland, initially rent free. Charging market rates for reasonable-length leases or denationalizing land in accessible-size parcels in transparent transactions would result in higher land productivity and higher incomes for successful lessees, buyers and workers. Veterinary and livestock laws and regulations need to be revised to reduce the regulatory burden and be consistent with EU laws and international obligations. Animal identification, disease epidemiology, product inspection, resource protection and market promotion services to name a few are not effective enough to provide a sustainable base for competitiveness in domestic and international markets. Fish, sheep, cattle and pig breeding services need to be privatized. Private farmer access to world-class livestock genetics is severely constrained. Livestock products have traditionally an export item, but there is limited capacity to compete effectively in international markets.

24. Forestry. Because of FYR Macedonia's mountainous nature, forests cover about 1 million ha (39% of the country's land area), and virtually all of it is state-owned. Both the environmental

protection needs and the economic potential of this vast forested area remain largely unanalyzed, but it is clear that output, productivity and contribution to the economy of the forest and wood products sector are far below its potential. Problems in the forestry sector are primarily the result of a weak forest policy. The basic technical problems are poor tree quality, inefficient production technologies and products that are inappropriate for contemporary markets. Current forest management policy permits annual off-take of 600,000-900,000 m3, equal to 1.8-2.3% of total stock. Of this, 73% is consumed as fuel rather than an input to lumber and wood products industries. Limited access to some forested areas also means that some areas are still over exploited despite the apparent sustainability of off-take volumes. New plantings have declined to less than 1,000 ha annually, which also does not allow for regeneration of harvested areas or soil conservation in uplands areas. The absence of any tax incentives for forest establishment has contributed to this poor result. Superficially privatized forest-operations companies, formed starting in 1997, are dominated by an ineffective, overstaffed public monopoly. At the same time, illegal wood cutting, pest infestation and fire damage have increased.

Need for Institutional Strengthening in the Rural Sector

25. As elsewhere, the government needs to do better the things that only government can do and to avoid doing things that impede or should be done by the private sector. The essential tasks in the rural sector include facilitation and regulation of the agricultural economy, protection of the environment, reduction of rural poverty and provision of welfare services to the rural poor.

26. MAFWE and Other Autonomous Operating Agencies. The Ministry of Agriculture, Forestry and Water Economy' main roles are policy analysis and development, regulation, monitoring and supervision. In all these areas, the ministry's capacity is still weak. An 18-month EU-financed capacity-strengthening project is set to commence in 2002. Despite the fact that most of the subsidies once administered by MAFWE have now been removed or set low at inoperative levels, agricultural support is still the largest item in its budget. Major internal MAFWE institutional restructuring is needed in connection with reforms in forestry, extension, research and irrigation:

27. Forestry. When Macedonia Forest monopoly is eliminated, MAFWE will need to greatly increase and strengthen its forestry staff. Extension: The extension service is now an independently budgeted agency, its operations have been reoriented toward training for private farmers, farm-level adaptive trials, promotion of farmer associations, and cost recovery and eventual privatization. The extension agency needs to reorient its organizational structure further along regional lines and to find its market niche in the context of other sources of technical support, such as, input suppliers, NGOs and an emerging private consultant industry. Agricultural Research: Agricultural research output is deficient in applied research, partly due to its funding through research institutes by the Ministry of Science and Education rather than MAFWE. The latter has no formal responsibility for agricultural research, although it is consulted on major issues and can fund specific research projects. With project support, a program of 25 applied research projects offered through MAFWE was completed.

28. Irrigation. The multiplicity of essentially insolvent non-performing Water Management Organizations (WMOs) controlling portions of deficient irrigation schemes, engaging in other businesses and ineffectively interfacing directly with individual large and small users has only partly been reformed to date under the ongoing Bank/Netherlands-financed irrigation project (IRRP). Once reformed WMOs are established public watershed monopolies and private water user associations (WUAs) have been put on a commercially effective and financially sound basis, it will be MAFWE's responsibility to keep them performing and disciplining those that are not. MAFWE is not now close to having this capability. MAFWE will also need to have the institutional ability to develop a revised water law and a national irrigation plan. Despite the fact that individual farmers are the dominant producers of most crop and livestock varieties, there is little systematic knowledge about their overall irrigation situation or the extent of their use of informal, traditional irrigation technologies.

29. Farmers' Associations and Cooperatives. The Macedonian Economic Chamber of Commerce (MECC) claims to represent the interests of small farmers as well as AKs although it had registered only one private farmers' association. Well functioning associations can provide their members with a range of technical, supply, packing, grading, storage, transport, credit, information, training and market facilitation services Though most of the newer associations tend to be commodity based, few are capable of effectively servicing their members or building coalitions with other associations in support of their objectives. Legislation to permit farmer organizations to engage in business has been prepared but not yet enacted. The legal framework for the structure of cooperatives also needs to be thoroughly updated to provide membership on a one-member-one-vote basis, with fees-proportional to throughput, and management and membership separated. Producer and trader organizations need to be promoted and strengthened, so that an infrastructure of associations with many horizontal and vertical linkages will come into existence, providing some of the economies of scope referred to above.

Strategy and Recommendations

30. A non-controversial goal with wide acceptance is to engender a sustained process of increasing agricultural production in value terms, thereby raising rural incomes in farming, agri-business and retail services and reducing rural poverty. A focus on efficient small farmers, processors and traders and their families is consistent with this strategy. Other poverty-amelioration approaches, such as provision of effective secondary education, will require targeted assistance programs. The essence of the best overall strategy to increase the value of agriculture-related production is to create the conditions in which clusters of farming and agri-business can develop and become competitive in domestic (and in some cases international) markets for selected agricultural products. These clusters need size, scope and the spur of competition within their ranks, from imports and from foreign firms. Firms in the cluster become efficient as they face and succeed in that competition. The task for public policy is to free the creativity of the whole population of farmers, processors, suppliers and traders and help rather than hinder the most productive producers. Government and donors should focus on the following (detailed list in main report):

- Reduce the distortions in the incentive and competition structure (e.g., reform trade policy and commodity-reserve system, end monopolies in input supply and processing);
- Make productive the resources in ex- and current AKs and in state forests (e.g., rationalize AK use of public land, privatize or dissolve remaining AKs, reform forestry institutions);
- Expand rural credit and rural financial institutions (e.g., develop viable rural credit institutions, reform all aspects of land market, provide training in agricultural loan evaluation);
- Improve the climate for investment and SME development (e.g., reduce regulatory burden, improve contract enforcement and tax administration, improve product standards);
- Improve irrigation and other rural infrastructure (e.g., develop national irrigation plan, develop mechanisms to ensure sustainability and accountability of WMOs and WUAs, determine transport priorities, assess state of wholesale markets);
- Develop and modernize public agricultural institutions (wide-ranging program of restructuring and capacity building for central ministry, extension, research, education, and forestry);

- Develop and modernize private agricultural institutions (e.g., revise laws on associations and cooperatives, provide technical assistance and promote farmer, trader, processor and apex associations, organize trade fairs to promote agricultural exports); and

- Alleviate poverty by increasing employment and family incomes, which will come from a buoyant agriculture-related rural economy, level playing fields for small farmers, processors, traders and transporters, education and access to land and credit for young farmers, mobilization of the household labor of farm women. Government programs of social assistance are still needed for aged, sick and handicapped.

Action Plan

31. Reform priorities for the agriculture sector were discussed during Roundtable Discussions in April 2002 attended by participants from the government, the private agricultural sector, NGOs and the donor community, using this report as input. A sector action plan, presented in Annex 4, was developed during the Roundtable and later approved by the Minister of Agriculture. The reforms listed in the Action Plan are divided into "Short- to Medium-Term Action Plan" and "Longer-Term Structural Reforms".

Sequencing of Reforms

32. A detailed list of reforms in agricultural subsectors is located at the end of the full report. All are worthwhile but all cannot be done in the short-to-medium term. Nevertheless, the process of developing a competitive agriculture and related agri-business requires change across a broad front. Thus, concentrating on a small number will not be effective. The following is a pared-down list of reforms to be done initially. They should be done first either because they will have the most beneficial immediate impact or because they are prerequisites for other important and necessary reforms. They will hopefully be supported by donors with technical assistance and investment funds in many cases.

Incentive Structure , Trade and Competition Policy

- Design continued reform of agricultural trade policy and implementation to support the WTO agreement and other trade negotiations.

- Limit SOCR's mandate to genuine strategic reserves, reduce the number of agricultural commodities covered, reduce wheat support to below import parity, lower the tariff and subject all imports to it, and end the tobacco program and privatize all tobacco firms.

- Markedly reduce transit time at border crossings by improving border infrastructure; negotiate same with neighboring countries transited by Macedonian goods.

- Revise the legal framework and enforcement to reduce monopolistic practices in agroprocessing and input supply.

Reform of AK and Ex-AK Land and Other Land Reforms

- Strengthen legislation governing the use of state-owned land by agricultural enterprises, set the criteria for market lease rates.

- Implement land taxation to give AKs, ex-AKs and individuals the incentive to divest unproductively used land.

- Develop an effective, flexible real estate system based on secure and tradable rights in ownership and a variety of leasing and other less formal agreements.

- Establish an independent land cadastre office controlled by a registrar of lands to oversee the real estate cadastre, now being computerized.
- Review, revise and integrate the laws affecting the land market.[2]

Rural and Agricultural Credit

- Provide training to improve the financial, economic and agricultural skills of commercial bank and savings house staff to improve their ability to assess risk and manage loans.
- Give technical assistance to rural lenders to develop working capital lending products for private suppliers and processors so that they can extend in-kind credit to farmers for such items as seed, fertilizer and equipment.
- Expand successful micro-credit programs.
- Improve the collateral recovery system with land and administrative reforms.

Improve the Climate for Private-Sector Production and Investment

- Reduce regulatory burden, e.g., time-consuming registration requirements and other red tape, reduce corruption.
- Improve court capacity for contract enforcement, which is now seen as unreliable in result and delayed in execution.
- Improve tax administration, which is perceived as non-transparent.
- Revise standards and regulations to be consistent with EU standards where possible to facilitate exports and ability to supply international supermarkets.
- Provide technical assistance to develop and implement plans to assist SME agricultural processors and suppliers.
- Form a working group to prepare proposals to standardize export regulations and export credit facilities for producers and exporters.
- Provide management consulting assistance to criteria-selected (i.e., potentially viable) ex-AK agribusinesses to analyze their business plans, corporate governance, social-obligation commitments, investment needs and proposed restructuring plans.

Develop and Modernize Public and Private Agricultural Institutions

- Establish a policy analysis unit in MAFWE, which is urgently needed to analyze proposed policy changes, especially in the area of price and trade policy.
- Revise legislation and regulations for seeds, ex-AK preferences, product trade barriers, input trade barriers, livestock breeding and genetic material.
- Define food sanitary and phytosanitary inspection roles, support internationally certified laboratories in these areas and in plant protection and animal health, incorporate relevant EU law and standards, and reform the institutional framework to monitor/enforce them.
- Increase, through oversight boards and in other ways, stakeholder participation in the management of public agricultural institutions serving or regulating agriculture.
- Ensure sufficient funding of disease monitoring and border control programs, including stakeholder contributions; develop a brucellosis eradication program.

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[2] Primarily the Law on Land Survey, Cadastre and Registration of Real Property Rights, the Law on Administration of Registries, the Laws on Executive Procedure, Contractual Mortgage and Pledges and the Law on Inheritance.

- Reorient extension staff to provide strong support to small-scale, private farms, which dominate agricultural production.
- Establish an agricultural research advisory council with stakeholder participation under MAFWE to coordinate and allocate funds for all applied research; reorient research and university curricula toward commercial small-scale agriculture.
- Enact a new law and new regulations on cooperatives and producer and trader associations to ensure that they are democratically oriented to the needs of their members.
- Provide technical assistance to groups of small traders and processors of agricultural commodities to establish associations.

Direct Action to Alleviate Rural Poverty

- Improve the prospects of rural youth by making secondary education accessible and relevant to them;
- Focus on reforms that help energetic young people gain access to farmland and farm inputs and establish themselves as small processors, traders and transporters and in other rural businesses.
- Mobilize the household labor resources of women by disseminating knowledge about activities, such as micro livestock, herbs and small processing operations.

РЕЗИМЕ

Макроекономска и институционална состојба

1. Во текот на последните 10 години, економскиот напредок во БЈР Македонија беше променлив и општо, бавен, бидејќи земјата се здоби со независност по распадот на Југословенската Федерација и претрпе серија регионални и домашни кризи. Овој бавен напредок се должи на серијата политички и економски шокови и на неуспехот на целосна економска реформа. Како резултат на скорешната безбедносна криза, БДП опадна за 4,1 проценти и во 2001 се појавија значително повисоки од планираните фискални и трговски дефицити. Тие беа 6% и 10% од БДП, последователно. Додека етничките тензии остануваат , можноста за понатамошни немири е помалку веројатна, и се проектира скромен раст од 3% во 2002 и 4% во 2003.

2. Земјоделството е важен сектор во македонската економија, со учество на производството и преработката од околу 18% од БДП. Во земјоделството се реализираа широки структурни реформи од 1994, вклучувајќи делумна приватизација на јавните претпријатија (во земјоделството познати како агро-комбинати-АК-и) и крупно намалување на степенот на буџетска поддршка. Започна и некаква рационализација на институциите, а влијанието на приватниот сектор е во пораст. Но, потенцијалните придобивки од овие промени во правна, институционална и економска рамка бавно се материјализираат за руралниот сектор, поради политичките и економските шокови, нецелосните реформи и продолжената примена на несоодветна политика.

Трговија со земјоделски производи и структура на стимуланси

3. Како мала економија со структурен дефицит во повеќето прехранбени добра, трговијата со земјоделски производи е од суштинско значење за БЈР Македонија. Меѓутоа, моментната трговска политика за земјоделски производи ја ограничува трговијата. Поголемиот дел од македонскиот увоз (над 75 проценти) се покрива преку договорите за слободна трговија со ЕУ според Договорот за стабилизација и асоцијација и со регионалните трговски партнери, но некој увоз продолжува да се соочува со комбинација од високи тарифи и променливи давачки, а за некои производи важат дозволи за увоз и извоз, како и квоти. За среќа, сега се планира широка реформа на актуелната трговска политика, по пристапувањето (предмет на одобрение од македонското Собрание) кон Светкстата Трговска Организација (СТО), во октомври 2002. Новиот трговски режим ќе има крупно влијание врз структурата на стимулансите во македонското земјоделие, со длабоки среднорочни и долгорочни импликации врз степенот и составот на земјоделските резултати. Договорите за слободна трговија со регионалните трговски партнери се карактеризираат со распространета употреба на тарифни квоти за земјоделските производи и нема да бидат погодени од членството во СТО.

4. Директната поддршка за земјоделството произлегува од буџетот на МЗШВ и активностите на Државната канцеларија за стокови резерви (ДКСР). Буџетската поддршка е минимална како резултат на актуелните остри фискални ограничувања. Поголемиот дел директна поддршка доаѓа од ДКСР, преку нејзините откупи на пченицаи тутун, за да се одржат официјалните гарантирани мимнимални цени. Во двата случаја овие цени се многу над увозните паритетни цени.

5. Како резултат на трговската и политиката за директна поддршка, номиналните коефициенти на заштита (НКЗ[1]) се високи за повеќето главни земјоделски производи (пченица, пченка, компири, домати, краставици, млеко, путер), што укажува дека тие се неконкурентни на извозниот пазар, а можеби и на поотворениот домашен пазар што допрва доаѓа.

6. Високите НКЗ сепак не се неизбежнни, бидејќи земјоделството во низинскиот дел на БРЈ Македонија ја користи добрата клима, плодната почва и природните пасишта во планините. Податоците од Централно и Источно-европските земји што се понапред во нивната транзиција, зборуваат дека земјите во транзиција со добри земјоделски ресурси се потенцијално конкурентни барем со земјоделските растенија. Во зависност од тоа што се случува во другите делови на економијата, ефективна земјоделска и друга економска политика може да поттикне значително подобрување во земјоделската ефикасност. Дури и сега според сегашната политика, високите *просечни* НКЗ *не* укажуваат дека не постојат конкурентни земјоделци и преработувачи. Изгледа дека во моментов, најпазарно ориентираните земојделци се привлечени од хортикултурни производи (т.е овошје, бобинки, печурки, цвеќиња и ран зеленчук) и можеби веќе развиле компаративна предност во рамките на оваа производна категорија. Ако се решат проблемите со работната сила, БРЈ Македонија може, исто така, да има компаративна предност кај производството на ситен добиток на природни планински пасишта.

Рурална економија

7. Земјоделството е важен сектор во македонската економија. Користејќи податоци од 2000 година, тоа моментно придонесува со проценети 10% во БДП и е единствениот сектор што ги зголемил резултатите од прогласувањето независност наваму. Кога ќе се додадат продажните и преработувачките активности, производството поврзано со земјоделие се зголемува на околу 18% од БДП. Слично, земјоделскиот извоз, што главно се состои од вино, тутун, хортикултурни производи и јагнешко, изнесува до околу 17% од вкупниот извоз. Увозот на земјоделски производи е околу 13% од вкупниот увоз. Тешко е да се процени вистинскиот удел на земјоделството во вработувањето, што се мери на 12%, но, околу 45% од населението (некои 800 000) и 36% од работната сила живее во руралните области. Приближно истиот број живее во петте најголеми града, а останатиот дел живее во помалите гратчиња.

8. БЈР Македонија има 1,28 милиони хектари земјоделско земјиште, околу половина за обработка и половина пасишта, главно планински, и 1 милион хектари шума. Поединечните фарми (главно високо фрагментирани многу мали фарми) имале 79% од обработливото земјиште во 1999 и произведувале 67 до 99% од сите видови растителни и сточарски производи, освен сончоглед. Земјоделските претпријатија (приватизирани поранешни АК-и, како и се уште неприватизираните АК-и и задруги) го обработувале и произведувале останатиот дел. Сето општествено земјиште било национализирано во 1993, финансиската поддршка за АК-ите формално завршила во 1995 и повеќе од 50% од имотот на АК-ите бил приватизиран. Постојните шеми за наводнување, што некогаш покривале 40% од теренот погоден за иригација, биле намалени на покриеност од 13%. Меѓутоа, состојбата на иригациски систем на земјата, е лоша и за време на променливиот летен сушен период преовладуваат штетите кај растенијата.

[1]номиналните коефициенти на заштита се однос помеѓу домашната цена и цената на граница

Агро-преработка и капацитети за продажба на големо

9. БЈР Македонија наследи претерано голем агро-индустриски сектор со околу 425 агро-преработувачки претпријатија. Многу од нив имале производни и преработувачки капацитети за обезбедување прехранбени производи за поголемиот пазар на поранешна Југославија и, во некои случаи, за значителен извоз во ЕУ и регионот. Повеќето од овие претпријатија беа дел од 147-те АК-и-родители. Приватизацијата доцнеше, но до септември 2002, сите освен 16 беа продадени, главно преку откупување од страна на вработените. Многу од поранешните АК-и се во суштина, несолвентни. Трошоците на долгот и превработеноста го апсорбираат расположивиот готовнски тек и го спречуваат менаџментот да се преопреми со современа технологија, неопходна за конкурентност. Заедно со поранешните АК-и се развива ограничен, но растечки број нови, помали, приватни агропретпријатија. Наспроти многу поранешни АК-и, тие се трудат да бидат деловно и пазарно ориентирани со фокус на профит, раст и пазар.

10. Системот за распоредување, дистрибуција и управување со свежите производи по бербата во БЈР Македонија, е високо рудиментиран. Квалитетот на производите трпи од недостиг на неопходна инфраструктура што го поддржува пост-бербениот третман и пакување. Овие активности се основни за да се конкурира на извозните пазари и на растечкиот домашен пазар, врз кој сега влијаат меѓународните синџири на супермаркети, кои стануваат доминантни играчи во Источна Европа и на Балканот. Набавката на големи количества од страна на синџирите на супермаркети дава огромна можност во смисла на обем, но овој обем мора да одговори на строгите стандарди за квалитет, кои македонските производи не ги задоволуваат. Во БЈР Македонија има многу малку станици за собирање на земјоделските производи, а дури и помалку со погодности за сортирање, степенување, разладување, амбалажирање и складирање на овошје и зеленчук. Пазарите на големо се главно големи простори каде земјоделците ги паркираат своите возила на сонцето ден или два, или додека не го продадат товарот. Урбаните зелени пазари се на сличен начин рудиментарни. Иако има потреба условите на пазарите да се унапредат на среден рок, веројатно на подолг рок, пазарниот систем за продажба на големо ќе биде надминат од поединечните трговци кои вршат пост-бербено сортирање и пакување и им продаваат директно на супермаркетите од нивните сопствени разладни складови.

Рурална сиромаштија

11. Зачестеноста (инциденцата) на сиромаштија драматично порасна помеѓу 1993 и 1995 со одвивањето на економската транзиција и достигна 21% во 1998. Средната месечна потрошувачка на возрасни луѓе во 2001 беше 10 610 мкд (150усд), земајќи го предвид (на 60%) официјалниот праг на сиромаштија од 6 366 мкд (90усд). Сиромаштијата е пораширена во руралните отколку во урбаните средини: 25% во 1998 во споредба со 17% за стапката на урбана сиромаштија. Неземјоделските рурални домаќинства ги заменија земјоделските домаќинства како најголема сиромашна група. Државата обезбедува социјална помош на 13% од населението и има мала развојна програма за неразвиените региони. Невработеноста кај руралната младина е сериозен проблем; особено внимание треба да се посвети на средното образование.

12. Жените сочинувале 48% од работната сила (според пописот од 1994). Домаќинствата со глава на семејството жена, всушност имаат помала стапка на сиромаштија од домаќинствата на чело со маж. Формалната вработеност на жените во агро-преработувачката е ниска, 30%, но вработувањето на жените зазема клучна важност во намалувањето на сиромаштијата, бидејќи двајца луѓе со плата, во едно домаќинство штитат од сиромаштија, практично без разлика на степенот на заработувачка. За малите фарми, промовирањето на произведување профит за жените може, исто така, да биде моќно оружје против сиромаштијата. Така, покорисно е да се поттикнува вработување на жените во сиромашните домаќинства, отколку да се цели кон утврдување на долна граница на надниците за машките глави на семејства. Вакво вработување за жените во земјоделските семејства, може да има во одгледување ситен добиток, треварство, печурки или агро-туризам.

13. Зголемувањето во обемот на земјоделско произвдоство, што произлегува од ефективна политика и инвестиции, и ги вклучува малите земјоделци, преработувачи, трговци и нивните сопружници, може да има големо влијание врз сиромаштијата, пред се преку растечки семеен приход, што во БЈР Македонија се покажа дека силно ја намалува сиромаштијата и второ, преку порастот на вработување надвор од фармата, во поддршката поврзана со земјоделството, деловната поддршка и активностите за продажба на мало. Други методи за подобрување на состојбата со сиромаштијата, што треба да досегнат до хронично сиромашните и да обезбедат ефективно средно образование, ќе изискуваат таргетирани програми за помош. Владата изготви Национален документ за намалување на сиромаштијата и за стратегијата, којшто развива долгорчен план за намалување на сиромаштијата и за одржлив економски раст.

Прашања на приватниот сектор во земјоделството

14. Во согласност со најновата Стратегија за помош на земјата договорена помеѓу Светска Банка и БЈР Македонија, приоритетните области за земјоделството, проширување на производството и зголемување на продуктивноста, бараат ресурсите да бидат расположиви на ефикасни, приватни производители, вклучувајќи и ефикасни мали производители, во секоја фаза од синџирот на производството, преработувачката и пласманот, така што тие да можат да се прошируваат во области каде што се конкурентни. Ова ќе изискува крупно реструктурирање на владината политика и поддршка. Сега, структурата на фармите, пазарот на земјиште, институциите за рурални кредити и практики, монополите во преработувачката и суровините, трговските ограничувања и инвестиционите правила и рестрикции претставуваат цврти ограничувања што ја инхибираат способноста на ефикасните земјоделци (вклучувајќи ги и ефикасните мали и земјоделци-странски инвеститори) да го прошируваат производството.

15. Логиката за тоа како земјоделството на БЈР Македонија може да се реструктурира за поголема конкурентност почнува со признанието дека, во една модерна земјоделска економија, производите што се базираат на конкурентно земјоделство може единствено да се произведат од страна на специјализирани индустрии кои имаат доволна економија од обемот за држење на трошоците ниско, на секое ниво од вредносниот синџир и кои, исто така, извлекуваат полза од општите економии од обемот од каде ловат информации и надворешни технолошки достигнувања. На пример, не мора да значи дека малите фарми што придонесуваат кон вредносниот синџир имаат високи трошоци по единица производ, но малите кланици веројатно имаат.

16. За да опстанат, македонските производители ќе треба да бидат конкурентни на домашниот пазар во однос на странските производи што може да го совладаат умерено заштитниот sид кој ќе остане според правилата на СТО и ДСТ. На извозните пазари, македонските индустрии ќе треба да може да се натрпеваруваат со истите странски производители, но според многу поизискателни услови. И домашните и извозните пазари постојано се менуваат според континуираниот развој во технологијата, материјалите и комуникациите. Производителите мора да може да имаат пристап кон инвестициони финансии неопходни да се остане конкурентен.

17. Неизвесно е колку успешни може да бидат македонските производители на домашниот или на извозниот пазар во иднина, па така, многу е неизвесно дали македонското земјоделско производство ќе се прошири во целост, дури и на среден до долг рок. Може, дури и поверојатно, многу да се смали. Бидејќи по членството во СТО, либерализацијата продолжува, моментно одржливите производители може да бидат силно притиснати само да го одржат нивниот актуелен дел од малиот домашен пазар, а камо ли да го прошируваат производството. Ако се случи одржлива експанзија во било кој значаен потсектор, најверојатно тоа ќе биде на извозните пазари, кои се огромни во споредба со способноста на македонското производство.

18. Кога минималноиот обем на производство неопходен за конкурентност во однос на увозот на домашниот пазар е поголем од делот од пазарот што може да го освои, тогаш индустријата рапидно почнува да опаѓа, освен ако не го постигне потребниот обем и конкурентност за наоѓање на патот до профитабилноста. Ова уште повеќе важи за производите со повисока вредност, каде домашниот пазар обично е многу мал. Поинаку кажано, многу земјоделски производи ќе се увезуваат поради недостиг на ефикасни македонски производители и покрај заштитата од увоз и природните бариери. Оваа реалност, со понатамошна либерализација на земјоделското стопанство, веројатно ќе предизвика значајни разновидни промени кај комерцијалните производители на земјоделски и сточарски производи.

19. Главните пречки БЈР Македонија да развие конкурентни фарми и преработувачи се во врска со земјата, финансиите, наводнувањето и транспортот, инвестиционите услови, товарот на регулативата, управувањето и раководењето на фирмите и правните и владините институции. Суштинска е и одредена технолошка поддршка. Ваквите пречки и суштинската поддршка, како и барањата за реструктурирање во клучните сектори подетално се разгледуваат во главниот текст. Вкупната стратегија треба да биде во насока на помагање сите елементи во земјоделските вредносни синџири да станат претприемачки и динамични преку намалување на пречките и обезбедување технолошка поддршка. Владата не треба да се обидува да "одбира победници" преку фаворизирање одредени производи, индустрии, работна сила, видови претпријатија, или извозни дестинации, ами треба повеќе да се стреми кон развивање поволна средина за инвестиции и производство. Брзите меѓународни и растечките конкурентни домашни пазари постојано ќе ги одбираат победниците (и губитниците). Владината регулатива и "помош". што ги изолираат нивните фаворизирани корисници од последиците од лоши пазарни резултати, на крајот, предизвикуваат "корисниците" сосема да заостанат.

20. Беше употребен еден едноставен модел со три сценарија-основен случај, постепена и брза реформа- за да се анализира влијанието на реформата во политиката врз производителите и потршувачите на пченица и јагнешко. Моделот демонстрира дека откако БЈР Македонија ќе се приклучи кон СТО, ќе биде важно исправно да се разбере трговската и ценовната политика. Клучниот заклучок од анализата е дека драматичен пад во тарифата на пченицата би резултирал во мал пораст на потрошувачките цени на пченичните производи, додека постепен пад во тарифата би резултирал во остар пораст на потршувачките цени. Сепак, се покажува дека моментната висока тарифа на јагнешко има мало влијание било врз потрошувачките, било врз производните цени; така, во преговорите со СТО би можело убаво да се понуди укинување на тарифата или нејзино големо намалување.

Барања за реструктурирање во главните потсектори

21. Преработка и трговија. Задругите потенцијално имаат важна улога во високо квалитетни пост-жетвени, пост-бербени активности и во некои преработувачки индустрии, но водечка улога во развивање конкурентно, високо вредно земјоделско производство ќе имаат приватните, претприемачки агро-преработувачи И трговци, ако-едно големо "ако"-има поволна деловна средина за нивно функционирање и раст. Причините за нереагирањето на побарувачката на повеќето големи преработувачи како млечни, месни, и индустрии за преработка на овошје и зленчук, како и за производство на вино, несомнено ги одразуваат лошите потези на поранешните агрокомбинати во неадекватен менаџмент, дисфункционална сопственичка структура, недостиг на обртен капитал, стара опрема, застарена преработувачка технологија, високи трошоци, мал обем на производи што може да се продадат, лоша амбалажа, неквалитетни суровини, несоодветствување со извозните стандарди итн. Сепак, има дузина мали преработувачки фирми со големина на една куќа што се појавуваат од руралните заедници, продавници на мало и мали трговци кои обично произведуваат еден единствен производ во конкуренција со поранешните АК-и и увезените производи. Извесен број од нив веќе достигнале среден обем, на пример оние што произведуваат јогурт или конзервиран

зеленчук и во изедначени услови може, едноставно, да пораснат и да ги елиминираат постојните големи, но неконкурентни играчи. Странските директни инвестиции треба да одиграат конструктивна улога во донесувањето менаџерски вештини, пазарно знаење и технологија и надомашниот и на извозните пазари.

22. Земјоделие и хортикултура. Постои значителен простор за подобрување на квалитетот и приносот на сите растенија. Традиционално, приносите и продуктивноста биле пониски на приватните фарми во споредба со АК-ите, бидејќи вторите имале подобар пристап кон суровини и стручни совети. Меѓутоа, по неодамнешните промени во политиката на Владата, овој тренд сега е обратен, со тоа што приватниот сектор има подобар пристап до материјали и технички совети и ограничен износ на финансиски ресурси со кои што може да дојде до нив (главно преку дознаки). Скорешните промени го поттикнаа развојот на подинамична приватно-земјоделска заедница со растечки број претприемачки земјоделци кои ги примаат новата технологија и материјали од секторот за зајакната имплементација, што ја вклучува поддршката од ЕУ и други меѓународни компании. Наводнувањето, што е неопходно за поддржување на поголемиот дел високо квалитетни и земјоделски производи со висок принос, како и за земјоделските системи во текот на сувата летна сезона, е сериозно дезорганизирано како резултат на ниската ефикасност, слабата покриеност и институционалниот распад. Ќе бидат потребни значителни инвестиции и изградба на капацитети за да се утврди модерен семенски режим. И покрај појавата на приватни набавни компании со група напредни производи, употребата е се уште мала. Без набавни компании и без финансиски институции што обезбедуваат доволно сезноски кредити, оваа ситуација веројатно ќе продолжи. Понудата на свежи хортикултурни производи сега е на широко под доминација на мали приватни трговци, но постои само рудиментирана продажба на големо и мала стандардизација или градирање на производите.

23. Сточарство. Сточарското производство во БЈР Македонија се карактеризира со голем број многу мали, земјоделски домаќинства ориентирани само кон егзистенција; ограничен, но растечки број мали, комерцијално орјентирани семејни земјоделски фирми и опаѓачки број големи, специјализирани живинарски и свињарски претпријатија, поранешни АК-и. Додека свињарството значително порасна, а млечната индустрија порасна умерено, говедарството овчарството и живинарството забележително се намалија, последното како резултат на пропаѓањето на АК-ите и нивното производство. Ставот што е распостранет низ земјата е дека сточарството ќе просперира преку поддршка од големите сточарски претпријатија. Всушност, ограниченото истражување покажува дека семејното земјоделство во БЈР Македонија обезбедува еднакви и веројатно подобри поврати на земја, труд и капитал од она во големите претпријатија. Изгледа дека Владатана АК-ите и поранешните АК-и им обезбедила долгорочен закуп на државна земја, вклучувајќи ги пасиштата, кои на почетокот биле ослободени од рента. Наплаќање пазарни цени за разумно долг закуп или денационализирање на земјата во разумно големи парцели преку транспарентни трансакции би резултирало во поголема продуктивност на земјата и повисоки приходи за успешните закупци, купувачи и работници. Ветеринарниот и сточарскиот закон и регулативата треба да се ревидираат за да се намали регулативниот товар и за да се биде во согласност со законите на ЕУ и меѓународните облигации. Обележувањето на животните, епидемиологијата на болестите, инспекцијата на производите, заштитата на ресурсите и недоволниот број услуги за промоција на пазарот не се доволно ефикасни да обезбедат одржлива база за конкурентност на домашниот и меѓународните пазари. Риболовот, овчарството, говедарството и свињарството треба да се приватизираат. Пристапот на приватните земјоделци кон сточарски сорти од светска класа е ограничен во висока мера. Сточарските производи традиционално учествуваат во извозот, но капацитетот ефективно да се натпреварува на меѓунардоните пазари е ограничен.
24. Шумарство. Поради планинската природа на БЈР Македонија, шумите покриваат околу 1 милион хектари (39%од земјишниот фонд на земјата), и практично сите се во сопственост на државата. И потребите за заштита на средината и економскиот потенцијал на оваа огромна пошумена површина остануваат речиси неанализирани, но јасно е дека резултатите, продуктивноста и придонесот кон

секторот на шумарски и дрвни производи се далеку под потенцијалот. Проблемите во шумарството се примарно резултат на слаба шумарска полтика. Основните технички проблеми се лош квалитет на дрвјата, неефикасни производни технологии и несоодветни производи за современите пазари. Моментната политика за управување со шумите дозволува годишна сеча од 600 000 до 900 000 $м^3$, што е еднкаво на 1,8-2,3% од вкупниот шумски фонд. Од ова, 73% се консумира како гориво отколку како граѓа и материјал за дрвните индустрии. Ограниченио пристап до некои пошумени области, исто така значи дек анекои области се сеуште преексплоатирани покрај очигледната одржливост на количествата сеча. Новото пошумување опадна на помалку од 1000 хектари годишно, што исто така, не остава простор за регенерација на соголените области или за сочувување на почвата во планинските региони. Отсуството на било какви даножни стимуланси за обновување на шумите придонесе кон овој лош резултат. Привидно приватизираните шумски претпријатија, формирани почнувајки од 1997г; се под доминација на неефикасен, превработен јавен монопол. Истовремено, се зголемија илегалната сеча, природните штетници и пожарите.

Потреба за институционално јакнење во руралниот сектор

25. Како и на друго место, владата треба подорбо да ги врши работите што само таа може да ги заврши, за да избегне работи што ќе го попречуваат или што треба да бидат направени од приватниот сектор. Суштинските задачи во руралниот сектор вклучуваат олеснување и регулирање на земјоделството, заштита на средината, намалување на руралната сиромаштија и обезбедување социјални услуги за руралната сиромаштија.

26. МЗШВ и други автономни оперативни агенции. Главните улоги на Министерството за земјоделие, шумарство и водостопанство се анализа на политиката и развојот, регулирање, следење и супервизија. Капацитетот на министерството е се уште слаб во сите овие области. Во 2002 година треба да отпочне 18-месечен проект за зајакнување на капацитетите финансиран од ЕУ. И покрај фактот дека повеќето субвенции претходно во налдежност на МЗШВ, сега се тргнати или сведени на неоперативно ниво, поддршката во земјоделството е се уште најголема ставка во неговиот буџет. Во врска со реформите во шумарството, советодавната функција, истражувањето и наводнувањето потребно е крупно внатрешно институционално реструктурирање на МЗШВ:

27. Шумарство. Кога ќе се елминира монополот на Македонски шуми, МЗШВ ќе мора доста да ги зајакне своите шумарски работници и да го зголеми нивниот број. Советодавна функција: советодавните услуги сега се даваат од страна на независно буџетирана агенција. Нејзините активности беа преорјентирани кон обука за приватни земјоделци, адаптивни проби на ниво на фарма, промоција на земјоделски здруженија, покривање на трошоците и конечно, кон приватизација. Советодавната агенција треба уште да ја преориентира својата организациска структура кон регионалните потреби и да си го најде своето место на пазарот во контекст на други извори техничка помош, како добавувачи на матерјали, невладини организации и новонастанати приватни консултанти. Земјоделско истражување; резултатите од земјоделското истражување се дефицитарни во применетото истражување, делумно поради неговото финансирање преку институтите при Минисерството за наука и образование, а не преку МЗШВ. МЗШВ нема формална одговорност за земјоделски истражувања, иако тоа се консултира за крупни прашања и може да финансира конкретни истражувачки проекти. Со проектната поддршка беше завршена програма од 25 проекти на применето истражување, понудени преку МЗШВ.

28. Иригација. Многубројноста на во суштина несолвентни, без резултати организации за управување со водата што контролираат делови од дефицитарните иргациски шеми, вклучувајќи се и во друга дејност и соочувајќи се директно со поединечни големи и мали корисници, досега е само делумно реформирана според тековниот проект за иригација финансиран од Банката на Холандија (ПРРИ). Откако ќе се формираат реформирани организации за управување со водата (ОУВ), а јавните водостопанства-монополи и здруженијата на приватни корисници на вода (ЗПКВ) ќе се

стават на комерцијално ефикасна и финансиски здрава основа, МЗШВ ќе биде одговорно да ги одржи со добри резултати и да ги дисциплинира оние што не даваат добри резултати. Сега министерството не е ни блиску до имање таква способност. МЗШВ ќе треба да има и институционална способност да развие ревидиран закон за води и национален иригационен план. Покрај фактот дека поединечните земјоделци се доминантни производители на повеќе видови растителни и сточарски производи, постои мало систематско знаење за општата иригациска состојба кај нив, или за степенот на нивната употреба на неформални традиционални технологии за наводнување.

29. Здруженија на земјоделци и задруги. Македонската стопанска комора (МСК) тврди дека ги застапува интересите на малите земјоделци, како и на АК-ите, иако има регистрирано само едно здружние на приватни земјоделци. Здруженија што добро функционираат може да им обезбедат на своите членови услуги за технички, набавни, пакувачки, градирачки, складирачки, транспортни, кредитни, информативни, обучувачки и пазарни помагала. Иако повеќето од поновите здруженија се фокусираат на производите, малку од нив се способни ефикасно да ги опслужат своите членови или да градат коалиции со други здруженија кои ги поддржуват нивните цели. Подготвена е легислатива која им дозволува на земјоделските организации да се вклучат во дејноста, но таа се уште не е усвоена. Треба целосно да се осовремени и правната рамка за структурата на задругите за да се обезбеди членство по принципот еден член-еден глас, со членарини пропорционални со учеството, и со одвоен менаџмент од членството. Производните и трговските организации треба да се промовираат и да се зајакнат, така што да дојде до создавање на инфраструктура од здруженија со многу хоризонтални и вертикални врски, обезбедувајќи некои од економиите од обемот кои беа споменати погоре.

Стратегија и препораки

30. Широко прифатена неконтроверзна цел е да се предизвика одржлив процес на растечко земјоделско производство во смисла на вредност, на тој начин создавајќи рурални приходи во земјоделството, агро-бизнисот и услугите на мало и намалувајќи ја руралната сиромаштија. Фокусот на ефикасни мали земјоделци, преработувачи и трговци и нивните фамилии е доследен на оваа стратегија. Други методи за намалување на сиромаштијата, како обезбедување ефективно средно образование, ќе бараат таргетирани програми за помош. Суштината на најдобрата општа стратегија за зголемување на вредноста на производството поврзано со агрикултурата, е да се создадат услови во кои групации од земјоделски и агро-бизниси може да се развиваат и да станат конкурентни на домашните (а во некои случаи и на меѓународните) пазари за селектирани земјоделски производи. На овие групации им е потребна величина, домен и поттик од конкуренцијата во нивниот ранг, од увозот и од странските фирми. Фирмите во групацијата стануваат ефикасни кога ќе се соочат со конкуренцијата и кога ќе постигнат успех во неа. Задачата на државната политика е да ја ослободи креативноста кај сите земјоделци, преработувачи, добавувачи и трговци и да им помогне, а не да ги попречува најпродуктивните производители. Владата и донаторите треба да се концентрираат на следново (детален список во главниот извештај) :

- Да се намалат изобличувањата во структурата на стимулансите и конкуренцијата (напр., да се реформира трговската политика и системот на стокови резерви, да се стави крај на монополите во набавката на материјали и преработувачката);

- Да се направат продуктивни ресурсите во поранешните и актуелните АК-и и во државните шуми (на пр., да се рационализира користењето на АК-ите на јавното земјиште, да се приватизираат или да се затворат останатите АК-и, да се реформираат шумарските институции);

- Да се прошират финансиските институции за рурални кредити (напр., да се развијат одржливи рурални кредитни институции, да се реформираат сите аспекти на пазарот на земјиште, да се обезбеди обука за проценка на земјоделски кредит);

- Да се подобри климата за инвестиции и за развој на МСП (на пр., да се намали регулативниот товар, да се подобри спроведувањето на договорите и даночната администрација, да се подобрат производните стандарди);

- Да се подобри наводнувањето и другата рурална инфраструктура (на пр., да се развие национален план за иригација, да се развијат механизми што ќе гарантираат одржливост и одговорност на ОУВ и ЗКВ, да се одредат транспортни приоритети и да се процени состојбата на пазарите на големо);

- Да се развијат и модернизираат приватните земјоделски институции (на пр., да се ревидираат законите за здруженија и задруги, да се обезбеди техничка помош и да се промовираат земјоделски, трговски, преработувачки и здруженија за обезбедување поевтини авио-билети (АПЕКС), да се организираат саеми за да се промовира земјоделскиот извоз); и

- Да се олесни сиромаштијата преку зголемување на вработувањето и семејните приходи, што ќе дојдат од успешна рурална економија поврзана со земјоделството, рамноправни услови за малите земјоделци, преработувачите, трговците, и превозниците, образование и пристап до земјиште и кредити за млади земјоделци, мобилизација на работната сила во домаќинството и кај жените-земјоделци. Владините програми за социјална помош се уште се потребни за стари, болни и хендикепирани.

План за акција

31. Во април 2002 за време на Тркалезната Маса се дискутираше за реформските приоритети во земјоделието, каде имаше учесници од владата, приватниот земјоделски сектор, НВО и донаторската заедница, кои го користеа овој извештај како материјал. Секторскиот акционен план, презентиран во Прилог 4, беше развиен за време на Тркалезната Маса и подоцна одобрен од Министерот за земјоделие. Реформите набројани во Акциониот план се поделени на "кратко до среднорочен акционен план" и "подолгорочни структурни реформи".

Редослед на реформите

32. На крајот од целосниот извештај е даден детален список на реформи во земјоделските потсектори. Важни се сите, но не може да се спроведат на кус до среден рок. Како и да е, процесот на развивање конкурентна земјоделска и релевантна агро-дејност, бара промени во многу сфери. Така, концентрирањето на мал број реформи нема да биде ефективно. Следново е скратен список на реформи што треба да се спроведат на почетокот. Тие треба да се направат прво, заради тоа што ќе имаат најкорисно непосредно влијание, или заради тоа што се предуслови за други важни и неопходни реформи. Се надеваме дека ќе бидат поддржани од донатори со техничка помош и во многу случаи, со инвестициони фондови.

Структура на стимуланси, трговска и политика на конкуренција

- Да се изготви континуирана реформа на земјоделската трговска политика и примена, за да се поддржи договорот со СТО и другите трговски преговори.
- Да се ограничи мандатот на ДКСР на вистински стратешки резерви, да се намали бројот на покриените земјоделски производи, да се намали поддршката за пченицата до паритет под

увозниот, да се намалат тарифите и целиот увоз да се подложи на тоа, да се заврши тутунската програма и да се приватизираат сите тутнски фирми.

- Значително да се намали времето на транзит на граничните премини преку подобрување на граничната инфраструктура; да се преговара за истото со соседните земји во кои транзитираат македонски добра.

- Да се ревидира правната рамка и спроведување на законот за да се намалат монополските практики во агро-преработувачката и набавката на материјали.

Реформи на земјиштето на АК-ите и поранешните АК-и и други земјишни реформи

- Да се зајакне легислативата што ја регулира употребата на државна земја од страна на земјоделски претприајтија, да се постават критериуми за пазарни ренти.

- Да се примени земјишно оданочување за да се стимулираат АК-ите и поранешните АК-и кон ослободување од непродуктивно искористената земја.

- Да се развие ефективен, флексибилен ситем за недвижен имот заснован на сигурни и сопственички права со кои може да се тргува, и за бројни договори за закуп и други помалку формални договори.
- Да се формира независен катастар контролиран од регистар на земјишен фонд, за да се предвиди катастарот на недвижен имот, што во моментов се компјутеризира.
- Да се разгледаат, ревидираат и интегрираат законите што влијаат врз пазарот на земја.[2]

Рурални и земјоделски кредити

- Да се обезбеди обука за подобрување на финансиските, економските и земјоделските вештини на вработените во комерцијалните банки и штедилниците за да се подобри нивната способност за проценување ризик и работење со кредити.
- Да се даде техничка помош на руралните кредитодаватели за да се развијат кредитни инструменти за обртен капитал за приватните добавувачи и преработувачи, за д аим се овозможи одобрување кредити на земјоделците за работи како семе, ѓубриво и опрема.
- Да се прошират успешните микрокредитни програми.
- Да се подобри системот на отплата со залог, со земјишни и административни реформи.

Да се подобри климата за производство и инвестиции во приватниот сектор

- Да се намали регулативниот товар. На пр., барања за регистрација што одземаат многу време и друга бирократија, да се намали корупцијата.
- Да се подобрат капацитетите на судовите за спроведување на договорите, кои сега се сметаат за несигурни во резултатите и бавни во извршувањето.
- Да се подобри даночната администрација, за која се смета дека е нетранспарентна.

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[2]примарно Законот за земјиште, катастар и регистрација на права на недвижен имот, Законот за администрација на регистрите, законите за извршна постапка, хипотека по договор и залог, и Законот за наследство

- Да се ревидираат стандардите и регулативите во согласност со стандардите на ЕУ, онаму каде што тоа е можно, за да се олесни извозот и можноста за снабдување на меѓународните супермаркети.

- Да се обезбеди техничка помош за да се развијат и имплементираат планови што ќе им помогнат на малите и средните земјоделски преработувачи и добавувачи.

- Да се формира работна група што ќе подготвува предлози за стандардизирање на извозните регулативи и извозните кредитни олеснувања за производители и извозници.

- Да се обезбеди консултанска помош за менаџмент на поранешни АК-и одбрани според даден критериум (т.е потенцијално остварливи) за да се анализираат нивните деловни планови, корпоративното управување, социјалните обврски, инвестиционите потреби и предложените планови за реструктурирање.

Да се развијат и модернизираат јавните и приватните земјоделски институции

- Да се основа единица за анализа на политиката во МЗШВ, што е итно потребна за анализирање на предложените промени во политиката, особено во областа на ценовната и трговската политика.

- Да се ревидира легислативата и регулативата за семиња, преференците на поранешните АК-и, производно-трговските бариери, бариерите при набавките, расите за расплод и генетичкиот материјал.

- Да се дефинираат улогите на прехранбената санитарна и фитосанитарна инсепкција, да се поддржат меѓународно овластени лаборатории во овие области и во заштитата на растенијата и здравјето на животните, да се инкорпориратт релевантни закони и стандарди од ЕУ и да се реформира институционалната рамка за тие да може да се следат/спроведуваат.

- Да се зголеми, преку надзорни одбори и на други начини, учеството на заинтересираните страни во управувањето на јавните земјоделски институции што го опслужуваат или регулираат земјоделството.

- Да се осигурат доволно средства за следење на болестите и за програми за контрола на граница, вклучувајќи придонес на заинтересираните страни; да се развие програма за искоренување на бруцелозата.

- Да се преорјентира персоналот на советодавната агенција кон обезбедување силна поддршка на мали по обем, приватни фарми, што доминираат во земјоделското производство.

- Да се формира советодавен совет за земјоделско истражување со учество на заинтересираните страни, под надлежност на МЗШВ за тоа да ги координира и распределува средствата за сето применето истражување; да се преорјентираат наставните планови на институтите и универзитетите кон комерцијално малообемно земјоделие.

- Да се донесе нов закон и нова регулатива за задруги и производни и трговски здруженија, за да се гарантира дека тие се демократски орјентирани кон потребите на нивните членови.

- Да се обезбеди техничка помош за основање здруженија на групи мали трговци и преработувачи на земјоделски производи.

Директна акција за олеснување на руралната сиромаштија

- Да се подобрат изгледите на руралната младина преку достапност кон средно образование што е релевантно за нив;

- Да се концентрира на реформи што им помагаат на енергични млади луѓе во добивање земјоделска земја и земјоделски материјали и нивно востановување во мали преработувачи, трговци и превозници и што помагаат во други рурални дејности.

- Да се мобилизираат работните ресурси на жените во домаќинствата преку дистрибуција на знаење за активностите, како микросточарство, треварство и мали преработувачки активности.

1. THE CONTEXT FOR AGRIGULTURE SECTOR DEVELOPMENT

MACROECONOMIC AND INSTITUTIONAL SITUATION

Macroeconomic Trends

1. Economic progress in FYR Macedonia has been variable and slow overall during the last 10 years, as the country achieved independence in the break-up of the Yugoslavia Federation, endured a succession of regional and domestic crises and began the process of economic transition and reform. The break up of Yugoslavia, the Greek trade blockade, the international sanctions on FR Yugoslavia, and the conflicts in Bosnia-Herzegosovo and in FRY Macedonia itself, all had major economic and social impacts on the country. Traditional markets collapsed, road links were closed, port access was denied, sanctions were imposed on and by neighboring countries, budgetary transfers ceased, the economy stagnated and, by 1998, unemployment had risen to 34.5%, where it has approximately remained (30.5% in 2001). This is the highest level in Eastern and Southern Europe except for Bosnia and Herzegovina. Despite the Kosovo crisis, economic growth resumed in 1999 and 2000 (4.3% and 4.5% growth in GDP in the two years), but per capita GDP of $US1,766619 in 2000 was still about 25 percent below its level in 1990.

2. The modest growth of 1999-2000 was then cut short by the domestic security crisis of 2001, and GDP declined by 4.1% for the year. Public spending increased substantially and public revenues fell as a result of reduced economic activity. The fiscal deficit increased to 6% of GDP for 2001, and the current account deficit rose above 10% of GDP. An internationally mediated peace framework agreement improved stability, but growth has been slower than anticipated. Assuming continued political stability, the prospects are for a resumption of modest growth, 3.0% in 2002 and 4.0% in 2003. Inflation should remain low and the exchange rate stable. The country's peg to the euro is not in jeopardy, but pressures could arise if exports and private transfers do not respond sufficiently to the improved economic conditions and if fiscal policy is not well managed.

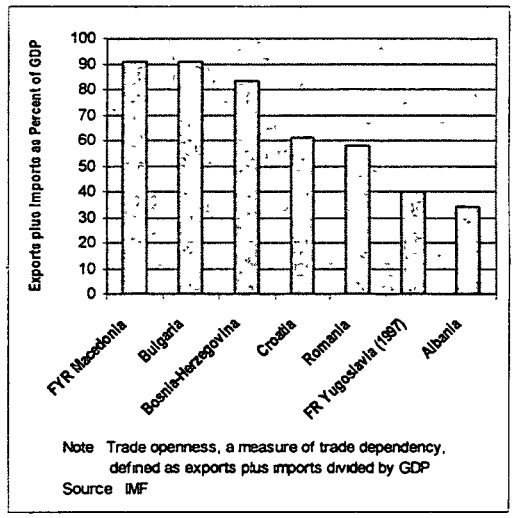
3. In 1994, the Government adopted a major program of stabilization and structural adjustment with assistance from the IMF and the World Bank. Under this program, extensive structural reforms have been realized, including partial privatization of public enterprises (in agriculture known as agro-kombinats –AKs). Prices have been liberalized, the exchange rate has stabilized, inflation fell to 5.5% at the end of 2001[3], and the banking system has been strengthened. The current account balance improved from 1996 to 2000. Fiscal rigor also improved markedly and produced a budget surplus (excluding grants) in 2000. As noted, the security crisis during 2001 was a major fiscal setback, but nevertheless foreign exchange reserves remain strong, covering 4.6 months of imports in 2001.

Structural and Institutional Reforms

[3] Inflation decreased to an average 1.8% during the 1996-1999 period, but increased in 2000 to 5.8% with the introduction of the VAT and in 2001 to 5.5% due to the internal conflict and the increase in oil-prices.

4. Progress with privatization in 2000-2001 included sale of the country's largest bank (Stopanska Banka) to foreign investors, and the sale or closure of several loss-making state-owned enterprises, including the Okta oil refinery and the Feni nickel smelter. The telecommunications company was also privatized and government stated its intention to use the exceptional $323 million revenue, equivalent to 10% of GDP, to pay down external debt, finance pension reform and fund new public investment.

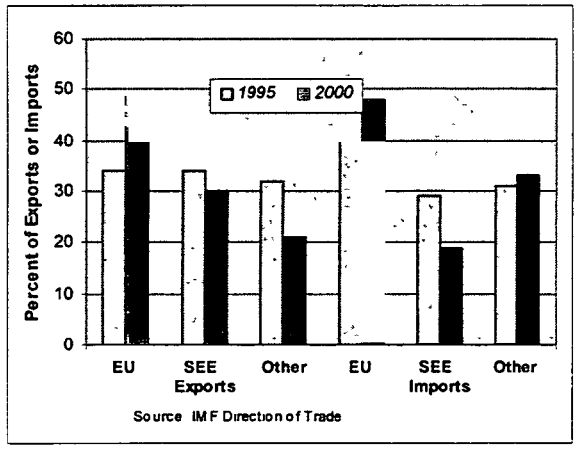
Chart 1: Trade Openness: Southeast Europe, 1998



5. In 2000, key legislation was passed to reform labor regulations and the pension system. As part of civil service reform, employment in the public administration was reduced by 6½% in the first half of 2001, through voluntary separation and early retirement. Further reduction of public employment is planned. The legal framework was improved by amendments to the bankruptcy, collateral, securities and company laws. Some rationalization of institutions was also initiated, and the private sector is becoming increasingly influential.

6. Reform priorities for the agriculture sector were discussed during Roundtable Discussions held April 4-5, 2002 in Skopje. The Roundtable was attended by over 50 participants from the government, the private agricultural sector, NGOs and the donor community. An earlier draft of this report was the principal input into the discussions. A sector action plan, emphasizing reforms in agricultural policy, other aspects of agricultural competitiveness, the agricultural land market and the irrigation sector, was developed during the Roundtable and later approved by the Minister of Agriculture. It is presented in Annex 5.

Chart 2: FYR Macedonia: Direction of Trade, 1995 & 2000



AGRICULTURAL TRADE

Trade Patterns

7. Unsurprisingly for a small, land-locked country, international trade plays a large role in FYR Macedonia, in fact larger than in any other Southeast Europe (SEE) country, except Bulgaria, where it is equally important (Chart 1). Almost half of FYR Macedonia's trade in 2001 was with the EU (42% of imports and 49% of exports), with Germany, Italy and Greece being the principal trading partners. The share of the EU in exports grew substantially in the last half-decade, to 49% in both 2000 and 2001 from 34% in 1995(Chart 2). This growth in the share of exports going to the EU was mainly at the expense of the rest of the world (not including FYR Macedonia's SEE trading partners), since the share of SEE remained approximately constant at about 30% (Chart 2). Exports to SEE remained relatively steady because of long-established commercial links, but these links did not hold up for imports, partly a result of Serbia's economic decline during the 1990s, with FYR Macedonia shifting its imports away from SEE toward the EU.

8. In 2000, food and agricultural products accounted for 17% of total exports, with tobacco, wine, lamb and horticultural products as the major export commodities. Food and agricultural products also accounted for 13% of total imports, as FRY Macedonia has a structural deficit in most (but not all) agricultural products. In agricultural trade, trade with regional partners was even stronger than in trade as a whole. In contrast to *total* imports, agricultural imports in 2000 came largely from neighboring countries – 22% from FR Yugoslavia, 11% from Slovenia, 8% from Croatia and 8% from Greece. Including Greece, the EU was nevertheless the origin of 26% of agricultural imports. Agricultural exports followed the same pattern, with almost half of Macedonian exports (46%) going to the same four neighbors. Still, the EU again was the largest single trading partner, with 27% of exports. The political and economic difficulties in neighboring countries in the last decade have had a profound impact on FYR Macedonia's agricultural trade. Increased trade liberalization and the globalization of food distribution are likely to be equally disruptive of traditional trading patterns in the future.

Trends in Agricultural Exports

9. Trends in agricultural exports, according to official figures, indicate that an expansion of beverage (predominantly, wine) and tobacco exports has prevented total agricultural exports from declining (Table 1). Beverages and tobacco constituted 68% of agricultural export value in 2001, up from 41% in 1995. In contrast, fresh and processed fruit and vegetables and meat (mostly, lamb meat) declined over the 1995-2001. Why this occurred may have more to do with the disruption in Balkan markets than in any deterioration of competitiveness, but in post-conflict Southeastern Europe, increasingly competitive markets will challenge Macedonian exporters to improve quality and reliability at an attractive price. A demand-centered strategy should aim to develop producers who can successfully operate in increasingly competitive domestic and international markets.

Table 1. Trends in Export Value, 1995-2000 (1995=100)

Product Category	1995	1996	1997	1998	1999	Jan-Aug 2000
Total agricultural products	100	109	114	122	106	55
Of which:						
Meat and edible meat offal	100	100	22	22	0	78
Edible vegetables	100	51	43	49	36	19
Edible fruits and nuts	100	110	75	50	55	25
Preparations of vegetables, fruit, nuts	100	41	41	32	45	23
Beverages, spirits and vinegar	100	134	203	200	150	94
Tobacco	100	202	202	142	198	77

Source: Statistical Office of Macedonia

Trade Agreements

10. FYR Macedonia signed an agreement to join the WTO in October 2000. Membership requires the termination of licenses and quotas (other than tariff quotas[4] in existing free trade agreements), the abolition of variable levies and export subsidies, a phased reduction of import tariffs and reform of the SOCR. These reforms will have a far-reaching impact on the incentive structure for Mace-donian agriculture and will undoubted-ly lead to significant changes in the level and composition of agricultural output, in agribusiness and in the food distribution system.

11. FYR Macedonia was also the first SEE country to sign a Stabilization and Association

[4] Typically, tariff quotas allow duty-free imports up to a certain level (the quota). Above that level the regular tariff applies. Sometimes, the within-quota trade is taxed at a lower-than-normal tariff rather than being allowed in duty free. Quotas are typically set on the basis of historical trading volumes.

Agreement (SAA) with the EU, which took effect in June 2001.[5] As a condition of this agreement FRY Macedonia is required to negotiate Free Trade Agreements (FTAs) with each of its Balkan neighbors. As part of the SAA, most barriers to the entry of Macedonian agricultural goods into the EU have been removed, but restrictions in the form of tariff quotas on baby beef, fish and wine remain. Significant non-tariff barriers also remain for Macedonian exports to the EU in the form of phyto-sanitary and veterinary requirements. In return, FYR Macedonia has agreed to duty-free entry for seeds, seedlings, breeding animals and animal feed; and tariff quotas and/or reduced tariffs on sugar, whey, poultry, eggs, meat and a range of animal products. The trade relationship with the EU will not be a static one, since the common agricultural policy (CAP) of the EU is rapidly evolving and will present opportunities as well as barriers to the development of key Macedonian agricultural sub-sectors.

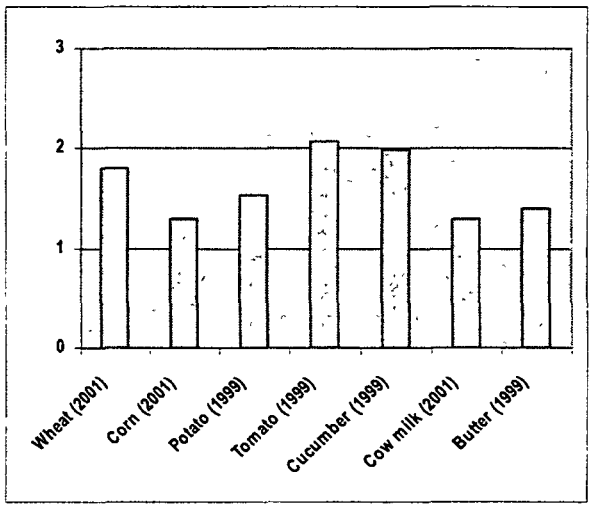
12. FYR Macedonia also has bilateral FTAs with Bosnia, FRY, Croatia, Slovenia, Bulgaria, Ukraine and Turkey. All of these agreements apply tariff-quotas to the imports of selected agricultural commodities, typically with zero tariffs on imports within the quotas. Quotas are renegotiated annually. Some of these quotas are allocated on a first-come-first-serve basis to Macedonian exporters, but most are allocated on a discretionary basis by government, which predisposes the allocation to corruption and increases transactions costs.

13. These FTAs have and will continue to have a major impact on the agricultural sector. In 1999, the EU, FRY, Slovenia and Croatia alone accounted for 67% of agricultural imports and 60% of exports. In general, FTAs increase the opportunities for trade by selectively lowering barriers. But trade displacement and the inefficiencies, inequities and corruption often associated with quota allocation inevitably distort producer incentives. The annual renegotiation of tariff quotas may also create a new source of instability in regional commodity markets. As FTAs themselves are not a subject of under negotiation for WTO membership, they will probably be a continuing feature of agriculture trade throughout the region. The formulation of future trade policy will thus need to place a much higher emphasis on FTA issues, and the capacity to negotiate them on the basis of sound economic analysis will need to be developed within FYR Macedonia.

Competitiveness in International Markets

14. The evidence available is that, *on average*, many Macedonian agricultural commodities are currently uncompetitive in international markets. This evidence is a set of 2001 nominal protection coefficients (NPCs[6]) calculated for wheat, corn, potatoes, tomatoes, cucumbers, cow milk and butter. The NPCs for these commodities range from 1.29 to 2.08 (Chart 3). NPC's less than 1.0 indicate that a commodity is competitive, while NPC's greater than 1.0 indicate that imports would have a price advantage in the internal market if they could enter without border charges.

Chart 3: FYR Macedonia: Nominal Protection Coefficients[1/]



Source: World Bank staff estimates
[1/] Calculated using data from indicated years

[5] FYR Macedonia also has a free trade agreement with tl
[6] Nominal protection coefficients are the ratio of domes such as effective protection coefficients or producer impact of input protection and government subsidies on without more data than currently exist and considerab exchange rate misalignment.

15. These high average NPCs do not mean that there are no competitive farmers and processors in FYR Macedonia. Evidence from the Central and Eastern European countries further ahead in their transitions indicates that transition countries with good agricultural resource endowments are potentially competitive at least in crops (Box 1). The relatively high prices of agricultural commodities in the internal market merely mean that marginal producers are high-cost and that low-cost producers lack the means to expand. High import protection allows them to continue operating nevertheless. It also encourages Macedonian producers to sell internally rather than in lower-price export markets. But the fact that there are substantial agricultural exports indicates that some producers are able to compete in markets abroad. The most market-aware farmers currently appear to be drawn to horticultural products (i.e., fruit, berries, mushrooms, flowers, and early season vegetables) and may have already developed comparative advantage within this product category. If labor supply problems are solved, FYR Macedonia may also have comparative advantage in small ruminant production on natural upland pastures.

16. The competitiveness of many agricultural products can also be improved. The fertile soils and favorable climate of the lowland areas in FRY Macedonia are appropriate for a wide range of agricultural products. Land and labor are also relatively cheap. Many factors limit the ability to obtain competitive production from this resource base, however. Dry summers mean that irrigation is essential. Small farm size, fragmented land holdings, poor technology, inadequate working capital, low investment and a distorted incentive structure result in low land and labor productivity. lack of effective marketing and logistics also increases production costs. Measures to address these constraints will be essential if the ability to compete is to improve, and getting agricultural trade policy right will be the key to developing a better incentive structure.

Box 1: Agricultural Comparative Advantage in Central and Eastern Europe

Some of the worst distortions in international trade in agricultural products and food have removed as the CEE countries joined the WTO and concluded bilateral agreements with the EU and regional trading partners. But with agricultural markets still constrained by large distortionary elements held over from the socialist era, agriculture as a whole is not internationally competitive in most countries, with imports of agricultural and food products exceeding exports by wide margins in most CEECs except Hungary and Bulgaria. Because of the distortions, actual agricultural and food trade data do not demonstrate any underlying comparative advantage (table).

Imports from EU as Percent of Exports to EU, 1996-98			
Czech Republic	43%	Romania	55%
Estonia	13%	Slovakia	30%
Latvia	10%	Slovenia	17%
Lithuania	31%	FYR Macedonia	89%

Cost studies, however, have generally concluded that when international prices for inputs and outputs are used as benchmarks, CEEC crop production of all kinds appears at present to *have* comparative advantage, but animal production does *not*. Together with the fact that most CEE countries (along with Macedonia, Croatia and Serbia) have favorable basic agricultural and labor resource endowments, this is encouraging, because the development of comparative advantage is now severely limited by all the factors impeding the functioning of the market system in agriculture.

Most such factors discussed in this report on FYR Macedonia – inadequate policies, incomplete privatization, fragmented farm structure, poor irrigation infrastructure, undeveloped land and credit markets, inadequate institutions, and ineffective input supply, processing and marketing performance - also apply to most CEECs, except for the factor of fragmented farm structure, which applies only to Poland. The CEECs farthest ahead in the transition have also already experienced major penetration by international supermarket chains, one among many factors that are increasing competition from imports in domestic markets for agricultural and processed products.

17. The time-frame for increasing competitiveness is relatively short. Agricultural import protection will fall steadily once WTO membership is obtained, together with the progressive lowering of import protection formalized in the SAA and the regional FTAs. Given the medium-term need for continued fiscal constraint, the capacity to mitigate increased competition through increased budgetary support for

agriculture will be limited. Hence, those elements of the agricultural sector which are unable to respond to increased competition, or which respond too slowly, will probably contract.

THE RURAL ECONOMY

Agricultural Developments to Date

18. Agriculture is an important sector in the Macedonian economy. Using Year 2000 data, it currently contributes an estimated 10% to GDP and has increased output since independence. Adding marketing and processing activities raises agriculture-related production to about 18% of GDP. Similarly, agricultural exports, consisting mostly of wine, tobacco, horticultural products and lamb, amounted to about 18% of total exports in 2001. Imports of agricultural products are about 13% of total imports, as well. It is difficult to assess agriculture's true share of employment, which is officially measured at 12%, but about 45% of the population and 36 percent of the labor force live in rural areas. In comparison, approximately the same percentage of the population lives in the five largest cities, with the remainder in smaller towns.

19. FYR Macedonia has a land area of 2.57 million ha of which 1.28 million ha, 51%, are classified as agricultural land, about half cultivable and half pasture, the latter mainly upland. Of the remaining 1.27 million ha, approximately one million ha (39% of the country) is forest and about 2% is taken up by lakes, of which Lakes Ohrid, Prespa and Dojran are the largest. Individual farmers owned or leased 79% of cultivable land in 1999, with the remainder owned or leased by agricultural enterprises (privatized ex-AKs, as yet unprivatized AKs and cooperatives. The percentages are reversed for pasture, in a mirror image, with enterprises owning or leasing 79% and individual farmers 21%.

Table 2. FYR Macedonia: Area or Production, Major Crops and Livestock Numbers, 2001

Crop or Livestock	Area, M.Tons or Number	Percent Individual Farms
Cereals (ha)	**221,235**	**72%**
Wheat	121,669	64%
Barley	49.988	70%
Maize	37,488	97%
Indus.Crops (ha)	**54,941**	**91%**
Tobacco	22,785	97%
Sunflower	6,006	42%
Vegetables (ha)	**45,940**	**97%**
Potato	13,665	99%
Beans	9,274	100%
Tomato	6,784	95%
Grapes (ha)	**26,530**	**71%**
Fruit (m ton)	**133,618**	**88%**
Apples	84,275	89%
Plums	23,421	99%
Peaches	9,512	61%
Livestock ('000)		
Cattle	265	96%
Pigs	204	57%
Sheep	1,285	93%
Goats	56	100%
Poultry	3,713	53%

Source. Statistical Yearbook (2001)

20. Although FYR Macedonia receives annual precipitation of 500-1000 mm, it is uneven from year to year. It is also seasonal, with average rainfall during May to September of only 190 mm, which is much lower than the 640 mm average evapotranspiration requirement of crops. The summer dry period also coincides with the prime growing season. The yield response to irrigation in the country is generally high, displaying an increase of 90%-300% for cereal, perennial, industrial and forage crops. Irrigation is also essential for commercial vegetable and fruit operations to obtain marketable quality production and reduce the climatic risk.

With reduced risk, farmers receive greater return to costly inputs and so are more willing to invest in them, a virtuous circle. Thus, irrigation is a fundamental requirement for a productive commercial agriculture in Macedonia. The state of the country's irrigation system, however, is poor. Existing irrigation schemes, which once covered 40% of the area suitable for irritation, has been reduced to 13% coverage. An ongoing project financed by the Bank and the Government of the Netherlands,[7] which was initiated in 1998, is providing funds for the partial rehabilitation of the system.

21. Prior to independence agriculture sector development was constrained by the policies of the former Yugoslav Federation, including the policy of achieving self-sufficiency in food production, the misguided pursuit of scale efficiencies through inefficient AKs, and controls over trade and input and output prices. Agriculture was dominated by 147 AKs and 64 (old-style) cooperatives, which during that period occupied some 30% of the cultivated area and controlled most of the agricultural processing facilities, as well as input supply and the marketing of outputs that were considered strategic. Small-scale farmers, who throughout the pre-independence period privately managed the remaining 70% of the cultivated area, were largely ignored and depended on the AKs and coops for all support services, including processing and marketing of controlled products. Agricultural support services were also weak, centered on the AKs and command driven.

22. A more market-driven policy stance towards agriculture has been advocated by government since independence. But progress has been slow, due FYR Macedonia's limited progress toward an open trade regime, a lack of coherent strategies and policies for agricultural and forestry development, monopsonistic practices, processing monopolies, lack of farmer organizations, poor market information, weak technical support for producers, lack of quality seeds and breeding services, and inadequate access to credit.

Farm Structure

23. Smallholdings have traditionally been highly fragmented, and there is evidence of further fragmentation in the 1980s and 1990s. The 458,000 ha of cultivated land in the private sector is owned by some 178,000 farm families (1994 census), providing an average of about 2.6 ha per family. The last census (1981) to document the size distribution of holdings, showed about 45% of farm families owned less than one ha of cultivated land and almost 67% owned two ha or less. This prevalence of very small holdings is unlikely to have improved, as there are now approximately 10% more private farmers than at the time of the 1981 census. The small size of private holdings is due to a combination of Former Yugoslavia's limit on private ownership to 10 ha and on inheritance patterns, which further divided already small farms. Most small holdings are fragmented further into four or more non-contiguous parcels. Compared to the social sector and ex-social sector farms, private farmers are generally located on poorer soils and have less access to irrigation.

24. In 1990, there were 211 social sector farms (147 AKs and 64 old-style co-operatives), employing some 30,000 people and owning or leasing 22% of the arable area and 443,000 ha of pastures. All socially owned land was nationalized in 1993, and financial support to the AKs formally ended in 1995. Subsequent reform has seen more than 50% of the agroindustrial assets of the agrokombinats privatized, with the balance in an accelerated privatization process. Few are operating near their potential due to credit constraints, aging and inefficient equipment, and high social obligations with associated costs. In 1999, the currently and formerly socially owned agricultural enterprises retained 136,000 ha (21%) of cultivable land and 458,000 ha (71%) of pastures, mostly under rent-free leases from the state.

Agricultural, Horticultural and Livestock Production

[7] The Irrigation Rehabilitation and Restructuring Project (IRRP).

25. Individual farmers dominate the production of virtually all major crops and livestock, with more than 90% of the area, production or numbers of animals in most major specialties (Table 2). For instance, in 1999, private farms had 95% of the hectarage of corn, 98% of tobacco and 99% of potatoes; 94% of the production of apples; and 95% of the cattle and 92% of the sheep. Enterprise farming has a large but still minor share of wheat, barley and grape hectarage (35%, 31%, and 24%,respectively) and of pigs and poultry (33% and 30%, respectively). It dominates the production scene only in industrial crops other than tobacco, such as oil seeds, farming 56% of the area planted to them.

26. *Current and Ex-Social Enterprises.* Typically, the AKs were developed as vertically integrated production and processing complexes with arable land areas averaging 1,140 ha, while the average cooperative had 106 ha. Social enterprises ranged from relatively small, intensive operations such as egg and table poultry production, to extensive arable farms of several thousand hectares. These arable AKs were generally highly mechanized with a substantial labor force, were located on favorable soils and benefited from extensive irrigation investment.

27. *Private Farmers.* Although there has been a recent trend toward intensification and specialization, particularly with livestock and vegetable production, private farms tend to be highly diversified and grow a comparatively large number of crops. This diversification is partly due to a tradition of self-sufficiency in basic food needs and partly a risk-aversion strategy in response to climatic variation and unreliable markets. Typically, for subsistence, the smallholder farmer produces cereals, vegetables, fruit and livestock and, for cash, a similar mix, plus tobacco and grapes. There is some geographical specialization within private farming wherein lowland or valley farmers mainly grow arable, fruit tree and horticultural crops for sale, primarily in the local market, while in hill and mountainous areas, ruminant livestock predominates.

28. Virtually all private farms maintain some livestock, principally dairy cattle and sheep, which are an important source of farm income. Cattle are kept primarily for milk production, with herd size typically between 2-5 head. Sheep, mostly indigenous, wooled-dairy types and some crosses are used for spring lamb and subsequent milk production. A flock of 100 ewes would be considered large. Extensive shepherding is common in summer. Poultry for domestic egg supply is a feature of all private farms, though an increasing number of commercially oriented broiler and egg laying units are seen in the private sector. A similar situation exists with pigs. Private farmers with mixed arable and livestock enterprises plant alfalfa, maize and other forage crops and typically graze their large ruminants on lowland meadows and small ruminants on extensive upland pastures. The use of improved pasture for livestock grazing is not common.

29. Private farms are operated almost exclusively by labor of the extended family, although casual labor may be employed during peak demand periods, particularly with vegetable production and sheep herding. Although labor-intensive farming systems are common, many private farms are nonetheless over-mechanized, the result of an extended period of subsidized credit, low farm machinery prices and the promotion of mechanization as a "modern" farming practice in the Former Yugoslavia. Enterprise farming continues to be highly mechanized, as it was before the breakup, but those enterprises using antiquated equipment in the context of low profitability and limited access to credit are increasingly unsustainable.

Agroprocessing

30. Before the breakup of Former Yugoslavia, the Republic of Macedonia was a major agricultural supplier for the whole federation. At independence it thus inherited a very large agro-industrial sector, while its domestic market fell to only 2 million people. Many agroprocessors had production and processing facilities with the capacity to provide food products for the larger market of Former Yugoslavia and, in some cases, significant exports to Greece, EU, SEE and CEE. Most of the 425

agroprocessing enterprises were parts of 147 parent AKs, and some were cooperatives. At its peak, the industry employed about 25,000 full time employees, most in vertically integrated production, processing and marketing operations. The 30 largest AKs and coops employed more than 80% of this labor force. A limited but growing number of new, smaller, private-sector agro-enterprises have now developed alongside the former AKs. In contrast to the former AKs, they tend to be business-and market-oriented with a focus on profit and growth.

31. After independence, the difficult Balkan political and economic situation of the 1990s created severe difficulties for the industry by disrupting regional markets and trade routes for Macedonian agricultural products. Routing agri-produce and processed goods through Bulgaria, Romania and Hungary, instead of Kosovo or Greece typically added 30% to distribution costs. Quality, never very high in the protected Yugoslav and East bloc markets, was reduced further by inefficient border crossing facilities and other transport delays. Meat and live animal exports were restricted by an outbreak of foot and mouth disease in 1994 and again in 1998. The restrictions to EU markets were lifted in early 2000.

32. Privatization started in the late 1980's, and resumed in the early 1990's under the auspices of the Privatization Agency, but didn't get very far and was delayed until 1998 awaiting legislation on AK land holdings. In September 2001 the Agency reported that 420 agriculture-based companies, including those extracted from AKs and cooperatives, had been privatized, with an employee base of 19,993, and equity € 198million. A further 25 AKs remain to be privatized, with an employee base of 1,162 persons and equity of € 14 million.

Table 3. FYR Macedonia: Illustrative Tariff Rates

Live Animals, Meat, Eggs & Preparations	16-40%
Dairy Products	25-35%
Fresh Vegetables	40-60%
Fresh Fruit	30%
Preparations/1	15-60%
Beverages, spirits/2	35-60%

1/ Preparations of fruit, vegetables, cereals, flour
2/ Including wine (50-60%)

33. The contraction of traditional markets and the constraints on exports caused many of the former AK's and coops to reduce production below viable operating levels. Financial pressures on the companies increased as they tried to maintain high production (and unsold inventories) in line with their commitment to maintain employment. Debt service costs also absorbed available resources and prevented management from re-tooling their factories to focus on their more profitable and exportable product lines.

The Incentive Structure

34. ***Trade Protection.*** High import protection and restrictive trade practices[8] are by far the main current vehicles for support to agricultural production. Thus, the major financing of agricultural incentives comes from consumers, in the form of higher prices. Moderate to high tariffs apply to most of the commodities produced in FYR Macedonia (Table 3). Additional variable levies on many

[8] The following current trade restrictions affecting the incentive structure will probably not survive entry into the WTO: (i) export licenses for wheat, flour, crude sunflower oil and white sugar, (ii) import licensing and import quotas for wheat, flour, tropical fruit, and rice, which restrict the right to import to those processors to traders who purchase domestically produced raw materials, and (iii) the requirement that wheat and flour can only be imported by mills that pay government floor prices for domestic wheat.

commodities add a further 20%-40% to some tariff rates.[9] In addition to import taxes, there are various other charges, including a VAT of 5-19% depending on the tariff schedule and 1.1% customs recording and miscellaneous taxes. Even this very high nominal protection is not the whole story. Some processors receive even higher 'effective' protection due to low or zero import charges on imported raw materials The numerous free trade agreements to which FYR Macedonia is a signatory only partially offset the general import protection, as the tariff quotas for most agricultural commodities in most of the FTAs are fairly restrictive. Overall, effective levels of import protection are very high, as indicated by internal prices that are considerably above border prices, despite significant smuggling.

35. *Direct Support.* Direct support for agriculture was heavily reduced in 1994-1995 as part of the stabilization and adjustment program, but remnants of the structure remain in the government's continued reserve operations for wheat and tobacco, its limited bread subsidy and very limited producer and export subsidies.

36. The State Office for Commodity Reserves (SOCR), an agency of the Ministry of Finance, is responsible for acquiring and storing reserves of food and non-food commodities considered strategically important. Under this mandate it purchases wheat and tobacco at official floor prices, which are well above border prices. In theory, SOCR has wide-ranging discretionary powers to intervene in domestic markets to "stabilize" domestic food prices, when this is deemed necessary, and to provide general support to agriculture. (It has invoked this latter mandate to provide seasonal finance to some of the unprivatized AKs, in the form of fertilizer and fuel, which is exchanged for wheat at harvest.) It also subsidizes the production of flour for "dark bread," which is sold at controlled prices as a means to support low income people.[10] Precise data on the cost of these activities is withheld on grounds of national security. Available data indicate that the SOCR purchases about 40-50,000t of wheat and 25,000t of tobacco annually.

37. MAFWE's contribution to direct support is now small. Its total expenditure of 853 million denars (before cost recovery) in 2001 is only1.6% of total budget expenditure and 0.35% of GDP. Of this total budget, only 64 million denars ($US 0.91 million) was used for producer and export subsidies, including a temporary export subsidy on lamb (35 denars/kg), introduced in 2001 to help the export lamb industry recover from foot and mouth disease and the accompanying 1997-1999 EU embargo.

Marketing Infrastructure for Fresh Produce

38. The post-harvest distribution and management system for fresh produce in FYR Macedonia is rudimentary, and produce quality suffers from lack of needed infrastructure. Farmers can access several types of markets. The most rudimentary are "buying spots" where farmers deliver produce to the vehicles of large traders at a designated location, as arranged by village middlemen working for the traders. Big wholesale traders service up to 30 such buying spots. Traders' warehouses, to which the produce is transported, rarely have modern facilities for sorting, grading, cooling, packaging and storing.

39. A second type of market for farmers are the wholesale markets in Strumica (one private and one

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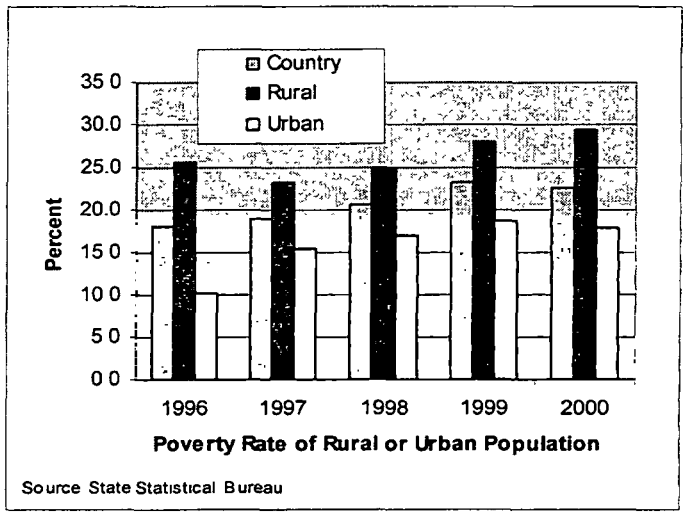
[9] Variable Levies, 2001:

Commodity	*Variable Levy (denars/kg)*	*Commodity*	*Variable Levy (denars/kg)*
Cheese	38	White Sugar	9
Live Pigs, Pork Products	26-27	Tomatoes, Cucumbers, Peppers, Onions, Cabbage	2-7
Oranges, Mandarins, Bananas	10-12	Chicken, Beef, Milk	3-6
Margarine and Refined Oil	6-12	Fruit Juice	4
Wheat, Wheat Flour	9		

[10] Anecdotal evidence is that only very early morning risers are able to queue up and buy the limited amounts subsidized bread available, however, a crude but effective self-targeting mechanism.

public) and Skopje (public). These markets are patronized by small traders and retailers. Because of quality problems, however, large traders, especially those involved in the export trade, do not usually use them. The wholesale markets do not have buildings or cooling facilities but are basically large fields where farmers' vehicles park in the sun for a day or two or until they have sold their load. The market in Skopje has some non-cooling storage facilities.

Chart 4. FYR Macedonia: Poverty Incidence, 1996-2000



Note: Incidence measured as percent of population below offic poverty line.

40. The third type of market for farmers is the green market. There are 15 in Skopje and typically one in each of the other towns. These are retail outlets where farmers and small traders sell local and imported produce. The latter include tropical fruits. In most cases, the markets are on public property, but the facilities are rudimentary. Supermarkets, as yet, have not taken a major part of the retail produce business.

2. RURAL POVERTY

INCIDENCE OF RURAL POVERTY

41. Poverty[11] in the FYR Macedonia is not a new phenomenon, since it was the poorest constituent republic of the former Socialist Federal Republic of Yugoslavia prior to independence. The state nevertheless provided a comprehensive protection system resulting in a low poverty rate. In 1990, the poverty rate was 4%, but it sharply increased between 1993 and 1995 as the economic transition took hold and reached 18% in 1996, by which time average real wages were only 53% of the level of 1989. Median monthly adult equivalent consumption in 2001 was MKD 10,610 (US$ 150)[12], giving (at 60%[13]) an official poverty line of MKD 6,366 (US$ 90) per month.

42. Using data through 2000, poverty is both more extensive and more severe in rural FYR Macedonia than in urban areas. The rural poverty rate (percent of households below the poverty line) was 29% in 2000 compared to 18% for the urban poverty rate (**Chart 4**). Data from 1996, the most recent year for which extensive poverty data exist, show that the 45% of the population then living in rural areas contained two-thirds of the population below the official poverty line.

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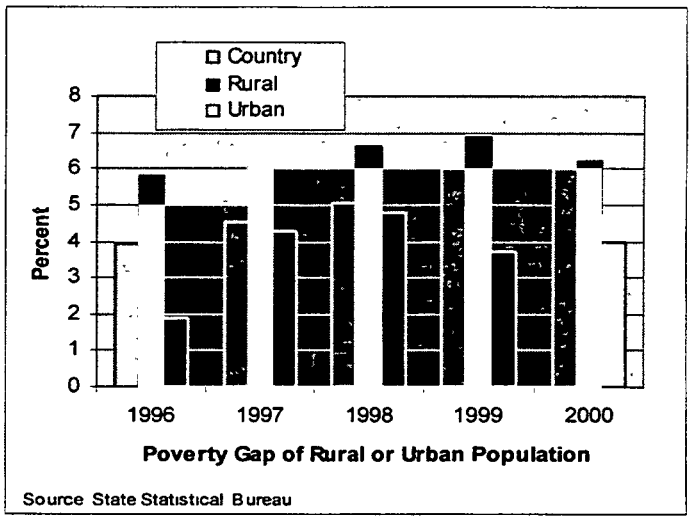
[11] This and other sections on poverty draw on Jan J. Rutkowski, "Labor Market Developments and Poverty: The Case of Macedonia," Background Paper for the Macedonia Poverty Assessment Study, World Bank, January 1998; Ian Jones, "IFAD Agricultural Financial Services Project – Formulation Report, ANNEX III: Rural Poverty and Target Group", Jorde Jakimovski, Report on Rural Poverty (for PRSP), October 2001, and World Bank, Former Yugoslav Republic of Macedonia – Focusing on the Poor', Report No. 19411-MK, June 11, 1999.

[12] Economist Intelligence Unit Country Report, February 2002

[13] FYR Macedonia uses a relative definition of poverty based on OECD assessment formula. The official poverty line is expressed as 60% of the median adult equivalent consumption of the population.

43. Not only was the incidence of poverty higher in rural areas, but as measured by the poverty gap,[14] it was also somewhat more severe there, with the average consumption of the rural poor in 2000 being 6.2% below the poverty line, compared to that of urban poor, which was 4.0% below the poverty line. (Chart 5). According to the available data, poverty did not deepen to any great extent in either sector from 1997 to 2000(Chart 5), except in Skopje where poverty deepened significantly due to the national crisis - from a poverty gap of only 2.8% in 1997 to one of 8.3% in 2000, a gap higher even than in rural areas in 2000.

Chart 5. FYR Macedonia: Poverty Gap, 1996-2000



Note: Poverty gap, a measure of severity, is average percentage shortfall of poor persons' income from the poverty line (percent of poverty line

44. While poverty remains a strongly rural phenomenon, non-agricultural rural households have replaced agricultural households as the largest group of poor. The unemployed, both urban and rural, have emerged as the new group of poor and have the highest incidence of poverty, followed by farmers and wage earners. Three distinct groups of poor may currently be identified in the FYR Macedonia.[15] These are:

- The 'traditional' poor, who are agricultural households with more than three children, low education status, an older household head and surviving exclusively on agricultural income derived from small plots or seasonal labor. These households have the highest incidence of poverty in the country;

- The 'new' poor who are the principal casualties of transition. They are the members of non-agricultural rural households with unemployed heads and dependence upon social transfers. They have replaced agricultural households as the largest group of poor households; and

- The 'chronic' poor, who are the elderly, disabled or institutionalized. These people are least capable of work and the least likely to benefit from economic growth, except as its fiscal impact increases transfers.

45. The poverty of agricultural households, as distinct from rural households, is a function partly of overall low agricultural incomes but also private as opposed to public sector wage structures. The private sector accounts for more low-paid jobs than the public sector. Low wage rates are associated with low levels of education, female gender, economic sector and location of employment. Agricultural workers earn less than in all other industries. Household heads employed in the agricultural sector are much more likely to be poor. In effect agriculture is characterized by the 'working poor'.

46. The incidence and depth of poverty is actually less among female-headed households than male-headed households. This is because they are largely *de facto* rather than *de jure* household heads as a result of their husbands being away working. They benefit consequently from remittances. Even in households where they are *de jure* heads they are less likely to be poor because their families are at an older stage of the family cycle. *De jure* women household heads are likely to be older widows in non-

[14] Average shortfall of poor persons' income from the poverty line (percent of poverty line).
[15] World Bank Report No. 19411-MK, p. iii.

farm employment or in receipt of pensions and with fewer under-age children.

47. The regional distribution of poverty in the FYR Macedonia, as identified by the 1996, show that the north and west of the country (with the exception of Skopje) is the poorest part of the country. For targeting purposes, it is important to take into account the inter-regional differences in the composition and characteristics of households. Thus the northwest has a greater proportion of farmers, while the northeast has a greater proportion of unemployed and pensioners reflecting the depopulation of farming communities in this region.

GOVERNMENT PROGRAMS FOR POVERTY ALLEVIATION

48. An autonomous Agency for the Development of Underdeveloped Regions (ADUR) was established in January 1994 with a view to revitalizing and developing poor rural areas through a Fund for the Development of Underdeveloped Regions, which was allocated US$ 8.6 million from the budget in 2000. In 2000, ADUR identified a total of 963 settlements as meeting the criteria for support from the fund, including 857 villages in underdeveloped regions and 106 rural centers. ADUR can assist underdeveloped regions with:

- 70% of the cost of essential infrastructure;
- up to 50% of new agricultural, tourist and industrial enterprises;
- up to 50% interest rate subsidy on production-related credit;
- wage subsidies for new jobs;
- grants for scientific studies relevant to the development of underdeveloped regions; and
- grants for training and technical assistance.

49. The government's social protection program provides a minimum level of income security for Macedonian households irrespective of location, with single-member families eligible for MKD 1,700 monthly (US$ 28.5) and families of five or more members, MKD 4,200 (US$ 60). The social protection law also provides for long-term financial support for persons unable to work and also lump sum cash support for situations of social risk. In 2000, social assistance was distributed to 13.0% of the total population. Of social-assistance households, 51% where rural and 49% urban.

POVERTY TOPICS

Employment of Women.

50. According to the 1994 Census, women constituted 48% of the labor force. The legal position of Macedonian women is comparable with that of most European countries. Farm women play an important part in animal husbandry, sowing and low-technology crafts such as smoking and pickling foods, sausage-making, spinning, weaving and sewing. Despite their omnipresent contribution to subsistence agriculture, formal employment of women in FYR Macedonia in agriculture and agroprocessing is relatively low, with women employed in seasonal harvesting and as 30% of processing plant employees. Very few have senior staff status. Some NGO activities have been targeted at this problem.

51. The wage gap between women and men is significant, although not beyond the range observed in other European countries. A female worker earns about one-fifth less than her male counterpart

employed in the same area, industry and sector, and with the same education and labor market experience. It is worth noting that in neighboring Bulgaria the gender wage gap is significantly larger. However, it is only in urban areas where the gender wage gap is relatively modest (18%), as in rural areas it is still substantial. In these areas, women earn on average one-third less than men with comparable education and tenure. It is noteworthy, that the male/female wage gap in FYR Macedonia is not accounted for by education differentials, since women have, on average, higher educational attainment than men. If women had the same human capital endowments as men, then the wage gap would be even larger.

52. The gender wage gap is much larger in the private sector than in the public sector. All else being equal, in the private sector women earn about 40% less than men, while in the public sector the gap is only 15%. There is also anecdotal evidence that the reduction in employment in privatized AKs has particularly affected women. It should be noted that private sector discrimination against women is not a pattern uniform to all transition countries. For example, in Poland the situation is reversed, and women benefit from private sector employment more than men do.

53. Employment of women takes on pivotal importance in alleviating poverty, since two wage earners in a household appears to be the best protection against poverty, virtually regardless of the level of earnings. The relevant finding from the 1996 data is that households with an employed woman are rarely in poverty. In the agricultural setting, this implies that promotion of income generation for women may be a powerful weapon against poverty.

Youth Concerns

54. Unemployment of rural youth is unsurprisingly a serious problem in the context of very high rural unemployment. Overall unemployment in 1999 was 77% for workers aged 15-19 and 57% for those aged 20-29 but only 27% and 12% for those aged 30-39 and 40-49, respectively. Despite this sharp demographic gradient, the current educational profile of new labor demand is not that different from the profile of the unemployed. Thus, those with less than secondary schooling have not had greater difficulty in getting a job than those with more education of the same age. This has been particularly true of those living in rural areas, as occupations using low-skill labor have been expanding and may continue to do so. Beyond the medium run, however, economic growth is likely to create more skilled than low-skill jobs. Unemployment of low-skill school leavers[16] could then become a particularly difficult structural addition to long-term unemployment, leading to the development of a rural underclass.

55. Particular attention needs to be given to secondary education for rural young people, who face inhibitions in attending secondary school on both the supply and demand sides. In addition to making sure that there are enough secondary school places for the rural age group, that artificial barriers do not disadvantage rural children in enrolling in secondary schools and that the curriculum is appropriate for the eventual urban employment of most of these children, there are elements on the demand side that need to be looked into. These include transportation for poor children from villages to secondary schools, outreach activities to minimize dropouts and, in some communities, special efforts to ensure the education of girls.

[16] Gross enrollment ratio of 87% (1996) in basic education indicates that large numbers of children drop out of school in the basic education years. It is likely that the number of dropouts is greater in rural than in urban areas.

OVERALL STRATEGY FOR ALLEVIATION OF POVERTY

Strategy and Key Issues

56. The overall objective is to trade off optimally among (a) incentives for labor supply, labor demand and entrepreneurship, (b) income maintenance for the poor, and (c) budgetary expenditure. This review will not look in depth at the issues of social assistance for household members who are unable to work because of severe disability, juvenile status, or old age, except to note that social-assistance issues are complex in and of themselves and interact with many other aspects of poverty, such as the income of recipient households and the productivity of small farms.

57. The main issue treated here is how to resolve the conflict between policy prescriptions that attempt to maintain the wage levels of poor workers and those that aim to create jobs. Bank analysis for this issue in FYR Macedonia (using data up to 1996) has found that unemployment in FYR Macedonia is much more powerfully related to poverty than are wages. The rationale as to why this is true is that low-wage earnings tend to go to or be lost by the secondary earners in a household, and the income from even low-wage jobs, when it is contributed by a spouse or child, will tend to lift the family out of poverty (or move it close to that goal) as long as the head of household is also employed, which in FYR Macedonia is the usual case. This is true even when the household head is employed at a low wage.

58. From a practical poverty-reduction perspective, it is thus more beneficial to foster the employment of women in poverty households than to aim at putting a floor under the wage rates for male household heads. The negative effect of low wages on household income is likely to be more than offset by the positive effect from an increase in employment among secondary earners. In many cases, it is women's (spouses') labor force status that determines household welfare. All else being equal, if a woman is employed, the family is virtually protected from poverty, regardless of her earnings. Conversely, if the spouse is not employed or if only one person can seek employment, the family runs a considerable risk of poverty.

59. This implies that government policies should *not* seek to reduce wage flexibility, so that low-productivity workers will be able to price themselves into the labor market. Among other things, this involves lowering the costs of labor through lowering payroll taxes, especially at the bottom of the wage distribution, and encouraging flexible forms of employment, such as part time employment and flexible hours, which target the special needs of female workers.

60. The above analysis applies specifically to wage employment, but there is a corollary for subsistence farm workers, which applies to the large number of women living on subsistence farms. They are often classified as not in the labor force in official unemployment statistics. The important thing for them is to increase both their labor supply and their productivity. In FYR Macedonia, interventions such as assistance in helping them develop small livestock operations by ensuring the provision of advanced breeds of, say, rabbits, plus micro-credit and advice on how to conform to EU livestock regulations may be quite effective in improving family income in the many very poor rural households. It will also be essential to ensure the availability of modern, entrepreneurial slaughterhouses and cold stores. Niche micro-livestock products, such as rabbit meat or snails, may be able to access EU, CEE and wider international markets. In many mountain areas, there is scope for the collection, processing and packaging of medicinal and culinary herbs and wild mushrooms. Finally, with FYR Macedonia's climate and natural beauty, there is some potential for agro-tourism[17], which could provide income and also demand for handcrafts such as traditional clothes and embroidery.

61. While economic growth is necessary for poverty reduction, it may be not sufficient. In particular,

[17] The College of Tourism in Ohrid might provide training.

the unfavorable structure of Macedonian unemployment, i.e., the extremely high share of the long-term unemployed and skill mismatches, may cause unemployment to persist despite growth in output. Special measures targeted at the long-term unemployed and those with inadequate skills may be necessary to help reintegrate a substantial part of the rural labor force into the national labor market. FYR Macedonia is fortunate to have resumed positive economic growth, but the impact of this on disadvantaged rural sectors is likely to be minimal unless economic growth increases substantially and persists over the indefinite future.

62. Agriculture and the rural sector generally will likely continue to shed labor even if agricultural production grows. A set of measures to keep the smaller rural labor force from shrinking further and keep it demographically balanced should include the following:

- Reform of inheritance laws, development of a land market and assistance to young farmers in acquiring farms through lease and borrowing,
- Promotion of rural economic growth based on small and medium enterprises and reduction of current constraints on financial, land, labor and produce markets,
- Investment in the quality of rural human capital so that rural residents are better able to engage in higher-value-added agricultural and rural enterprises,
- Provision of well-targeted financial support to sustainable enterprises benefiting poor rural workers, and
- Investment in social and economic infrastructure to realize the full productive potential of rural areas.

63. The Bank and the Government are preparing a Poverty Reduction and Strategy Paper (PRSP). The PRSP develop a long term agenda for poverty reduction and sustained economic growth. It attempts to fill gaps in the government's knowledge of how macroeconomic policies and sectoral policies affect poverty. Analytical work to better understand the political constraints on the speed and depth of reform in a multi-ethnic state will also be carried out. It is expected that the PRSP will help the government to develop feasible strategies that will have the greatest possible impact on improving poor people's lives.

64. An increase in the value of agricultural production, which derives from effective policies and investments and involves small farmers, processors, traders and their spouses can have a large impact on poverty, first of all through incremental family income, which has been shown in FYR Macedonia to powerfully reduce poverty, and, second, through the derived increase in off-farm employment in related agriculture-support, business support and retail activities. Other poverty-amelioration approaches, to reach the chronic poor or as provide effective secondary education, will require targeted assistance programs.

3. ISSUES OF THE PRIVATE SECTOR IN AGRICULTURE

COUNTRY ASSISTANCE STRATEGY

65. In line with the Country Assistance Strategy agreed between the Bank and FYR Macedonia, the priority areas are private sector growth, job creation, enhanced efficiency and poverty alleviation.[18] For agriculture, increases in production and productivity require that resources be available to efficient, private producers, including efficient small ones, at every stage in the production, processing and marketing chain, so that they can expand in areas where they are competitive. This will require a comprehensive restructuring of government policies and support. At present, farm structure, the land market, access to rural credit, processing and input monopolies, trade restrictions, and investment rules and restrictions present a set of interlocking constraints that inhibit the ability of efficient farmers (including foreign investors and efficient small farmers) to expand production. Most of these constraints are the result of inappropriate government policies, inadequate legal and regulatory institutions and misdirected government support.

CONNECTING SUPPLY WITH DEMAND

66. The chain of logic on how FYR Macedonia's agriculture can be restructured for greater competitiveness starts with the recognition that, in a modern agricultural economy, competitive agriculture-based products can only be produced by specialized industries that have sufficient economies of scale at each level in the value chain to keep costs down. Such industries also need to make use of overall economies of scope in key subsectors to capture enough information and technological externalities to stay competitive. In the immediate future and for the foreseeable future, Macedonian agriculture-based producers will face two segmented, competitive markets:

(1) The domestic market. Producers will compete among themselves and increasingly with imports from EU, regional and international producers as import protection falls in response to WTO membership and an increasing number of Free Trade Agreements.

(2) The export market. Macedonian producers will compete with the same regional and international producers but in markets that are even more demanding in terms of product quality and knowledge of consumer preferences. While some Balkan markets for a time will continue to accept lower-quality agricultural products, with the spread of international supermarkets across Eastern Europe and the Balkans, these markets will diminish.

Impact of Changing in Market Conditions

67. The over-riding context for agriculture sector analysis is that both of these markets for agriculture products have changed and will continue to change under relentless developments in technology, materials and communications. Producers must continually invest and adapt to be competitive. In competitive markets, non-competitiveness means poor profitability (a cash flow insufficient to support needed investment) and sudden or slow disappearance in the absence of corrective adaptation. To regain competitiveness, the entire industry will need to make costly investments in equipment and facilities to upgrade to ISO standards and, for the milk, meat and processed foods industries, to HACCP standards of sanitary control. Without these standards they will not be able to export profitably to the EU or supply domestic supermarkets.

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[18] Country Assistance Strategy for FYR Macedonia, July 14, 1998 and FYR Macedonia: CAS Progress Report, May 17, 2000.

68. While Macedonian producers do compete in both domestic and export markets now, given the forthcoming changes in the incentive structure and the accumulated changes in global technology and markets, it is uncertain how successful they will be in either of these markets in the future. Individual Macedonian agroprocessors, packers or new-style marketing cooperatives may be able to tightly manage product characteristics, quality and costs in their own production and in supporting parts of their value chains and succeed and even dominate in individual subsectors (provided they restructure in time). But it is highly unlikely that Macedonian agricultural production will expand overall, even in the long term. Parts of the sector may contract severely.

69. For a small country like FYR Macedonia, much of what happens in agriculture will depend on macroeconomic factors operating through the exchange rate and the price level. These will be largely determined by what happens externally and in other sectors in the Macedonian economy. In any case, effective restructuring of agriculture will be needed, even in pessimistic macroeconomic scenarios, in order to minimize the deterioration of competitiveness and slow agricultural decline. In more optimistic circumstances, restructuring will be needed to allow clusters of expansion to develop and place agriculture on an upward trajectory.

Goals of Agriculture Restructuring Need to be Realistic

70. As trade liberalization proceeds, Macedonian agriculture may be hard pressed to maintain its share of the domestic market, let alone expand it. The primary task of Macedonian agriculture, therefore, must be to improve product quality, packaging and the ability to compete on price, initially on the domestic market. From this base it can then expand into regional and EU export markets. Though export markets offer the potential for growth based on competitiveness, they presently account for a relatively small part of the value of total agricultural output. And products for export must continually meet the cost, quality, product-characteristic, delivery, and reliability requirements of evolving foreign consumer demand. The limited number and value of export commodities and the difficulty of meeting export market requirements, limits the capacity of agricultural exports to pull the whole sector into sustained growth or even to prevent decline. The goals of agricultural restructuring in FYR Macedonia, therefore, need to be realistic as to the overall outcome in both domestic and export markets.

71. For competitiveness, different levels in any value chain require different minimum scales of operation for efficiency, and there can be efficient operation at more than one scale. For instance a commercial farm with its own packing operation might need 100 hectares or more for efficient operation. But a group of farmers with five hectares each might be equally efficient if they band together in an association or cooperative that centralizes packing, marketing and other member services.[19] Such a farm or cooperative might be efficient for some operations but not for others. In either case, production needs to be organized so that specialized and efficient equipment, an adequate level of human resources, and efficient support industries are available.

72. Scope economies, which are essential to be competitive on both domestic and export markets, require access to information and logistic and marketing networks that allow producers to compete in diverse markets. Achieving scope economies may require associations of efficient processing firms managed by effective entrepreneurs. These associations of firms will in turn need a large production base (farmed by either competitive larger farms or organized competitive small ones), as well as transporters, marketing facilities, industry groups and regulatory structures of a certain minimum size and capacity.

73. When the minimum size of production needed for competitiveness with imports in a domestic

[19] A distinction needs to be made between a small commercial farmer and a micro farmer, with a farm of, say, 1.5 ha divided into 5 parcels. There are many farms of this size in FYR Macedonia, and it is doubtful that very many of them are or can be farmed efficiently.

market is larger than the market share it can obtain, that industry is headed for rapid decline unless it can achieve the needed size and competitiveness to export its way to profitability. This is doubly true for higher-value products, where the internal market will usually be small. Stated another way, many agricultural products will be imported for lack of efficient Macedonian producers, despite import protection and natural barriers, particularly in the absence of a strategy that first focuses on ensuring effective competition in the domestic market. In this, FYR Macedonia is no exception; it is generally true for all small open economies. These realities look likely to force wrenching variety and husbandry changes on commercial crop and livestock producers. They will also provide impetus and support for a thorough-going program of restructuring once it becomes clear that there is no alternative.

CEE and SEE Export Markets

74. In the newly competitive and expanding markets of CEE and SEE, attempts to recover former Macedonian market share are unlikely to succeed unless a critical mass of producers becomes efficient and efficient producers can expand. Trading patterns from the era of state trading and barter persisted until 1995, when total exports to CEE countries (not including SEE countries) were 37.5% of total exports, but that quickly fell apart during the Balkan crisis. By 1998, exports to CEE countries had plummeted to 8.3% of total exports. Similarly, Macedonian producers should not expect the newly reopened Serbian market to accept low-quality Macedonian goods as before. It may come as a shock that this market, like other international markets, has or almost immediately will have access to products with price and quality unimagined a decade ago, when it was Macedonia's largest market. From now on, producers from diverse global locations will compete for Serbian consumers.

75. Macedonian producers need to react quickly if they are to retain market share in both domestic and export markets. Both markets continue to become more sophisticated and competitive than previously, which means that Macedonian producers are aiming at a moving competitiveness target. The problem is how to assist Macedonian producers to profitably satisfy the price, delivery and quality requirements of these markets.

Picking Winners

76. Government should not attempt to "pick winners" by favoring particular commodities, industries, work forces, types of enterprise or export destinations, but rather aim to develop an enabling environment for investment and production. Increasingly competitive domestic and international markets will pick the winners (and losers) on a continuous basis. Governmental regulations and "help" typically insulate their intended beneficiaries from the consequences of poor market performance, distort their incentives, prevent the adjustments necessary to retain market share, prevent the transfer of resources to firms and farmers that can adapt, and ultimately, counterproductively, cause the "beneficiaries" to fall far behind.

Scenario Analysis of Trade and Price Policy Reform: the Cases of Wheat and Lamb

77. A simple spreadsheet model, with three scenarios, was used to analyze the impact of policy reform on producers and consumers of wheat and lamb. One scenario models the continuation of current policy and two model different policy options under the likely agreement with the WTO. A snapshot of the scenario results for 2005 is presented in Table 4. The full model tables for 2001, 2003, 2005 and 2007 are presented in Appendix 3. The scenarios are:

Scenario 1: Base Case. Policy stays the same as current policy. Production and trade are driven by forecast trends in world prices and the exchange rate. Consumption depends on demographic factors and consumer prices.

Scenario 2: Gradual Reform. In this scenario, there is a gradual reduction of import protection (as would be allowed under the prospective WTO agreement) and a moderate floor price for wheat. In this scenario (and in Scenario 3), pursuant to the WTO agreement, there would be immediate removal of licenses, trade restrictions and producer and export subsidies with no significant adjustment period.

Scenario 3: Immediate Reform. This scenario is the same as Scenario 2 except that tariff equivalents are immediately reduced to 30% for wheat and 0% for lamb meat, and the floor price for wheat is abolished.

Table 4. Scenario Model Demonstrating Impact of Trade and Price Policy Reform, Snapshot for 2005

	Base Case	Gradual Reform	Immed. Reform
Wheat			
Border Price[a] (den/ton)	9,877	9,877	9,877
Total Wheat Production (tons)	311,375	311,375	311,498
Tariff Equivalent (%)	81%	50%	30%
Producer Price (den/ton)	10,000	10,000	11,433
Consumer (Mill) Price (den/kg)	9.9	12.8	11.4
Net Import Requirement[b] (tons)	138,121	134,309	136,250
Subsidy Expenditure (m den)	310	0	0
Lamb			
Border Price, Lamb Meat [a] (den/kg)	266	266	266
Total Lamb Meat Production[b] (tons)	7,363	7,363	7,363
Producer Price (den/kg liveweight)	168	133	133
Consumer Price[c] (den/kg)	372	266	266
Net Exports[d] (tons)	4,131	3,659	3,659
Subsidy Expenditure (m den)	145	0	0

Note: Full model results in Appendix 3. Tables there present results for 2001, 2003, 2005 and 2007
Footnotes For wheat see Appendix 3, Table 1, for lamb Appendix 3, Table 2.

78. The model demonstrates that getting trade and price policy right will be important after FYR Macedonia joins the WTO. In either reform scenario, both of which envisage membership in the WTO, licenses, restrictions, and producer and export subsidies would all be abolished. Protective tariffs, which would be agreed at moderate levels with the WTO, would constitute the protective structure for agriculture. FYR Macedonia would be allowed to reduce current high tariff levels gradually to agreed moderate levels.

79. A gradual reduction of the wheat tariff, however, would not be good policy. Scenario 2 shows that gradual reduction of the wheat tariff would cause a sharp rise in the prices of consumer wheat products. If existing wheat duties, which are equivalent to an ad valorem tariff of 86%, are only gradually reduced in line with what will be allowable under the WTO agreement (e.g., to 50% in 2005), this would cause consumer prices to increase by 43% by 2003 compared to 2001. Prices would still be higher by 35%in 2005. [20] The reason for the consumer price rise would be that, while the current licensing system allows mills to import wheat duty-free, the only duty-free wheat imports allowed after licenses are abolished will be those under FTA tariff quotas. The mills' average price would therefore build the reduced tariff into a larger percentage of their wheat imports. Consumer prices would rise sharply even while producer prices remained constant.

80. Compare this result to that of Scenario 3, where the wheat tariff would drop immediately to 31% in 2003 and to 30% in 2005. Under this scenario, the consumer price would rise only by 15% by 2003 and by 21% by 2005, with about half the rise caused by the projected increase in the international wheat

[20] See Appendix 3, Table 1 for scenario years 2001, 2003, 2005 and 2007.

price built into the analysis. Thus, a sharp drop in the tariff would result in a small rise in consumer prices, while a gradual drop in the tariff would result in a sharp rise in consumer prices.

81. Concerning lamb, the government has necessarily agreed with WTO negotiators to remove the export subsidy. It was originally intended to be a temporary support in any case. Beyond this, government negotiators have, however, shown themselves to be reluctant to reduce the lamb import tariff of 40%. The scenario analysis presented here indicates that this stance is counterproductive. Underlying this conclusion, economic analysis of domestic markets indicates that both producer and consumer prices are currently determined by the international lamb price and the export subsidy. It also indicates that the import tariff has no impact on either consumer or producer prices, because there are virtually no lamb imports, and the market clears on the basis of export prices.

82. Removal of the lamb export subsidy and tariff was modeled using a similar scenario approach to that used for wheat (Table 4). The base case assumes that the export subsidy (which was operational in 2002) would remain in effect and would affect consumer prices. The reasoning is that producers would rather sell in the export market and receive the subsidy than sell in the domestic market, unless local buyers pay producers the same as they can get in the export market (which includes the subsidy).

83. In the reform scenarios, the subsidy is removed and both producer and consumer prices drop. Scenario 2 assumes gradual removal of the 40% tariff, while Scenario 3 assumes immediate removal. Since (virtually) no lamb is imported, the tariff has no impact on the consumer price (and, of course, on the export price). It also makes no difference whether the tariff is removed gradually or all at once. The two reform scenarios for lamb therefore have identical impacts (Table 4). The conclusion from this for the WTO negotiations is that abolishing the tariff or setting it at a low level would have no cost to either Macedonian producers or consumers and that either of these actions could rightly be on offer in the WTO negotiations.

ENABLING ENVIRONMENT FOR PRIVATE SECTOR INVESTMENT

Impediments to Demand-Driven Production and Investment

84. The main impediments to FYR Macedonia developing competitive farms and processors are weak policy, an underdeveloped land market, access to finance, inadequate infrastructure particularly irrigation, regulatory burden, company governance and management, and inefficient government institutions. The overall strategy should be to help all elements in agriculture value chains to become entrepreneurial and dynamic by removing or reducing these impediments and raising stakeholder participation. Somewhat different sub-strategies apply to small farmers, larger farmers, privatized processors and packers, and new private processors and packers. If privatized AK processors prove unable to compete, rapid growth of a dynamic, fully private processing industry to a dominant position can render the poor performance of former AKs less important. Likewise, if farm consolidation by dynamic small farmers produces a large number of nimble medium-sized farmers with sufficient access to land and other resources, the continuing poor productivity of other small farmers may be able to be seen in the proper rural poverty context.

Undeveloped Land Market

85. A crucial element in the strategy for increased agricultural productivity and responsiveness to the market is that appropriate land resources be located in the hands of producers who will efficiently produce for the market (product selection, quality, timing, price, etc.), whether these producers are small-to-medium farmers or larger enterprises. Those who are successful need to be able to acquire the needed land resources. At present this is difficult, since the agricultural land market in FYR Macedonia

is severely underdeveloped and constrained. As in other countries with similar problems, the issues concern unclear land titles, land registration difficulties, legal restrictions on land sales, inheritance laws, inefficient dispute adjudication and contract enforcement, continuing public land ownership, burdensome public land sale and lease terms, restrictions on parcel size, restrictions on sale to citizens and foreigners, restrictions on lease terms, dysfunctional restrictions on land use, problems with use of land as collateral, legal and practical restrictions on collateral recovery/sale, and counterproductive regulation of financial institutions.

86. The government has moved expeditiously to correct some of these problems but much remains to be done. For instance, law revisions originally proposed for 2001 but now scheduled for 2002 look to establish a central property registration system for registration of rights in real estate, mapping of property boundaries, systems for recording change and a public data base. These changes, while necessary, are not sufficient to improve the operation of the land market. Also needed is compulsory registration of changes in land rights, a title insurance mechanism, training programs for land professionals, real estate market laws and establishment of professional bodies. At the level of government institutions, the appointment of a Registrar of Lands with powers to write regulations and determine and adjudicate titles is needed.

87. Land fragmentation is severe in FYR Macedonia. At the time of the last agricultural census in 1981, 99% of farm holdings were owned by private persons and 98% of these farm households held farms of 8 ha or less, with a median holding size of about 1.2 ha. The average number of parcels per holding was 7.7, with average parcel size of 0.14 ha. More analysis is needed than can be done with the census, but 39% of farm holdings were owned by households that did not include a farmer, probably rendering the fragmentation less severe than indicated, since relatives or neighbors in many cases may have farmed their parcels. On the other hand, the land may have been misclassified or may have remained fallow.[21] Current 1999 data indicate that fallow and uncultivated arable land was 34% of the total. How much of this land was fallow because of traditional fertility restoration techniques is not known, but all in all fragmentation plus non-farmer ownership plus large amounts of uncultivated land imply huge inefficiencies in smallholder agriculture. (This is not to imply that the "enterprise agriculture" of larger farms developed on the former AK holdings are any more efficient; the limited research comparing the smallholder and enterprise sectors does not support this stereotype.)

88. A well functioning land market will facilitate farm enlargement and consolidation, but additional measures may be needed to ensure that land is used productively in agriculture. For instance, reform of land taxation to reflect land values rather than "registry income" would encourage farmers to move land into its most profitable use, and changes to the inheritance laws would discourage further fragmentation.[22] A program to allow older farmers to purchase inflation-adjusted (or euro-denominated) annuities with the proceeds of land sales could free some land up for more productive use and serve to reduce poverty. For the poorest farmers, the value of these annuities might also be topped up as a welfare measure.

89. The lease market should be an important element of the land market in FYR Macedonia. In particular, state-owned agricultural land, insofar as it continues to be state owned, should be offered to enterprises and individual farmers in transparent transactions at market rates using long-term, transferable leases. Public land management should be seen as a continuous, dynamic process with clear market-oriented objectives and a transparent management and review process administered by competent professionals and a supporting information and monitoring program. This does not yet exist

[21] The 1994 population census reported 95% of land holdings less than 8.0 ha and an average farm size of 1.4 ha with 1.2 ha of arable land. This survey, however, only recorded 251,000 ha of arable land against the statistical record of 545,000 ha, a gap of 3.05 ha per holding.

[22] Fragmentation increased markedly between 1931 and 1981, with median farm holding decreasing from about 2.8 to about 1.2 (approximation based on proportion of land area interval).

in MAFWE or the related public agencies responsible for natural resource management.

Inadequate Rural and Agriculture-Related Finance

90. Macedonian agriculture does not have an effective formal credit-delivery system. The banking sector is characterized by small retail commercial banks, which have concentrated available funds in profitable short-term lending secured by cash-equivalents. Not all short-term lending is attractive to the banks; international traders, including agricultural exporters, have difficulty in obtaining trade finance, with banks able to charge very high fees for letters of credit and other international trade services, which in turn has been a disincentive for agricultural exports. Agriculture as a whole is perceived by bankers as risky and unremunerative, and few resources are directed at developing the competence to analyze potential lending opportunities in the sector. There are, additionally, the serious problems with the recovery of collateral referred to above.

91. Informal credit structures are also weakly developed in rural areas. Moneylenders, who had played an important role in village credit in Yugoslavia prior to 1950, disappeared completely under socialism and have not reappeared during the transition. Anecdotal evidence is that loans among villagers also do not appear to have an important role in agriculture. They are today almost exclusively social loans intended for emergency situations and ceremonial expenditures like weddings.

92. There is also little evidence of credit being extended to private farms through the private trading and agri-business sector, either directly or through deferred payment agreements. In fact, farmers are probably a net source of credit for processors and traders, who often delay payments for farm off-take. In sum, little credit is supplied to private farmers today in FYR Macedonia through either formal, informal or trade-finance financial channels, and this contributes to the result that the private agriculture sector is severely under-capitalized.

93. Prior to independence, virtually all formal credit for agriculture was allocated to AKs or cooperatives. The government directed it at subsidized rates through the commercial banks (primarily Stopanska Bank's 24 branches). Private farmers were served informally through the AKs, which provided working capital in the form of inputs with repayment in kind at harvest. Equipment loans were also available through the AKs. However, the flow of credit to private farmers through the AKs and to the AKs' own agroprocessing and farming operations declined precipitously when government-directed credits mostly ceased after 1994. Due to their own difficulty in obtaining bank credit and their lack of sufficient cash flow, successor privatized agroprocessing enterprises and newly established SME processing and supplier firms alike have not able to provide farmers with any significant amount of credit in total. On the contrary, farmers often finance processing firms by receiving delayed payment.

94. The current financial system has not filled this vacuum, despite improved access to capital and progress with reform and restructuring. In 2001, there were 22 licensed banks, 17 savings houses (savings and loan associations), and the non-bank financial services sector that includes 5 insurance companies, the Macedonian Stock Exchange, and an embryonic commodity exchange. Stopanska Bank has been broken into several independent banks and recapitalized through the transfer of many non-performing assets to a rehabilitation agency. The parent bank, which at end-2000 still held 35.8% of total deposits, has been sold to a Greek bank. Other commercial banks hold 61.2% of deposits and savings houses (savings and loan associations) the remaining 3%. Significant capital investment into the Macedonian banking sector occurred in 2000, which increased the share of foreign capital in domestic banks from 19.3% to 40.8%. This also changed the level of foreign ownership, with 7 of the 22 banks under foreign ownership at the end of the year. The large inflow of deposits at the end of 2001, when people began to change their European currencies for euros, provided a further source of capital. Despite this investment, a high level of non-performing loans remain a feature of the balance sheets of all domestic banks. Provision for bad and doubtful debts is currently 34.8 % of the aggregate

commercial bank loan portfolios.[23]

95. Savings houses are also a poor source of rural credit. In the early 1990s they offered a means to mobilize savings and provide credit in underserved areas, but this was undone by uncontrolled lending. As a result, their number was reduced from 140 to 17, and their activities were severely curtailed. They are not allowed to make "business loans" directly and must channel such funds through commercial banks. But they generally assume the liability for repayment and make their own assessments of risk, and have now been reformed to the point where they could become significant rural credit institutions. Further reform is needed to improve supervisory regulation, and so improve client confidence, while relaxing counter-productive restrictions on lending. A functioning land market that allows land to be effectively used as collateral would also improve the capacity of savings houses to lend to farmers and small, private agri-business.

96. A number of reforms have been proposed as part of the proposed Bank-financed Second Financial and Enterprise Sector Adjustment Loan, including better enforcement of existing law, a restructured deposit insurance scheme, and a new integrated law on moveable and immovable collateral. The latter reform would be especially important for small agricultural borrowers, considering that land is by far their most important asset. While this and other reforms will be a necessary condition for increasing Bank lending to agriculture, they will not be sufficient. Banks will need to gain experience, develop expertise and recognize profitability in agriculture-related lending. The incentive to do so, however, will not be there until there is more competition in the banking system. An increase in the level of operations of foreign banks would be a major way of increasing competition and delivering a full range of services, as it has in other countries.

97. On the demand side, private farmer interest in working with the commercial banking sector is also depressed due to widespread mistrust of the banking system emanating from past scandals and arbitrary actions. Many farmers are also unwilling to apply for loans from existing donor agricultural credit programs because of not-unrealistic expectations that their farming activities will be unprofitable or because of perceived risk. The same is ***not*** true of many of the thousands of rural agro processing and trading businesses that have developed since independence. At the start, these were appropriately financed mainly by savings or loans from family and friends, but many have now expanded to the point that they would provide strong demand for formal credit if it were available on appropriate terms.

Donor Financed Credit Programs

98. The government and donors have long recognized the need for agriculture-related credit and have moved to fund credit programs, often directed at small farmers in particular and sometimes making use of the savings house system. IFAD- and World Bank- financed programs have had the most experience, with USAID, the Soros Foundation, EU-PHARE and the Netherlands Government also financing credit programs to benefit farmers, traders and processors.

99. The IFAD Southern and Eastern Rural Rehabilitation Project illustrates the importance of demand side constraints. When it began in mid-1998, this program focused on lending to 393 poor, rural communities in mountain areas. At the end of 1999 it was expanded to southern and eastern FYR Macedonia. The project is administered as a "revolving credit fund" (RCF) through Investbanka to provide credit to smallholders for livestock (80% - mainly dairy) and crops (20% - notably viticulture), along with small scale traders and processors. Demand for these loans has been very weak. As of September 2000, 620 loans totaling USD $3.2 million had been disbursed or approved out of the total project credit line of USD 8.0 million. A significant proportion of these loans are now chronically in arrears. Loan recovery improved during 2000, but the cumulative recovery rate (including insurance,

[23] National Bank of Macedonia, Annual Report 2001.

which adds up to 9% per annum to the market based cost of the livestock loans) was still only 60%. The RCF is not sustainable at these recovery rates. A second modest IFAD-funded effort of USD 8 million was agreed in December 2000. It will shift the credit risk to commercial banks and savings houses, but will offer variable discounting to them as an incentive to lend to profitable agricultural investments in rural areas. Loans will also be available for activities other than farming, such as packing, processing, marketing and trading.

100. The World Bank-financed Private Sector Development Projects I (USD 12 million, fully disbursed) and II (USD25 million) have provided finance for larger agricultural and processing enterprises. USAID-funded initiatives are managed by local NGOs affiliated with international ones. The first (MOZNOSTI), which has made approximately 1,500 loans averaging USD 3,500 as of end-2000, operates through a commercial bank but does all loan evaluation and assumes the credit risk. MOZNOSTI is presently exploring the opportunity of registering as a commercial bank. The second (also a local NGO) owns savings houses. USAID provided the minimum subscribed equity of about USD 500,000 and all branches together had 429 members and saving of USD 162,000. The Netherlands Government-funded project, which received a grant of USD 3 million provides sub-loans in Western and Central parts of the country primarily through input suppliers and traders, via a local administering NGO and commercial banks. The participating credit institutions bear the credit risk, which are fully indexed. The Soros Foundation, has opened a line of credit for smallholders through a commercial bank and follows procedures similar to the IFAD-funded project. Lastly, the EU-PHARE program for support of small and medium-sized enterprises does not lend for primary production, but does lend for to small-to-medium agroprocessing enterprises.

Inadequate Infrastructure

101. Inadequate transport, energy, telecommunications and irrigation infrastructure are serious impediments to the development of agriculture and agricultural exports in FYR Macedonia. Improvements to each would lower production costs and facilitate international trade. At this stage, transport services and irrigation are the most important for agriculture. With transport disruptions because of the Balkan wars and the Greek embargo now in the past, the focus should be on reducing the degradation of perishable agricultural goods caused by poor road maintenance and slow border crossings. The Bank-sponsored Trade and Transport Facilitation Program for SEE aims for a near-simultaneous implementation in six countries, including FYR Macedonia, of physical improvements to border crossings, technical assistance to customs administrations, electronic filing of customs declarations, coordination of operating practices at each pair of border control units and alignment of regulatory schemes with EU practices.

102. The irrigation system is both inadequate in scope and performance. Only about 40% of the arable area suitable for irrigation is within the command of the existing system, and only about one-third of this is irrigated, mostly at low efficiency due to deterioration and insufficient water storage. Macedonian summers are dry and hot leaving crops with a water deficit of around 450mm in the east to 250mm in the west in an average year. Irrigation is essential to all high value summer and perennial crops, not only providing higher yields but improving quality, timeliness and a reduced-risk environment to encourage investment in the sector. Irrigation is also an essential ingredient to the dairy and livestock industry providing secure forage and grain supplies. All neighboring countries rely extensively on irrigation, and competitiveness in Macedonia's agriculture will depend on reliable and cost-effective irrigation. Extension of irrigation beyond areas dominated by ex-AKs would be an essential element in raising rural incomes and reducing poverty. Donors, including the Bank, are providing finance to rehabilitate irrigation schemes in three production regions and to decentralize control over management and water allocation to users.

Privatization Inadequacies and Company Management and Governance

103. Ineffective privatization via employee-manager purchases of shares of the former AKs hampers the development of the private sector in agriculture in several ways. Conversely, the slow development of a profitable private sector hampers the privatization effort. Evaluated at border prices, many of the ex-AKs are undoubtedly value subtractors. Their continued existence in their present state due to high protection, rent-free land access and the non-transpartent award of government contracts locks up valuable skills within their labor forces and some valuable physical capital (although much of the latter other than land is now obsolete and of little value). Part of their problem is poor management and large social obligations; part is undercapitalization. In turn, the undercapitalization continues because few investors are interested in unprofitable investments even at the bargain prices offered by the Privatization Agency. Strategic investors, including foreign investors, have not yet positively evaluated the existing opportunities to any extent, as well.

104. For many of the enterprises, effective dissolution and sale of assets may be the only long run solution. Some may, with luck, gradually and successfully climb out of their present dire straits. Others may succeed with an infusion of strategic investment together with improved management, cost control, quality focus and marketing effort. All successful ones will need adequate working capital to expand production.

105. The continued, but stagnant operation of many of the agroprocessing, supplier and trading firms that have been spun off from the ex-AKs has wider impact on private agriculture than just their and their workers future. Because of their weakened state, these firms are not able to provide sufficient, cost-effective services (including supplier credit) to the wider industry to enable them to produce lower-cost, higher-value competitive commodities. While they continue in operation, sometimes under semi-soft budget constraints, other more efficient firms may be inhibited from entering and providing these services.

Constraints to Foreign and SME Investment

106. The government and the wider society needs to do much more to create the conditions under which both local and foreign investors will provide finance, technology, and risk-taking, management and marketing skills. SMEs make up the vast majority of private businesses in FYR Macedonia and are and will continue to be the largest source of employment growth in agri-business. As part of a restructuring strategy, it is both inevitable and desirable that foreign firms be involved on both the export and import sides. A symbiotic relationship often develops between foreign investors and any large internationally competitive Macedonian firms on the one hand and SMEs on the other. The foreign firms and the competitive local ones are customers, transmitters of demand signals and sources of technological, management and marketing expertise, sources of staff, etc.

107. Thus, the continuing impediments in FYR Macedonia to efficient business operation, such as time-consuming registration requirements, difficult logistics, red tape, corruption, unreliable contract enforcement, legal vulnerability, non-transparent taxation, standards and regulations that are inconsistent with those of the EU, etc. need to be addressed. The government has started the reform process, but much remains to be done. The still unwelcoming business climate affects both foreign investors and, even more, the SMEs, which have fewer resources to invest.

SUPPORTS FOR PRODUCTION AND EXPORT PERFORMANCE

Markets, Technology, Seeds, Breeds

108. Agricultural export markets provide the major significant opportunity for FYR Macedonia to expand agricultural production, and this entails exporting to specialized international markets that are both available to FYR Macedonia and in which it can be competitive (i.e., processed commodities, seasonal varieties, specialty crops, multiplied seeds). These commodities will typically involve significant inputs of specialized, modern but not necessarily complex technology, which can be accessed primarily through seeds and breeds and investment in modern processing equipment. Agricultural credit from financial institutions and suppliers, through which farmers can acquire these items, becomes increasingly important. In some commodities, cost saving through improved cultural practices may also be important, and here as elsewhere, where farmers need to learn new techniques, research, extension and demonstration are important. Quality assurance, i.e., the reliable production and delivery of the qualities that Macedonian farms and firms can produce competitively, is also essential for export market access and profitability. Selling into international markets also involves good market information, effective marketing techniques and reliable logistics.

Farmer Support System

109. The support system for small and private farmers is still limited, in comparison with the support system for state-operated and privatized AKs, which itself is in need of radical reform. Some experience in reforming agricultural extension for small farmers has been gained through the Private Farmer Support Project (PFSP), including privatization of veterinary and services and stimulation of private extension services. A 1998 law dissolved the state-run extension service and created an autonomous national extension agency centered in Bitola, which is organized on a regional basis. The extension service is expected to reach more than 50% self-financing within ten years. The new structure, however, has not as yet provided any significant quantity of useful services. Under PFSP, MAFWE is being supported in fostering the pilot development of voluntary farmers associations. These are important both for provision of information services and for encouraging a critical mass of small-scale producers for procurement of inputs and coordinated production, processing and marketing..

110. Since independence a network of private crop and livestock inputs suppliers has emerged, and quantities are generally sufficient for the present, low-input farming system. The system may not be effective in disseminating new seed technology, however, since the quality and timing of inputs is still uncertain. For instance, EU and other foreign seed companies are not free to sell directly to farmers. FYR Macedonia is not yet a member of ISTA and UPOV; thus it is unlikely that local seed operations can attain sufficient scale and quality to be internationally competitive. Attempts to protect them through trade and investment restrictions simply deprive local farmers of the advanced technologyneeded for export growth.

4. REQUIREMENTS FOR RESTRUCTURING IN KEY SUB-SECTORS

AGROPROCESSING INDUSTRIES

Central Role of Agroprocessors

111. The producers who are best placed to sell in export markets, and thereby gain the volume necessary for competitiveness and market penetration, are packers and processors. Marketing cooperatives and some larger farms may have a direct role in the export of some commodities, but private, entrepreneurial agroprocessors will undoubtedly have the leading role, if – a big if - there is a conducive business environment for them to operate in and grow. The major agroprocessing industries in FYR Macedonia are listed in Table 5:

112. Processors in all transition countries, including FYR Macedonia, will be acutely affected by new EU legislation requiring all meat, milk and processed food products to be from HACCP-registered processing plants by January 1, 2004. This new deadline leaves the Macedonian industry with considerable, costly work to be done in a very short time to bring their processing plants up to HACCP standards. Many plants will not be able to finance the costs of modern equipment meeting ISO standards and may have to drop out of supplying EU importers at least temporarily.

Table 5: Major Agroprocessing Industries in FYR Macedonia

Milk processing	Milk, fruit juice, yogurt, sour milk, UHT mil fermented cheeses
Meat processing	Beef, lamb and mutton, pork and poultry fresh and extended life products
Fruit and vegetab processing	Frozen, dried, concentrate, canned, preserved tomatoes, peppers, ajvar, cabbage, cucumbe gherkins, onions, garlic, melons, apple plums, pears, raisins, peaches.
Wine	Vranac, merlot, cabernet sauvigno smederevka, chardonnay, riesling, zilavk zupljanka

Industry Structure

113. Looked at from the point of view of ownership structure, there are three potential segments where entrepreneurial agroprocessors may develop:

- Privatized ex-AK enterprises,
- Successful medium-sized companies emerging from the group of small, new private processing companies , and
- Joint ventures or companies with controlling direct foreign investment.

114. *Privatized Ex-AK Enterprises*. The formal privatization of the agroprocessing sector is now largely complete – 420 enterprises privatized and only 25 remaining. The privatization process since 1993 has been on the basis of share purchase, typically as employee and management buyout of shares at a deep discount, and recently, the process has become more transparent. A 10% sample of Privatization Agency (PA) records[24] of privatized agroprocessing firms in September 2000 estimated

[24] Purposive sample aiming at representativeness by covering all processing industries.

Table 6. FYR Macedonia: Major Agroprocessing Industries, Production, 1997-2001

Product Category	1997	1998	1999	2000	2001
Meat Production (t/y)					
Beef	9,000	8,400	8,700	8,800	8,700
Pork	8,700	9,800	11,000	11,200	10,800
Lamb/mutton	6,800	6,000	7,200	7,600	8,200
Poultry	5,600	5,200	5,300	5,700	6,300
Total (t/y)	30,100	29,300	32,100	33,300	34,000
Processed Milk (t/y)	n/a	n/a	n/a	112,000	115,000
Fruit & Vegetables (t/y)	25,000(?)				
Wine (l/y)	100,000,000 - 130,000,000				

Source . MAMA and MAFWE

that the formal ownership structure was 48% owned by private shareholders, 5% by the government (not for sale) and 47% for sale by the government (34% as shares for sale by the PA for itself and some government agency creditors and 13% for sale by contract to attract large investors). While the government would like to sell the 47% as quickly as possible, the poor prospects of the companies make it difficult to find buyers, probably because in many cases investors have correctly evaluated them as having little value. In some cases, the managements of the firms have been using their firms' cash flow to buy shares at the deep discounts offered by the PA.

115. Many of the privatized agroprocessors are now in a fairly desperate financial state. Firms in this position typically own large, outdated production facilities with excess employee numbers. Their costs are high, their capacity utilization is low, their management is weak, especially in marketing, and they struggle to maintain market share in the face of competition from new entrants. They are short of working capital with which to expand production, and they also have very little access to longer-term capital to invest in new processes. Some of the larger ones have so far been able to maintain long-term relationships with export markets (such as bulk wine to Germany), but these are low quality, low value products that do little to improve operating margins, and even lower-price global competitors may be emerging.

116. The commercial potential of the majority of the AKs is quite low. Their often elderly managements must both solve their current difficult financial problems, rationalize operations, adopt a new management style, limit their obligations to their employee stockholders, handle any labor unrest, fend off political pressures to maintain employment, face competition in their most remunerative product lines from new, fully private entrants and imports, acquire finance to support process modernization and product development and penetrate export markets to gain scale economies. This would be a tall order for any management and may be too tall an order for all but a minority of ex-AK agroprocessing survivors of the shakeout that seems inevitable.

117. *Successful Medium-Sized Private Processing Companies.* There are dozens of small, small and medium scale agroprocessing companies emerging from rural communities, retail stores and petty traders, typically manufacturing a single product line in compete-tion with ex-AKs and imported products.

118. *Joint Ventures and Direct Foreign Investment.* Foreign investment has been relatively low in agroprocessing to date, with only US$5.7 million being invested in 9 companies of which more than 50% was an investment by a Netherlands firm in a tobacco company. To give an indication of the small size of these investments, $5.7 million would only be sufficient to build a medium capacity (150,000l/d) modern dairy plant.

Milk Processing

119. Milk processing in FYR Macedonia uses a substantial amount of sheep milk as raw material (20%) in addition to cow's milk and produces about 112,000 tons per year of products (Table 6). Most of the approximately 80 milk processing plants have very simple facilities or equipment and processes, which were installed more than 15 years ago. By today's standards, they would be considered badly out-of-date. This means that regenerative heat recovery systems, product loss control and cleaning-in-place (CIP) are not as efficient as in modern plants and have variable product quality. A few plants have recently invested in modern packaging systems with the latest technology (particularly the high speed 3,600 packs per hour Tetrapak line at Nasto Dairy) and can be considered as equipped to export standard.

120. Like other agroprocessing industries, most milk processing plants are operating way below capacity – in the case of the milk industry, at a roughly estimated average 65% (Table 7). The plants operating at this level and lower levels – the majority of plants - will probably not be viable in the medium run without major investment unless barriers to competition prevent the more efficient plants from expanding market share.

121. Milk and milk product exports declined sharply in 2001, by 46%, due to the closure of the exceptional Year-2000 Kosovo market, but they are expected to recover in 2002.. Cheese exports in particular could be further developed and expanded. The local cheese is highly salted, but some cheeses are otherwise excellent in flavor and texture and could be developed with lower salt content for several export markets including Greece and the Middle East.

Meat Processing

122. There are about 32 slaughterhouses/meat-products plants in FYR Macedonia, with a total processing capacity of 162 tons per day of meat. It is reported that only five plants have export licenses with a total of 26t/d processing capacity. Very few of the plants have modern equipment, and most would not meet the latest ISO and HACCP[25] requirements for export of fresh, chilled or frozen meat on the world market. All of the plants are reported to produce extended life products, two sell long life products, but only six sell fresh, chilled or frozen meat. There are no processors with capacity above 100 t/d; in fact, the five largest have combined capacity of 90 t/d. The next 13 have only another 55 t/d capacity.

Table 7: Macedonia: Major Agroprocessing Industries, Capacity Utilization, 1999

Industry	Number of Plants	Capacity (tons/day or mil. liters/year)				Capacity Utili-zation
		Large Scale	Medium Scale	Small Scale	Total	
Milk	80	230	193	56	479	~ 65%
Meat	32	90	55	17	162	Less than 50%
Fruit and Vegetables	25	n/a	n/a	n/a	n/a	n/a
Wine	15	119	56	8	183	~ 64%

Source. MAMA and Bank staff estimates

1/ Rough estimates based on estimates of home consumption, exports and percentage of imports processed in Macedonia.

[25] The EU will require all food processing industries supplying EU markets to be Hazard Analysis and Critical Control Point (HACCP) certified by the 1st of January 2004.

123. Good data do not exist on production, but total meat production is about 33,000 tons per year. Capacity utilization is almost certain to be below 50% and may be as little as 30%. Even more so than in the milk industry, a meat industry shakeout seems inevitable. Incremental domestic consumption (about 3% annual growth) is not likely to support much expansion of the industry in the near future, although some farm-based slaughtering for home consumption could be transferred to commercial slaughterhouses. Imports (44% of meat supply) are the largest sector in which domestic production could compete and expand with import substitution. Exports (only 5% of production in 2000) are a second target, where meat production, processing and marketing could be expanded. However, expansion will depend on substantial investment in the efficient, entrepreneurial firms of the industry. The existing spring lamb and processed meat products appear to have good potential for expansion.

124. The meat industry in FYR Macedonia is supported by the USAID funded Land 'O Lakes project, Macedonian Agribusiness Marketing Activity (MAMA), which has 125 processor members. As in the milk industry, MAMA works extensively to advise commercial processors on best practices in the meat industry, and analyzes products and markets for potential growth. Its "Seal of Quality" also applies to meat products, and firms that use the seal of quality have developed new product formulations and packaging for 132 products.

Fruit and Vegetable Processing

125. There are about 20-30 recognized fruit and vegetable processing companies, not counting wine firms. This figure undoubtedly misses hundreds of cottage-industry-scale processors.[26] Consequently, good data do not exist on production. What data do exist indicate that exports of *finished* products (canned or bottled) are estimated to be 21,500 tons per year out of 25,000 tons of product from the recognized processors. These include Balkan specialties like roasted red pepper, gherkins, ajvar (a canned pasta of roasted sweet pepper and garlic) and pindjur (a typical Macedonian salad preparation), which are exported to ordinary retailers in CEE and SEE and ethnic retailers and recently supermarket chains in the EU and North America. The Macedonian variants compete in export markets with Hungarian and Turkish varieties, whose agroprocessors offer stable quality, good prices, dependable delivery and annual shipment plans.

126. The transitional state of the industry is indicated by the low annual exports of *semi-finished* (frozen and dried) products, estimated at less 3,500 tons per year. In FYR Macedonia, most of the semi-finished products (except frozen sour cherries) are available only in modest quantities, allowing only ad-hoc purchasing. Partners in Germany, which have been demanding more than can be supplied by Macedonian processors, are interested in commitments on the basis of annual plans.

127. The reasons for the non-responsiveness to existing demand undoubtedly reflect the same ills exhibited by the ex-AK processors in the milk and meat industries: inadequate management, dysfunctional ownership structure, lack of working capital, antiquated equipment, out-of-date processing technology, high cost, low volume of marketable products, poor packaging, uneven quality raw material, non-compliance with export standards, etc. Recognizing the difficulty in getting near-term solutions to these problems, some traders have recently started their own production operations to assure raw material supply and control quality. Some are able to pre-finance growers by providing seeds, fruit tree seedlings, fertilizer and technical assistance. Others have gone directly into raw material production by acquiring greenhouses for production of early vegetables, for instance.

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[26] An indicator of probably incomplete statistics (probably not reflecting an erratic industry) is the data in the 1999 Statistical Yearbook giving raw material inputs into the industry in the years 1996, 1997, 1998, and 1999 as 29, 5 ,23 and 50 thousand tons per year, respectively.

128. At present, there are significant problems in achieving quality from small producers. Common practice now is for traders to collect produce from small farmers to make up full loads for export. Crops are picked and packed in the evenings and loaded at night to keep them cool. The product is cooled in the refrigerated truck, but is un-sorted and un-graded, and only in the early season do traders find export sales without difficulty. During the flush season they may tour numerous markets to sell their loads. There have been some efforts to improve quality from small producers with the development of farmer associations. At least one marketing company has been formed, MACFRESH (a brand for three associations) with good brand imaging, but this needs to be followed through into successful marketing. The associations are in their infancy and need long term support and guidance, and their bilateral and multilateral assistance programs are nearing completion.

Wine Industry

129. As in the food processing industry generally, globalization has brought many new entrants to world wine markets and extended the reach of others. Some (like Australia and Chile) have excellent products, high quality standards, and adaptability to market trends and others (such as Algeria) mainly sell bulk wines internationally for whatever price they can get. Like other low-quality wine countries, FYR Macedonia is stuck largely at the low-value end of the wine market. Some Macedonian wineries have been able to maintain long-term bulk-wine relationships with export markets (notably in Germany), but these low-quality, low-value products return only low operating margins. In line with Serbia's reentry to normal international economic relations, the EU has reduced FYR Macedonia's wine quota by reallocation in favor of other FRY countries. This has effectively halved the export of bulk wine to the EU and is likely to badly hurt the short-term production prospects of Macedonian wineries, especially the two largest wineries at Povardarie and Tikvas. The wine industry hopes to replace this lost market with exports to former Soviet states, but this low-value market is unlikely to be very profitable.

130. There are 15 active wineries in FYR Macedonia, with a total processing capacity of about 183 million liters per year of wine (Table 7). This compares with overall production of 100 to 130 million liters per year and indicates capacity utilization of 55% to 71%. Most plants are operating below their cash breakeven points of about 70%. They would need to operate at above 80% capacity to have a cash flow that could support needed investment in modernization and expansion.

131. There are three large-scale processors each with greater than 20 million liters per year capacity. The three have about two-thirds of all commercial wine processing capacity in the country. Four plants rate as medium scale (12 to 16 million l/yr with 31% of total capacity), and 8 plants are small, with capacities less than 2 million l/yr and with only 4% of total production (Table 7). At the smallest scale – and not covered in official statistics – home production possibly accounts for an additional 18 million liters per year, or 10% of commercial production.

Box 2: Export Potential: Bovin Winery, Negotino

This small, new, privately owned plant produ high priced bottled wines. It currently has capac of 500,000 liters per year but can expand wit the existing buildings to double that capacity. T products are of excellent quality, well present high priced, and aimed at top-end restaurants the domestic and regional markets. The output this plant is limited only by its access to work capital that, in the wine industry, is a ma constraint. The owners have a program expansion into grape production and expect double their present capacity within two yea They are conscious that expanding production v put stress on their quality control, but they aware of improved processes and equipment t would enable them to maintain the consistent h quality that they need at the higher volume. T winery would appear to have good potential export fine wines.

132. Most of the large and medium-scale wineries are ex-AK wineries and own large, outdated and overstaffed production facilities. Their capacity utilization is low and they are short of working capital with which to expand production. They also have had very little access to capital to invest in new processes, although some investment has recently been supported by bank loans. The wine firms need a new marketing strategy, if they are to survive to post-privatization profitability in the new global wine market. With effective strategic investment and improved management, however, the wine industry could export higher quality, more profitable bottled wines instead of the low-grade bulk wines currently exported. Large markets outside the EU, such as in North America, have largely been ignored, but these markets, while large, are highly competitive and can be penetrated only by effectively marketed wines with an attractive price-quality combination.

133. FYR Macedonia does have a small fine wine capacity. MAFWE holds a registry of wineries that produce appellation-controlled wine with registered locational and organoleptic properties (Box 2). These fine wines are usually bottled in the production area and are the largest value-added component of the wine industry. But few Macedonian wine firms will be likely to produce wines of this type in any volume in the near future. Those that can will have a significant profitability advantage, which would aid their survival in the event of a shakeout in the industry.

134. According to the stereotypical image, good quality wines are produced in old and simple wineries, and this is sometimes true, but in the modern industry, wines of consistent quality can be and are produced in large volumes if good grapes receive very good post harvest treatment, if effective process control technology is used at all stages of wine production and if optimal ageing of vintages is carried out. Reduction of air contact with the grapes after harvesting and through reception and pressing is one of the most important aspects of pre-fermentation quality control, as airborne yeasts can contaminate the grapes and change the flavor of the wine. Minimizing grape contact with the air is usually achieved by short grape transit times, spraying and membrane pressing. Constant temperature within an optimal range is also important during fermentation and maturation. The two largest wineries are reported to have major grape reception bottlenecks during the harvest period, do not use up-to-date processing technology, have limited underground storage capacity, and do not lay vintages down to any extent. Increasing their quality would require large investments in up-to-date facilities and in working capital to retain vintage wine.

AGRICULTURE AND HORTICULTURE

Climate and Resources

135. Rainfall typically varies between 500-800 mm but is poorly distributed, requiring irrigation for intensive agriculture to be viable at all in some regions. In other areas, irrigation is needed in dry periods during the summer. Recent years have seen frequent drought and the dramatic reduction in water reserves, thus restricting irrigation. Temperatures also exhibit a wide maximum and minimum range. Maximum summer temperatures in most regions can reach 40° C and the lowest winter temperatures fall to about -30° C. During the last few years extremely low temperatures have also damaged vines and orchards.

136. Within the country, some 1.28 million ha (50%) of the total area of 2.57 million ha is classified as agricultural land[27]. Of this resource, 633 000 ha (51%) is classed as cultivated land and 649 000 ha as permanent pastures (mainly upland). The cultivated land is largely centered on valley or old lake basins

[27] In Macedonian land statistics, agricultural land includes cultivable land and pastureland. Cultivable land includes land available for arable crops, plus land planted to orchards, vineyards and improved pastures. Arable land includes land planted to annual crops (cereals, industrial, vegetable and fodder crops), plus nurseries and fallow land.

and an extensive area of it is irrigated. The climate is transitional between Mediterranean and Continental with typically cold winters in the mountainous uplands and warm to hot summers in the valleys and lower elevations. In 1999, approximately 175,000 ha of agricultural land remained fallow, including 34% of state-owned arable land and 28% of privately held arable land.

137. The small farm size is due to a combination of inheritance patterns and the former Government regulation (now removed) limiting individual land ownership to 10 ha. The land holding is also typically fragmented into four or more parcels that are not contiguous. Compared to the formerly social and now state-owned AK land, individual farmers are located generally on poorer soils and have less access to irrigation.

138. Traditionally, crop yields and productivity were lower on private farms compared to the AKs, since the latter had better access to inputs and technical advice. Following recent changes in Government policy, however, this trend is now being reversed, with the private sector having better access to inputs and technical advice and a limited amount of financial resources with which to access them (mainly through remittances). Recent changes in policy towards support of the private farmer, combined with the outward migration of some smallholder farmers, have seen an increase in both the purchase and sale of land and in land rental. This has encouraged the development of a more dynamic private sector farming community with entrepreneurial farmers accessing new technology and inputs from a growing input supply sector that is receiving increasing support from companies within the EU and other industrial countries.

139. Farm machinery has, in the past, been mainly obtained from Serbia and other Eastern European countries. Observations from farm visits, supported by the statistics, suggest that machinery is available in adequate numbers. Tractor numbers have steadily increased in recent years with the vast majority being owned by a minority of individual farmers. The land: tractor ratio is now 9.6 ha of cultivated land per tractor. However, there is a serious shortage of powered implements suitable for use on small and upland farms. Over capacity has usually been the consequence of mechanizing operations on a small farm, but farmers with tractors use sharing and renting arrangements to reduce their overhead and earn extra income.

Irrigation

140. FYR Macedonia is divided into three main catchment areas: the Vardar catchment receiving 72% of the annual runoff, the Cri Drim catchment receiving 23% of it, and the Strumica catchment receiving 5% of it. Of the about 350,000 ha that is suitable for irrigation, representing 54% of the arable area, about 140,000 ha had been brought within the command of the irrigation system by1980. Of this area part has been lost to urbanization; other parts never received water, so that the current potential extent of the formal irrigation service area is 127,800 ha. Since construction, large parts of the system deteriorated badly, due to deferred maintenance, poor original design, poor original build quality and ineffective management, even in the years before independence. This deterioration continued after independence, with the total irrigated area shrinking from 78,000 ha in 1990 to 36,000 ha in 2000 and, due to insecurity, to 27,000 ha in 2001. The Bank/Netherlands-financed IRRP is providing funds for the rehabilitation of the Tikves, Bregalnica and Polog schemes, pilot development of Water User Associations and other institutional reforms. Most of the irrigated land is within the enterprise sector (including privatized ex-AKs), with about half irrigated by surface irrigation methods and half by sprinkler systems.

141. Irrigation efficiencies are low, in some cases not exceeding 30%, due to losses in both the conveyance and distribution systems, both of which are in urgent need of rehabilitation. In particular, pumping equipment is old and unreliable with breakdowns and the lack of spare parts interrupting water supplies. Because of inadequate storage and distribution of water, even the irrigated areas are subject to serious drought impacts, which can easily cut crop yields in half under Macedonian conditions when

irrigation is restricted. In times of water shortage, private farmers feel that they are discriminated against in favor of the enterprise farms. Except for the IRRP, most of the improvement schemes to the existing systems have been stopped due to lack of funds. The financial situation of the Water Management Organizations (WMOs) is generally perilous, with some reduced to barter transactions. Considering that only 2% of the irrigated area is double cropped, improved water management and usage have the potential for substantially increasing production, of forage crops, for instance, following wheat.

Crop Production

142. Area and production data for the main crops between 1990-2000 are given in **Table 2**, (Page 7, above) and in Annex 1, Tables 1 and 2. . Of the cultivable area of 611,000 ha in 2000, a total of 512,000 ha or 88% is classified as arable. An estimated 30% of this is left fallow each year although this may be due more to insufficient finance and absentee owners rather than deliberate rotational practices on working farms.

143. *Cereals.* Wheat, maize, barley, rye, oats and rice account for about 41% of annual planted area, with wheat the main crop at 21% of cropped area, followed by barley (9%), corn (7%), rye (1.2%), rice (0.8%), and oats (0.5%). The area planted to cereals has remained relatively stable in recent years, with the principal exception of rice, which has declined due to the removal of subsidies and reductions in irrigation water supply. The area of rye and oats, both minor crops, has also declined. Yields of cereals, particularly wheat and barley, are low and have averaged about 2.6 and 2.3 mt per ha respectively in recent years. The average oat yield has been only 1.1 mt/ha, while the yields of corn and rice, both irrigated crops, have also been well below potential at 3.4 and 4.5 mt/ha, respectively. These low yields are due to low input use, low seed quality and drought. There appears to be little difference in yield (kg/ha) between enterprise and individually owned farms with dry land cereal production; with irrigated crops, however, enterprise farms have higher corn yields (+34%).

144. *Industrial crops.* The main industrial crops in 2000 were tobacco (71% of area planted to industrial crops), sunflower (19%), and sugar beet (6%). Other minor industrial crops were cotton, poppy seed and paprika pepper. There has been a marked drop in the area of sunflower planted in recent years (from 27,775 ha in 1993 to 6,034 ha in 2001), reflecting the recent problems associated with AK production and processing. As a result a substantial proportion of edible oils are now imported. With only 1,700 ha of sugar beet planted in 2001, concentrated around the now privately owned factory at Bitola, the viability of this industry is in question. Yields of tobacco and sunflower are similar in the enterprise and individual farming sub-sectors.

145. *Vegetable crops.* Commercial vegetable production is concentrated around the market town of Strumica where a combination of good soils, very favorable climatic conditions and good roads allow high quality production for local and export markets. Crops include field-grown cabbage, beans, watermelons, potatoes, onions, garlic and salad crops with tomato, pepper and cucumber grown under plastic structures or glasshouses. These plastic houses vary from basic wooden-framed, plastic covered structures to modern imported buildings that have computer controlled heating, irrigation and environmental controls. Methods of heating vary from unsophisticated to modern. Suppliers, mainly from the EU, area important for the producers using modern methods, enabling them to obtain modern technology linked with input supplies.

146. The area planted has remained remarkably constant over the last five years; more recently, the move has been to produce early crops particularly of tomatoes and cucumbers to catch the high market prices available during April to May. With the proximity of the FYR Macedonia to the Yugoslav, Bulgarian and EU markets, together with well developed local markets, there is potential to further exploit the early season characteristic of the region and expand protected cropping of selected

vegetables. Prices, for example, of fresh tomatoes can vary from MKD 80-100 per kg in early April down to MKD 15 per kg at the peak of production in July and back to over MKD 40 per kg by October.

147. There is considerable scope to improve the quality and yields of the crops grown under plastic tunnels through the introduction of more efficient heating systems linked with temperature controls and combined with use of modern irrigation and liquid fertilizer injection systems. Seed quality and plant disease control are also areas where improvements could pay off in productivity.

148. *Fruits and Nut Orchards and Grapes.* Apples and plums are the largest orchard crops, with 89% and 99%, respectively, produced by individual farmers in 2000. Sour cherries, peaches and pears are other significant orchard crops. The enterprise sector has a significant production share only in sour cherries and peaches. In general, average yields of fruit crops are low compared to Western Europe with average yields of 27, 18 and 5 kg/tree for apples, plums and sour cherries, respectively, in 2000. The yields in the enterprise sub-sector are disastrously low compared with those of individual farmers (in kg/tree): 14 v. 31 for apples, 8 v. 19 for plums and 3 v. 19 for sour cherries. Progressive orchard owners reach much higher yields than the average, e.g., 60-80 kg/tree compared with the average of 27 for apples.

149. Most of the present fruit production is sold locally, but some farmers are exporting to Bulgaria and, in more limited amounts, due to quota restrictions, the EU. There is considerable scope for improvement in the quality of apples through the introduction of varieties that will store for longer periods. To be useful, this longer storage capability needs to be linked with better storage, grading and packaging techniques. Farmers are aware of these new methods, but in the present state of transition of the country, lack the necessary finance, training and access to the new technology.

The main nut trees are walnut and almond with some 175,000 and 212,000 bearing trees, respectively. Individual farmers own almost all of the walnut trees, but while enterprises have 90% of the almond trees, they produce only 44% of the almond output, indicating serious problems.

150. Grapes are an important crop grown on approximately 27 000 ha (1999 data) with 60% are for wine production, 30% for table grapes and 10% for the dried raisin and sultana market. The individual farm sub-sector accounts for about 64% of total production from 76% of the productive planted area. Tikves AKT is one of the largest wine producers in Europe with 2,000 ha of its own plantings and 5,500 ha under contract. Recently MAFWE has encouraged expansion of the industry and is promoting the replanting of the traditional vine with imported grafted vines of red and white grape varieties originating from USA and Europe; these are supplied from Serbia through the Viticulture Institute. Production in the smallholder sector is expanding with both replanting and planting of new areas, particularly in the favorable soils and climatic area around Gevgelia in the south of the country.

Agricultural Services

151. *Seeds.* FYR Macedonia produces most of its own open pollinated seed, mainly in government institutions, although some wheat seed is imported from Serbia, Croatia, Hungary and Poland and one private company is bulking wheat seed. About 80% of hybrid seed is imported. One enterprise is multiplying hybrid corn imported from the USA. About 20 companies are registered to trade in agricultural seeds and, though the number is uncertain, another 20 may be in the process of registering. A new seed law was passed in May 2000. The law has been reviewed by both the Organization for Economic Cooperation and Development (OECD) and the International Seed Testing Association (ISTA). No law on plant variety rights, however, has yet been prepared for consideration by the International Union for Protection of New Varieties of Plants (UPOV). Legal revisions are likely to be required prior to FYR Macedonia's entry to these international conventions. The new seed law establishes a Seed Directorate within MAFWE with a budget of only MKD 6 million (US$ 860,000),

financed 50% by government and 50% through industry charges. There has, however, been no move yet to implement these provisions. Substantial investment and capacity building will be required to establish MAFWE managed seed sites and programs, including those required to rehabilitate a laboratory to meet ISTA seed testing standards.

152. *Fertilizer.* Under the former system, private farmers could not purchase inputs such as fertilizer, seeds and chemicals directly from suppliers but had to access them through AKs or coops, frequently paying through an exchange of produce. The incentive to supply quality products at competitive prices on either side was lacking. Farmers now have a range of good quality inputs available from a growing number of traders and suppliers. Compound fertilizer is manufactured, largely from imported ingredients, in a parastatal factory located at Veles, which is operating well below its capacity of 150,000 mt per annum and is scheduled for privatization. With the abandonment of the fertilizer subsidy in 1992, consumption halved from 77,000 mt in 1989 to just over 40,000 mt in 1992, but climbed back to about 70,000 mt[28] in 1999, reflecting still low usage by European standards. Without access to seasonal credit, it is difficult to see how private farmers can increase fertilizer use. Nevertheless, in this context strong private input supply companies have emerged in association with international and European companies.

153. ***Marketing.*** Marketing has been a major area of reform in the FYR Macedonia, changing from a centralized, socially controlled system to a free-market, responsive to market signals and consumer demand. These reforms have been hampered, however, by a declining, but still dominating influence on trade and processing by the marketing arms of the AKs. The bulk of produce sold for processing, such as industrial crops and canned vegetables or canned fruit, is still sold through contracts with the progressively privatizing AKs. Within this system, there has been little incentive to produce quality products.

154. Marketing of fresh horticultural produce is largely dominated by private traders, but there is only rudimentary wholesale marketing of horticultural produce and little standardization or grading of produce. The exception is the small amount of produce exported fresh to Western Europe, which may be graded according to EU standards and is frequently re-packed by European importers before leaving the country. Initiatives in marketing, supported by an NGO, where products, such as cheese, are packaged attractively with a seal or guarantee of quality, have resulted in dramatic increases in both price and marketability. Similar opportunities exist with most processed commodities and should be encouraged.

LIVESTOCK

Structure and Performance

155. The livestock sub-sector in FYR Macedonia is characterized by a large number of very small, subsistence oriented farm households, a limited but growing number of small, commercially oriented family farming businesses and a decreasing number of large, specialized livestock enterprises, the former AKs. As indicated in Table 2 (Page7, above), individual farms own 67%-100% of the major livestock species. All production systems are constrained by limited access to credit, a weak genetic and research base, inadequate market and technical information networks and the lack of an effective policy framework for the industry. These constraints are central to the current low profitability of most livestock production in FYR Macedonia. Family farms are further constrained by their limited access to land, particularly state-owned agricultural land, and the ineffectiveness of smallholder farming lobby groups of significant parts of it.

[28] Estimate based on customs records and production and exports of the Veles plant.

156. Changes in the livestock herd size between 1990-2000 by livestock type and ownership are summarized in Table 8. While the pig industry has grown substantially and the dairy industry modestly, the cattle, sheep and poultry industries have contracted markedly. The largest reductions have been in the sheep and poultry industries, which have shrunk by 45% and 35%, respectively, since 1990. In the sheep population, the reduction has been proportionally about the same in both the individual farm and enterprise sub-sectors. It has happened because of a number of contributing factors, namely the periodic loss of international markets, the cessation of subsidies for lamb production and, for upland shepherding, rising labor costs and reduced labor availability for a task that appears to have lost its appeal to younger people.[29] The contraction of the poultry industry is primarily due to the collapse of the enterprise component of the industry. This was the result of the loss of directed credits in 1995, which created a cash flow crisis in this heavily capitalized industry as a time of shrinking demand due to falling incomes. The enterprise poultry sector, however, grew very significantly in 2000 (by 79%), but this only allowed it to reach half its level of 1990.

Table 8: Livestock Developments, Individual Farms v. Enterprises, 1990-2000

	Percent Change (1990-2000)		
	Total Livestock Population	Enterprise Sub-sector	Individual Farm Sub-sector
Cattle	-7.7%	-55.6%	-2.6%
Cows and heifers	3.3%	-43.4%	6.8%
Pigs	14.3%	-5.6%	31.4%
Sows and gilts	29.9%	2.9%	47.9%
Sheep	-45.5%	-51.5%	-45.0%
Ewes	-45.0%	-47.5%	-44.7%
Poultry	-35.2%	-50.6%	-10 4%

Source Statistical Office of Macedonia

157. A view widely held in FYR Macedonia is that the country's livestock industry and agriculture in general will prosper through support of the large livestock enterprises. This conviction is driven by a combination of AK history, untested and internationally unsupported opinions concerning the benefits of economies of scale at the farm level, and the beliefs about the effects of land fragmentation on smallholder livestock production. In fact, the limited research available suggests that family farming in FYR Macedonia provides equal and possibly better returns to land, labor, and capital than does enterprise farming. That research also challenges the perception that land fragmentation is a serious constraint to the efficiency of livestock production.

158. When combined with laws that err on the side of over-regulation and the protection of enterprise interests, the government risks stifling efforts to invigorate the dominant family-farming component of the livestock sector. In any case, government data show that the family farming sub-sector is closing the productivity gap with the enterprise sub-sector, despite the policies that continue to favor the latter (Table 9). The reduction since independence of institutional obstacles and also the freer access by individual farmers to inputs and markets, including land, is probably responsible for the productivity gains of individual farmers.

Institutional Issues

159. The Government appears to have facilitated agricultural enterprises to secure long term leases for state land, initially rent free, despite the law providing for the competitive tender of leaseholds. Government should review its leasing policy and create an open market for the long-term leases of

[29] It is not clear how a labor shortage in shepherding can coexist with an unemployment rate of over 30%. The most plausible answer is that low profitability in the sheep industry keeps wages offered below the level demanded by unemployed workers as compensation for leaving informal-economy activities, including subsistence farming.

moderate-size parcels of state agricultural land, including pastureland, without bias toward the successor enterprises of the AKs. While such a policy might carry an immediate social cost, this is likely to be compensated by higher rents, higher land productivity and the improved welfare of successful lessees, their families and their hired labor. In the longer term, government should develop a strategy for the progressive denationalization of state agricultural land other than that required for defense, heritage and resource conservation.

160. At an institutional level, government should review, revise and consolidate its veterinary and livestock laws into a single law consistent with EU and other international laws and obligations. As a part of this process the staff qualification barriers to the delivery of animal breeding and other livestock services should be reduced or removed and the legislative framework for industry self regulation substantially strengthened. Preferred positions for the delivery of services presently enjoyed under the law by the Institute of Animal Science and the Veterinary Institute should be removed and the legal environment for open, competitive livestock health, breeding and nutrition industries established. Part of this process should involve the establishment of independent, industry appointed management boards for government livestock agencies and institutes.

Table 9. Productivity, Selected Livestock Products: Individual Farms as Percent of Enterprises, 1995-2001

Production Per Cow, Ewe or Layer	1996	1997	1998	1999	2000	2001
Cows Milk	30%	29%	39%	44%	45%	43%
Sheep Milk	129%	142%	142%	144%	111%	175%
Egg Production	31%	42%	52%	86%	70%	56%

Source State Statistical Office of Macedonia

161. Government financial support for livestock production, albeit modest at MKD 99.5 million (USD 1.42 million) or MKD 18 (USD 0.25) per dry sheep equivalent in 2002, should be used to provide broad support to the sub-sector. Instead of trying to pick "winners" in terms of species, production and processing systems or type of economic organization, the government should direct its resources into industry training, competitively allocated funding for policy and production research and the improvement of services where there is a clear legal, health and safety or capacity reason for government's involvement. Animal identification, disease epidemiology, product inspection, resource protection and market promotion services to name a few must be substantially strengthened to provide a sustainable base to the sub-sector and protect and develop domestic and international markets.

162. In this process the role of the Institute of Animal Science, presently Government's main conduit for subsides to the sector, should be thoroughly reviewed. In an improved policy environment, the Institute's fish, sheep, cattle and pig breeding services could be provided by private enterprise or farmer's associations, its research transferred to the better resourced agricultural faculty to which it is already closely linked, and its feed production and analytical services privatized. In essence, the services presently provided by the Institute could over time be privatized or transferred and the Institute sunsetted.

163. Despite its tendency to favor enterprise farming, government policy for the livestock industry is more remarkable for its absence than its content. Government should establish a policy analysis capacity sufficient that decision makers and the public are aware of the costs and benefits of all major policy choices. The starting point for change must be a program of capacity building for policy analysis and adequate funding for research within Government, specifically in MAFWE. An EU Phare funded project has just begun this process; however, its staffing and funding must be put onto a sustainable basis, possibly with the support of industry levies. As well as securing sustainability, industry support would have the added advantage of bringing greater transparency and accountability to the policy

setting process.

164. At the production level, a large genetic resource and technology gap is severely limiting the realization of FYR Macedonia's livestock potential. Private farmer access to world-best livestock genetics is severely constrained and the genes and breeding services that are available frequently fail, in part due to monopolistic positions secured under the Law on Animal Husbandry by government institutions and now-privatized former government agencies. The privatization of clinical veterinary services is currently transforming the animal health sector, a similar approach to animal breeding services would also bring substantial benefits.

165. Livestock market and market information services are limited but improving. SSOM now provides weekly livestock market price and quantity data for some products, broadcast through mass media outlets and the MAMA project supports a livestock situation and outlook analysis, however, both services are in their infancy and not yet sustainably funded. Most farmers sell livestock and livestock products into local markets or to trusted traders as they have little market knowledge themselves. Only a few companies have the capacity to compete effectively in international markets.

166. Livestock services are limited and their development is constrained by legal provisions defining who can provide specific services. The laws governing the sector require revision and unification with a view to closer EU alignment and livestock service market liberalization. Animal health services are sufficient and enjoy a high level of cost recovery, however, the establishment of an epidemiology program will raise costs as well as effectiveness and require highly motivated and qualified staff. Government should consider performance incentives for Veterinary staff engaged in economically critical disease monitoring and inspection work and regularly review service fees to ensure full cost recovery. Animal breeding and livestock extension services are insufficient and un-competitive creating a serious constraint to livestock development. Weakly organized and disaggregated farmers livestock associations add little value to the industry at present. Inadequate laws on associations and cooperatives are partly to blame for this situation. Government should have a clear policy supporting the development of democratic and broad-based farmers associations with a view to their taking control of Macedonian livestock breeding and advisory services.

167. Agricultural research in FYR Macedonia is woefully under funded and frequently detached from the industry it is expected to support. The absence of effective private farmer's organizations contributes to this situation through their lack of an effective political voice and their inability to support or participate in the research agenda. Government can make agricultural and livestock research more contestable and transparent, including the appointment of industry representatives to national research management boards, however, this will be of limited benefit if the farming community remains unable to democratically elect representatives or co-finance areas of research interest. The dispersed nature of FYR Macedonia's agricultural scientific community and research infrastructure compounds the funding constraints and limits the pursuit of integrated, systems oriented research. The almost total inability of the scientific and technical support community to assess the financial or economic merit of research proposals or technical outcomes is another overwhelming constraint. Pasture science is almost non-existent, as is farm economics. In such an environment it is particularly difficult to ensure optimal rationing or the sustainable use of the pasture resource.

168. These constraints to the emergence of a more efficient and productive Macedonian livestock sub-sector are soluble, but not without a clear policy shift within government, a commitment to institutional reform and a preparedness by farmers to better organize and cooperate for the development of their businesses. capacity building amongst its policy, technical and science agents. Government needs to:

- Consolidate staff and facilities to provide critical mass for its programs;
- Continue liberalization of markets, particularly of land and genetic resources;

- Provide for contestability in the allocation of publicly owned or funded resources;
- Insure the connection of stakeholders to industry policy development and research management; and
- Encourage the contribution of stakeholders to research funding and information dissemination.

FORESTRY

Present Situation and Reform History

169. Because of FYR Macedonia's mountainous nature, forests cover 39% of the country's land area (about 1 million ha in all). Except for 136,000 ha (6%), which is privately owned, all forest is state-owned, although an estimated 6% of the state forest resource is expected to be denationalized in the near future. Of the total, 91% is broad-leaf, 4% coniferous and 5% mixed. At present, both the environmental protection needs and the economic potential of this vast forested area remain largely unanalyzed. Eighty-five percent of the 1 million m^3 annual timber production is cut in state-owned forests, so it is clearly a pressing area for policy.

170. Partial privatization of forest operations commenced in 1997, when, under a new Forestry Law, 30 socially owned commercial forestry enterprises were merged to form a single State Forestry Enterprise (SFE) - Macedonia Forest. At the time of the merger, most of the forest enterprises' equipment was divested and transferred, along with many of their 3,700 employees to a set of new public forest enterprises (PFE). Macedonia Forest, which now employs 3,060 staff, is responsible for: (i) contracting with the PFEs for logging and related services and monitoring their performance; (ii) negotiating the sales of timber to domestic wood processing enterprises and other domestic and foreign buyers; (iii) planning and inspection of forest production activities; (iv) construction and maintenance of forest roads; (v) reforestation and (vi) other asset management. In addition to the bulk of the national forest resource, its assets include dams and other civil works, hotels and hunting lodges, timber mills, livestock and fish farms, an essential oils factory and a transport company.

171. Current forest management policy permits up to 1,350,000 m3 off-take annually, equivalent to 73% of the total growth or 1.8-2.3% of total stock. Average off-take is about 600,000-900,000 m3, of which some 73% is consumed as fuel and only 18% as manufactured timber products. The limited access to some forested areas, however, means that some areas are still over exploited despite the apparent sustainability of off-take volumes. About 80% is from clear-cut harvest and 20% from routine maintenance. With private production only about 15% of the total, Macedonia Forest has a near monopoly on the domestic supply of timber. Only about 10,000 m3 of timber are exported annually (equivalent to about 5% of total production), mostly in the form of sawn wood and poles.

172. The output and productivity of the forest sector and its contribution to the economy are far below their potential. This has resulted from a weak forest policy, with production still dominated by public sector enterprises and, since 1997, by the Macedonia Forest monopoly. The basic technical problems are poor tree quality, inefficient production technologies and products that are inappropriate for contemporary markets. Organizationally the sector suffers from monopoly controls over production and marketing, lack of modern timber transport, inadequate communications, and dilapidated processing. Forest output could make a greater contribution to the economy through value added from manufacturing than from the current predominant use as fuel. At end-2001, Macedonia Forest had accumulated debts of about €10 million plus salary-payment arrears of €6 million. The company is insolvent, and the only thing separating the company from bankruptcy is its public ownership.

Unworkability of Proposed Reform Program

173. The MAFWE Forestry Department (DOF) is proposing to transfer the forest resource component of Macedonia Forest to shareholding companies, initially owned by Government, but to be eventually privatized. Under this plan, now before Government, forestry assets would be divested to 16 limited liability companies, initially to be held under a single holding company. The remaining forestry licensing, management and monitoring functions presently assigned to Macedonia Forest would be transferred to DOF. Ten-year concessions for 278 hunting blocks would also be offered for tender to national and international hunting associations, with award based on price and management plan. An independent organization would establish the user rules and manage the hunting blocks. National parks in forest areas would fall under the Agency for National Parks within the Ministry for the Environment.

174. Within MAFWE, DOF is responsible for forest management and regulation and presently employs 60 technical/administrative staff, including 20 national inspectors, together with about 100 forest police, who work with the forest guard departments of the PFEs. Under the proposed restructuring, the forest police force would rise to 700-800 staff (one per 300-400 ha of forest) employed by the planned shareholding companies, with most staff recruited from Macedonia Forest. The 20 national inspectors are currently responsible for all aspects of forest and hunting regulation and would have a supervisory role under the new structure.

175. The proposed reforms are unattractive. It will be difficult to mix government and private ownership of the cutting rights held by the shareholding companies, particularly if as proposed, MAFWE retains the right to appoint the holding company manager. The transfer of the forestry police role from one of protecting national assets to that of protecting company interests is also likely to be untenable. An alternative, which has been applied successfully in other countries, would be to privatize the PFEs and expand the services they can provide to include contractual management in the 170 forest-management units throughout the country. The right to harvest a designated amount and type of timber and, at the same time, perform specified forest management tasks, would be auctioned to qualified PFEs. Privatization of Macedonia Forest functions in this way would require a corresponding significant increase in MAFWE's capacity for forest regulation.

176. Since 1994, new plantings have declined to less than 1,000 ha annually, which does not allow for regeneration of harvested areas or soil conservation in uplands areas. At the same time, illegal wood cutting, pest infestation and fire damage have increased due to lack of DOF capacity. The absence of any tax incentives for forest establishment has also contributed to this poor result. A more proactive forest policy might see planting expand into the approximately 30% of crop land that remains fallow annually.

177. A thorough assessment of all aspects of FYR Macedonia's forest management and forest industries is needed, including sustained yield potential, domestic and export timber markets, linkages to wood products industries, environmental impact of logging, protection of monuments and regions of endemism, recreational possibilities, current industry and regulatory structure, etc. A strategy and action plan should then be defined for managing the country's forest resources. Forestry is one more area where it will be desirable to move quickly to harmonize the regulatory framework with EU standards.

5. NEED FOR INSTITUTIONAL STRENGTHENING AND REFORM

178. Government's responsibilities in the rural sector are diverse. As elsewhere, the government needs to do better the things that only government can do and to avoid doing things that impede or should be done by the private sector. The essential tasks in the rural sector include facilitation and regulation of

the agricultural economy, protection of the environment, and reduction of rural poverty through rural development and provision of welfare services to the rural poor.

Public Institutional Framework

179. *MAFWE*. The Ministry of Agriculture, Forestry and Water Economy is the central organization with administrative responsibility for different aspects of agriculture, livestock (including epidemiological services and livestock disease control), forestry, fisheries, rural development, natural resource management and protection of flora and fauna. It is not responsible for agricultural extension, research or agroindustry. The ministry employs about 420 staff with less than 20% based at headquarters. The organization structure of MAFWE is shown in Annex 2, Chart 1. The ministry is responsible for: (a) formulation and implementation of agricultural policy and related strategies; (b) drafting legislation; (c) planning and administration of government-funded programs and investments including bilateral and international programs; and, (d) provision of monitoring, inspection and regulatory services.

180. The ministry is still fairly weak in its capacity to undertake policy development and analysis, with only a small core of professional staff concerned with policy issues and the preparation of legislation. An 18 month EU-financed capacity-building project will begin in May 2002, to strengthen these activities. The MAFWE is currently preparing legislation for a new institutional framework, a new regulatory framework, enterprise changes, water resources, forestry, veterinary service privatization, a farmer association framework, and EU harmonization.

181. The other main current role of MAFWE, that of regulation, monitoring and supervision, is also weak. Some inspectorate staff posts at regional and district (opstina) levels have not been filled, and the recent expansion of the number of districts will require additional expenditure. The ministry is also responsible for the administration of subsidies, a role which will increase in complexity as support policies and farm registration procedures become more closely aligned with EU policy that is itself evolving in response to its prospective expansion into Eastern and Central Europe. The administration of production subsidies to producers was formerly an important role of MAFWE, with the large AKs and coops being the main beneficiaries. Most of these subsidies have now been removed or set low at inoperative levels. It was still the largest item in MAFWE's budget in 2000 at 35% of expenditures (Table 10.), but this declined to 17% of expenditures in 2001.

Table 10. MAFWE Budget, 2000 ('000 US$@ 70:1)

Expenditures		
Personnel	1,393	14%
Goods, Services, Other	306	3%
Agriculture Support	3,486	35%
Protection of Rivers and Lakes	321	3%
Transfers to Gov't Institutions	2,386	24%
Total Current Expenditure	***7,892***	***79%***
Capital Expenditure	2,057	21%
Total Expenditure	***9,949***	***100%***
Cost Recovery		
Veterinary Inspection Fees	2,671	27%
Plant Protection Fees	357	4%
Forestry Fees	1,214	12%
Total Cost Recovery	***4,243***	***43%***
Net Cost to Government	***5,707***	***57%***

Source MAFWE

182. *Forestry*. DOF, with 5 employees, is responsible for designing policies for the forest sector, drafting forest law, deciding forestry strategy and planning forestry management. The Forestry Inspectorate (FI), with 32 professional staff is responsible for implementing and enforcing regulations related to forest management, trade in wood products, reforestation, conservation and hunting. The Forest Police Service employs 299 people (100 forestry police plus contracted PFE staff). Twelve percent of MAFWE's budget comes from forestry fees. Even with the current forestry industry structure, DOF and FI are both

understaffed and in need of increased forestry policy analysis and formulation capability. If the Macedonia Forest monopoly is eliminated, MAFWE will need to greatly increase and strengthen its forestry staff.

183. *Extension.* By a 1998 Act of Parliament, the extension service is now an independent agency, namely, the National Center of Agricultural Extension with its own budget schedule. It operates with professional staff of 104 from six regional centers and 30 branches that cover all districts. Prior to receiving support from the PFSP, the extension service relied on MAFWE for salaries, vehicles, materials and operating costs in each region. As a result, it was under-funded particularly in the case of vehicles, field demonstration equipment and field testing kits that left it largely ineffective in its operations with farmers. Links with research were also inadequate. Reforms under the 1998 legislation and PFSP unified the agency, changed its focus toward training private sector farmers, established a farm-level adaptive trials program, promoted farmer associations, and started it on the road to cost recovery and eventual privatization. The law specifies that the agency's budget be reduced by 5% per year. Under the PFSP, participating farmers' associations are expected to sign service contracts with extension advisers and contribute 25% of the service costs in the first year, rising to full cost recovery in the fourth year.

184. In this context the extension agency needs to move quickly from a still basically top-down organization to one that responds more effectively to the needs of private farmers. The new regional extension advisory boards need to be given management responsibility to enable the agency to compete with other sources of technical support, such as, input suppliers, NGOs and an emerging private consultant industry.

185. *Agricultural Research.* The agricultural research system is composed of 5 research institutes together with the Faculty of Agriculture at the University of St Cyril and Methodius located in Skopje and is funded through the Ministry of Science and Education (MOSE) rather than MAFWE. MAFWE has no formal responsibility for agricultural research although it is consulted on major issues and can fund specific research projects. In the past, most agricultural applied research was directed towards and substantially financed by the AKs, with almost no resources applied towards the private farming sector. The method of funding has recently changed with the MOSE now primarily providing core funding for salaries.

186. Because of under funding, research staff cannot be fully utilized and morale tends to be low. In order to survive, research institutes are devoting greater efforts to providing services for which they can charge rather than doing research, including seed production and sale, seed crop inspections, artificial insemination services, and provision of advice to farmers. With PFSP support, a program of 25 applied research projects offered through MAFWE was completed. With the Ministry expected eventually to take over the funding, it is essential that interest in applied research is generated and that a coherent policy is defined. The Macedonian agricultural research system needs to be strengthened by transferring funding authority to MAFWE, restructuring research institutions, and developing an improved system of stakeholder-led research prioritization and funding, primarily for applied research.

Irrigation Institutional Structure

187. The existing, but deteriorated irrigation system is managed by three main regionally based, state-owned Water Management Organizations (WMOs), which control the main systems (dams, reservoirs, diversions and main canals) and manage some of the subsidiary distribution network. Other minor WMOs, some AKs and recently the pilot Water User Associations (WUAs) established under the IRRP also manage parts of the distribution network. In addition to their irrigation responsibilities, most WMOs engage in other business activities, ranging from construction to hotels and tourist facilities. This institutional structure, only partly altered to date under the IRRP, is unsuitable for servicing a

wholly private commercial and competitive agriculture, particularly its dominant smallholder component. Even on its own terms, with its clients mainly AKs and ex-AKs, the institutional structure is unsustainable. Deferred maintenance has continuously reduced system performance and, consequently, the ability of the WMOs to collect water charges and finance investment. This has resulted in a downward spiral that continues to the present in most parts of the irrigation system.

188. The fundamental strategy behind IRRP was to obtain the most effective use of the existing irrigation infrastructure of three important schemes (Tikves, Bregalnica and Polog) schemes through essential physical rehabilitation of the main structures and the overhaul of institutional arrangements. At the time of preparation in 1997, the Government was unwilling to commit to wide reform, so the project's institutional restructuring program was modest, centering on the pilot introduction of Water Users Associations (WUAs) and their assumption of management responsibility for tertiary distribution systems in their areas. As implemented, the project gave only limited support to the reform of the WMOs, pending their expected restructuring under the proposed Water Law of 1997.

The mid-term review in November 2000 found that the project had got off to a slow start. While it had made progress on both rehabilitation and WUAs, it was faced with a weak water law and unrestructured WMOs. The review committed project resources to assist the government by helping to draft revisions to the water law and develop restructuring plans for the WMOs. The civil disturbances of 2001 made it difficult for the government to address these issues and even threw up additional issues concerned with the distribution of irrigation resources.

189. Based on experience with the IRRP, the government (and the project team, within the confines of the existing project as revised at mid-term) are committed to a more holistic approach to physical and institutional rehabilitation of the irrigation system. On the physical side, the original project had no provision for improvements in the secondary and tertiary distribution systems of project schemes, and transfer of deficient tertiary distribution systems to the newly formed WUAs has been a problem. The repair and improvement of distributions systems are now need to be addressed as part of WUA development. Secondary repairs would be done only if there is sufficient coverage by WUAs, and tertiary rehabilitation would require contributions and design involvement by the involved WUAs.

190. On the institutional side the Water Law needs to be revised to mandate the reform of the WMOs and their effective interface with WUAs, which would be expanded in number and coverage to service most agricultural users within the three project schemes. The plan is to consolidate the WMOs within each large irrigation scheme into a single WMO, which would become a regulated monopoly provider of bulk water to large buyers. A medium-sized WMO might, for instance, sell to 200-400 WUAs, rather than 5,000-10,000 separate customers as at present. It would charge on a volumetric basis and be able to withhold service for non-payment. The WMOs' management boards would be part composed of members elected by users and part appointed by a new MAFWE Supervisory Office. Charges would be on a scheme-specific basis and would cover maintenance specific to each scheme. Current inflated WMO payrolls would need to be pruned by an estimated 70% or more in order to make currently insolvent WMOs financially independent and sustainable. Restructured WMOs would need to be recapitalized and have balance sheets adequate to their operations.

191. All parties now see the expansion of the WUAs as a crucial element of the irrigation strategy. A number were piloted in the first half of the IRRP and demonstrated their value and effectiveness. A very large task, which is commencing during the remainder of the IRRP, is to increase the number of WUAs to achieve full coverage of each of the three project schemes (as of February 2002, 8 WUAs with 1,850 ha had been established). Each WUA would assume management responsibility for irrigation within their service areas. It would be responsible for delivering irrigation water to all users in its area, both members and non-members, setting and collecting fees, negotiating bulk water purchase agreements with the WMO, making timely payments for water received, preserving good financial standing, and maintaining the tertiary distribution system serving its area. A key task they face is to negotiate viable

terms for their assumption of responsibility for the tertiary distribution system, including clear agreement on the financing of its rehabilitation and their contribution to it. Likewise, there has to be a judgment that proposed WUAs are financially and managerially sustainable before they are allowed to operate and a mechanism to ensure that they continue to operate sustainably.

192. The focus of attention on the three IRRP schemes has had a salutary effect on thinking realistically about the resuscitation of irrigation in FYR Macedonia, but several major policy areas are not addressed by the IRRP, which covers 3 schemes of 48,000 ha out of a total of 94 schemes of (theoretically) 164,000 ha. The most important unaddressed issue concerns the strategy and associated investment plan to extend irrigation to private farmers outside the service area of the three IRRP schemes (which originally estimated 24,000 private farmer beneficiaries out of 178,000 private farm families in the country). Despite the fact that individual farmers are the dominant producers of most crop and livestock varieties (Table 2, Page 12), there is little systematic knowledge about their overall irrigation situation or the extent of their use of informal, traditional irrigation technologies, including groundwater and water storage for dry-season use. If further investment is directed toward other existing formal irrigation schemes, one criterion that would be important in judging candidates for rehabilitation is the number of small farmers to be served,[30] their attachment or potential attachment to the market, and their ethnic balance. Also, with large cultivated areas outside the command areas of existing or former irrigation schemes, farmer coverage rates and economic rates of return on investment need to be calculated on alternative investment proposals, including investment in informal systems.

Farmers' Associations and Cooperatives

193. In addition to older associations from pre-socialist and socialist times, 45 farmer associations were formed under the Private Farmer Support Project, bringing the total number of farmers associations to more than 300. Many of the newer associations were established as part of the drive to privatize extension, with farmer members expected to contribute an increasing share of the cost of accessing advice from extension staff. Though most associations tend to be commodity based, few are capable of effectively servicing their members or building coalitions with other associations in support of their objectives. A 1998 study of the law on associations and foundations concluded that the law does not remove the inhibitions to farmers' associations engaging in business and thus being able to sustain themselves with business profits. In the short-term, this has been overcome by associations registering separate businesses for profit-oriented activities.

194. The interests of enterprises are represented through associations that are included in the government structure under the still functioning Macedonian Economic Chamber of Commerce (MECC). The MECC claims to represent the interests of small farmers, although it has registered only one private farmers' association. A law now before parliament will split the MECC into four chambers covering industry and trade, agriculture and forestry, tourism and crafts, all with voluntary membership. The new law also provides for regional chambers under the four main chambers. It remains to be seen whether this will result in a structure that can better represent the interests of small farmers. Individual associations need to be empowered to form larger unions that have the political and economic power to deliver their message to the wider public and to the government. Within such a reformed structure, rural leadership could also be made more effective through widespread leadership training. The PFSP is presently working with groups of farmers associations to this end. For instance, according to one proposal, there should be an umbrella fruit growers association and an umbrella vegetable growers association in each of three regions and corresponding national associations. The end result should be an infrastructure of associations with many horizontal and vertical linkages.

195. The legal structure for cooperatives should be thoroughly updated. At present FYR Macedonia

[30] This was also one of the criteria in the selection of the three IRRP systems.

continues to use the former 1989 Yugoslav Law on Cooperatives. A 1997 study revealed that 60 of the remaining ones were more or less moribund but retained 1-30 employees, while 35 retained some land assets and were active in agricultural production, not a dynamic picture. The 1989 law is not fitted to the modern conditions of private agriculture, where effective marketing coops could have a significant role in assisting farmer-members, provide market information and transmit other demand-side signals. The obsolete law does not direct that cooperatives operate on the time-tested rules of Western European coops, which typically operate on a one-member-one-vote basis, with fees-proportional-to-throughput and management and membership separated.

196. Strengthening producer and trader associations is important for a number of reasons. Small farmers and traders are small individual units with very little market strength. Associations can increase their market and political power, with the result that their interests are considered by government and any big processing or buying entities in national or international markets. However, livestock, growers and traders associations have little market or political power and need to be structured into regional and national associations. For instance, according to one proposal, there should be an umbrella fruit growers association and an umbrella vegetable growers association in each of three regions and corresponding national associations. The end result should be an infrastructure of associations with many horizontal and vertical linkages.

197. When functioning well, associations can also provide their members with a range of technical, supply, packing, grading, storage, transport, credit, information, training and market facilitation services. For instance, traders hoping to sell large quantities of an export product grown by small farmers to a large EU supermarket chain might need the support of a growers association to furnish information on available supply, provide an assembly point for loads of consistent quality, and provide technical assistance to its members on how to meet the order's quality and delivery requirements.

6. STRATEGY AND RECOMMENDATIONS

198. A noncontroversial goal with wide acceptance is to engender a sustained process of rapidly increasing agricultural production in value terms and thereby raising rural incomes. The essence of the best overall strategy to do this is to set conditions for the development of clusters of private farms and agri-business that are competitive in domestic and international markets for selected agricultural products. These clusters (but not necessarily the individual farms or processors) need size, scope and the spur of competition within their ranks and from imports. They become efficient as they succeed in that competition. The task for public policy is to free the creativity of the whole population of farmers, processors, suppliers and traders and help rather than hinder the most productive producers to expand.

Summary of Key Tasks for Government and Donors

199. The government and donors should focus on the following to improve the competitiveness of Macedonian agriculture and reduce rural poverty:

- Carry out policy reform to reduce the distortions in the incentive and competition structure;
- Make productive the resources in ex- and current AKs and in state forests;

- Expand rural credit and rural financial institutions;
- Improve the climate for investment and SME development;
- Improve irrigation and other rural infrastructure;
- Develop and modernize public agricultural institutions;
- Develop and modernize private agricultural institutions;
- Alleviate poverty by increasing employment and family incomes.

Reform Policy to Reduce the Distortions in the Incentive and Competition Structure

200. For small countries like FYR Macedonia, a transparent, relatively liberal trade regime - comprising a simple system of moderate tariffs - is the best instrument for an incentive system for agriculture. With moderate import protection where necessary, farmers using existing technology will have adequate incentives to produce and invest in a range of products for the domestic market as long as internal economic conditions are not badly constrained. Price signals (cushioned by tariffs) will be readily transmitted from international to domestic markets, giving producers a clearer idea of how to allocate their resources. A trade-based incentive system reduces the need for direct budgetary support in the form of subsidies and is easiest to administer. Current ad-valorem tariffs – raised even higher by specific and other levies - are much too high on most agricultural products produced in FYR Macedonia, providing protection to very inefficient farmers and severely penalizing consumers. An unintended effect of the high nominal protection is that the agroprocessing industry, insofar as it imports inputs at lower rates, receives sometimes astronomical rates of effective protection. This is not the way to create agricultural products that can compete with imports in domestic and markets or be competitive internationally.

201. *Trade Policy*

- Provide technical assistance to help design continued reform and liberalization of agricultural trade policy and implementation and to help firm up the basis for trade negotiations, including those with the WTO and regional trading partners.
- Reduce tariffs on all agricultural products to moderate levels in compliance with WTO agreements.
- Limit the use of tariff quotas in bilateral trade agreements and improve the transparency of quota allocation.
- Convert bilateral preferences with regional trading partners to multi-lateral preferences.
- Markedly reduce transit time at border crossings by improving border infrastructure; negotiate same with neighboring countries transited by Macedonian goods.

202. *Producer Subsidies and the State Office for Commodity Reserves.* Direct support for agriculture from the MAFWE budget is no longer a significant source of distortion in agricultural markets (because the overall level of spending is low). Most of this support is directed to market-neutral activities associated with plant and animal breeding, irrigation, and institutional support. In contrast, the activities of the SOCR continue to severely distort the incentive structure and markets for wheat and tobacco.

- Reform the conceptual and legislative basis for operation of the SOCR to limit its mandate to strategic reserves and reduce the number of agricultural commodities covered.

- Transfer responsibility for price support to the MAFWE.

- Reduce the support price below import parity and consider eventual phase-out. Carry out reforms of the state reserve system. This should be done in conjunction with reform in the wheat import regime. The tariff should be lowered and all wheat imports subject to it.

- End the guaranteed price program for tobacco. This commodity has long-standing export markets and so is efficient in international markets over the cycle. It also has a strong tradition of private investment and thus has minimal need for direct government support. All processing firms should be privatized.

203. *Competition Policy*

- Provide technical assistance to propose improvements in legal framework and enforcement to reduce monopolistic practices in agri-business, especially agroprocessing and input supply.

Make Resources in Ex- and Current AKs and State Forests Productive

204. A considerable amount of the productive land and agricultural human resources of the country are tied up in the remaining AKs and the ex-AKs that are crippled by poor corporate governance and high social/political obligations. Increased investment is unlikely to be available for most of these firms. Much of the buildings and equipment they possess would be of little value in competitive agri-business, but the land and skilled manpower should be freed up to be used productively by private entrepreneurs. The poor performance of most of the ex-AK processors is also inhibiting improvement in the farming sector. High tariffs, roll-overs of non-performing loans and non-payment for rent of state-owned land are the major mechanisms keeping them from bankruptcy. The State Forestry Enterprise continues to stifle competition in exploiting the country's large forest resources.

- Provide technical assistance to analyze the use of state-owned land by agricultural enterprises, propose what terms the government should impose so as to receive market lease rates, and review and amend the legislation associated with the use of state-owned land.

- Tighten commercial bank prudential regulation so as to prevent new and roll-over loans being made to the worst cases and insulate lending from political pressure.

- Consider privatizing the remaining 25 AKs, most of which are not commercially viable, by dissolution and auction of assets.

- Reform bankruptcy procedures so that ex-AKs in financial trouble can be kept as going businesses if they would be viable under new management.

- Provide management consulting assistance to criteria-selected potentially viable agribusiness ex-AKs to analyze their business plans, corporate governance, social obligation commitments, investment needs and proposed restructuring plans.

- Implement land taxation, both for enterprises and individuals to give AKs and ex-AKs an incentive to divest themselves of unproductively used land, which would then be available to the family farming sector.

- Revise legislative framework for cooperatives to align it with EU standards so that the cooperatives are democratically oriented to the needs of their members.

- Address the weak performance of the forestry sector through privatization, competition and effective regulation.

- Eliminate the State Forestry Enterprise monopoly of the timber market in favor of private firms, including the current Public Forestry Enterprises and new entrants, who should be expected to contract independently with DOF and freely market and process their cut.

Expand Rural Credit and Rural Financial Institutions

205. A market-oriented incentive structure is a necessary but not sufficient condition for sector growth. Farmers and processors must also have access to credit to reconstitute their capital base, including working capital, introduce modern technology and finance export marketing. But Macedonia's financial institutions still lack the incentives and skills to use their growing capital base to increase lending in rural areas.

- Expand successful donor-financed credit programs. They should be accompanied by and contribute to the development of a viable system of rural financial institutions, including commercial banks, savings houses and micro-credit institutions.

- Develop a mechanism to ensure that suppliers and processors can borrow adequate working capital so that they can further extend in-kind credit to farmers for such items as seed and equipment.

- Improve the collateral recovery system by reforming all aspects of the land market. Improve legislative framework for agricultural land and leasing, complete mapping, complete central land and land-rights registry, facilitate land amalgamation, establish insurance fund for land fraud and professional bodies.

- Minimize risk in agricultural lending without putting excessive burden on would-be borrowers. In particular, develop a more streamlined process of foreclosure (which currently takes 1-2 years).

- Provide training to improve the financial and economic analytical skills of commercial bank and savings house staff, as well as their knowledge of agriculture in order to improve their ability to assess risk and manage loans. Provide training for high-level bank managers on agricultural lending. Better training will enable banks to resist risky loans to AK and ex-AK firms and to recognize sound private firms.

- Provide training for public and private extension advisors in farm management and investment analysis and strengthen capacity in these fields at tertiary education centers.

Improve the Climate for Private-Sector Investment and SME Development

206. There are continuing constraints in FYR Macedonia to efficient agriculture-related business operation. The still unwelcoming business climate affects both foreign investors and even more so SME entrepreneurs, who have fewer resources and greater vulnerability. The government should accelerate the reform process.

- Reduce regulatory burden, e.g., time-consuming registration requirements and other red tape, corruption.
- Improve court capacity for contract enforcement, which is now seen as unreliable in result and delayed in execution.
- Improve tax administration, which is perceived as non-transparent,
- Revise standards and regulations to be consistent with EU standards where possible.
- Provide technical assistance to develop and implement plans to assist SME agricultural processors and suppliers.
- Form a working group to prepare proposals for consideration by the government to standardize export regulations and export credit facilities for producers and exporters.
- Improve processing industry capacity to test and reward product quality.
- Provide technical assistance to analyze laws and policies governing the use of upland pasture resources, including those relating to security of access by private livestock farmers.

Improve Irrigation and Other Rural Infrastructure

207. Inadequate transport, energy, telecommunications, irrigation and market infrastructure is a serious impediment to the development of agriculture and quality agricultural production in FYR Macedonia. Improvements in each would lower production costs and facilitate international and domestic trade. At this stage, irrigation, transport and wholesale markets are the most important for agriculture. Discrimination against small farmers in water distribution and in access to irrigation should be corrected as an essential element in raising rural incomes and reducing poverty.

208. *Irrigation*

- Restructure all WMOs as soon as possible, including divestiture of non-core activities, reorganization, reduction in staff, clearance of debt, recapitalization and establishment of financially sustainable operations.
- Establish WUAs across all existing schemes and transfer irrigation management to them; provide for access to credit to enable them to invest in field irrigation equipment and other improvements.
- Provide technical assistance to assess the medium and long-term needs of Macedonian agriculture as a whole for irrigation, with particular attention to the needs of unserved small and private farms and to estimating costs and benefits of alternative investments.
- Develop a national irrigation plan prioritizing public irrigation investments, including investments to restructure WMOs, establish WUA's, rehabilitate critical components of the main schemes and promote the construction of private, traditional irrigation facilities, such as wells and storage tanks.
- Continue the holistic approach of the IRRP (WMO reform, WUA establishment, government supervision). Develop a financing plan for rehabilitation of secondary and tertiary distribution systems based on WUA input and support.

- Develop mechanisms to ensure the sustainability and accountability of WMOs and WUAs, including adequate initial capitalization. Make provision for timely identification of failing WMOs and WUAs and a capability within MAFWE for taking expeditious corrective action.

- Draft and pass a revised water law clearly specifying the reformed institutional structure, including the authority to control and license groundwater development.

209. *Road Transport*

- Provide technical assistance to determine transport priorities for agriculture, with emphasis on achieving conditions needed for transport of quality agricultural produce.

- In the context of the Bank-sponsored Trade and Transport Facilitation Program for SEE and in coordination with neighboring countries, construct physical improvements to border crossings important for international trade, give technical assistance to customs administrations to upgrade practices and align them with those of the EU.

210. *Wholesale Markets*

- Assess the state of wholesale agricultural markets and the potential for short term, low-cost improvements to raise their present rudimentary standards. Bearing in mind that many of the functions of the wholesale markets are likely to be taken over by supermarket chains in the next five years, these should use private investment, except where pure public goods are involved, in which case, public investment or public/private partnership would be justified.

- Develop small-scale trading and storage facilities, which do not presently exist, to include cooling and storing capability in order to increase product value and marketability.

Develop and Modernize Public Agricultural Institutions

211. Many parts of the Macedonian primary production and agro-processing are not competitive. Through specific agricultural agencies or not, the government's role in agriculture and the rural sector is pivotal. It must create the legal and institutional framework for a market economy within which private economic actors can flourish and thereby create wealth and reduce poverty. Since independence, the government has liberalized large sectors of the economy, privatized most of its former holdings and attempted to recast government agencies as policy setting and regulatory bodies. In agriculture, although much progress has been made in liberalization and privatization, the process on all three fronts has considerable distance to go. MAFWE, the institutions responsible for education, research and agricultural extension, and the agencies responsible for the quality standards of food and agricultural products remain ill-suited and ill-equipped for operation in a market-oriented economy. These institutions will need a wide-ranging program of renewal to redefine their roles, reorganize their structures and acquire new skills and technology. Guidance is also needed to transfer many of their traditional roles to the private sector.

212. Ministry of Agriculture, Forestry and Water Economy

- Establish a policy analysis unit in MAFWE, which is urgently needed to analyze proposed policy changes, especially in the area of price and trade policy, and alert the minister and other officials to trends in the EU and world economy affecting Macedonian agriculture.

- Propose legislation and regulations to liberalize, deregulate and refine the legal code in the following areas: seeds, ex-AK preferences, product trade barriers, input trade barriers, lease

transparency, land registration, collateral efficiency, and farmer and trader cooperatives and associations.

- Carry out consumer surveys and analyze consumer data on food consumption, preferences and trends.

- Standardize export regulations and standards and trade finance instruments, removing overlapping regulations; incorporate in regulations and draft legislation as needed.

- Define food sanitary and phytosanitary inspection roles, incorporate relevant EU law into Macedonian law, ensure that supporting laboratories are internationally certified, and establish a single food assurance agency to oversee the food safety system.

- Form a working group, with high-level government representatives, private entrepreneurs and representatives of foreign companies to analyze, report on and make recommendations about the constraints to the entry of dynamic private firms into agri-business.

- Increase, through oversight boards and in other ways, stakeholder participation in the management of public agricultural institutions serving or regulating agriculture.

- Develop (1) a real-time national and international market information system; current system is of limited use to agricultural traders and farmers and (2) a system for agricultural information dissemination using balanced public and private sector inputs and extensive use of mass media and information technologies.

- Ensure that all legislation relevant to the protection of plant and animal health is consistent with EU standards, modernize the laboratories and facilities that perform this role and train staff to use this equipment; establish an appropriate institutional framework to monitor and enforce these standards.

- Establish a national livestock registration system; develop an epidemiological map of FYR Macedonia; complete and maintain a comprehensive assessment of regional disease risks; Ensure sufficient funding of disease monitoring and border control programs, including stakeholder contributions; develop a brucellosis eradication program.

- Liberalize laws governing livestock breeding and genetic material; establish stakeholder managed technology testing and demonstration of improved livestock and forage technology.

- Establish stakeholder participation in the management of state-owned pastureland; introduce pasture use fees to fully cover the cost of pasture management; fund research into the ecology of upland pasture aimed at knowledge of how to sustain pasture resources; fund membership in the FAO pasture-management forums.

213. State Office for Commodity Reserves (SOCR)

- Reform the basic legislation of SOCR to limit its activities to the acquisition and management of moderate volumes of a limited list of strategic commodities.

- Transfer its market intervention function to MAFWE and terminate government involvement in the tobacco market.

214. *Extension*

- Give the new regional extension advisory boards management responsibility to enable the agency to compete with other sources of technical support, such as input suppliers, NGOs and emerging private consultant agencies.

- Provide technical assistance to extension staff in farm, market and trade economics, business management and modern agricultural technology; employ a full time specialist in farm economics to be employed in the extension service to focus on specific problems and train extension staff and producer associations.

- Reorient extension staff to provide strong support to small-scale, private farms, which dominate agricultural production.

- Introduce fees/cost recovery to the extension activities of the Institute for Applied Science; and guide the development of additional private sector extension services located in agri-business, agroprocessing, co-operatives, etc.

- Provide technical assistance to private sector agricultural extension agencies.

215. Agricultural Research and Education

- Establish an Agricultural Research Advisory Council (ARAC) with stakeholder participation under MAFWE, for allocation of funds for applied research, approval of projects and coordination of research.

- Charge the ARAC with formulating a proposal for a restructured, down-sized, properly-funded applied agricultural research institutional capability, based on the identification of key areas of research opportunity; recommend funding allocation mechanisms, which should depend primarily on the principle of competitively awarded research funds.

- Using the competitive process of awarding research grants, reorient research activities and university curricula toward the productivity and profitability of commercial small-scale agriculture and toward constraints inhibiting export of livestock, fruit and vegetable products.

- Provide resources to establish a central agricultural research library and the information technology to ensure electronic access from remote centers.

- Develop mechanisms to augment government research funding with industry funding; enact legislation, if necessary.

- With adequate funding and appropriate scale identified, transfer the multiplicity of income generating activities, such as seed breeding and multiplication and the quality testing and certification of agricultural commodities to the private sector.

- Improve finance and economics training in university agriculture faculties, emphasizing the maximization of profits (through efficiency, scale and marketability) rather than the maximization of output.

- Establish extension priorities and expected outputs and use competitive grants, vouchers and other allocative mechanisms for their delivery by both public and private sector extension

agencies. Monitor outcomes using participatory monitoring and evaluation methodologies where appropriate.

- Further develop links between Macedonian universities and research institutes and western institutions, as the basis for modernising curricula and research programs.

216. *Forestry*

- Radically upgrade the Forestry Department and the Forestry Inspectorate in both numbers and capacity to do policy analysis and formulation on forest issues, regulate the forestry sector in the context of free market reforms, and ensure environmental and economic sustainability.

217. *Land Agencies*

The Macedonian agricultural land estate forms an important component of the national economy that is not presently realizing its potential for production or as security for domestic or foreign investment in the sector. This is in large part due to the absence of a significant agricultural real estate market, a factor of the weak legal and institutional framework surrounding the registration of land and related encumbrances.

- Develop an effective real estate system based on secure and tradable rights, which is procedurally straightforward, but flexible enough to encompass the purchase and sale of ownership and a variety of leasing and other less formal agreements.

- Reviewed and revise the Law on Land Survey, Cadastre and Registration of Real Property Rights, the Law on Administration of Registries and integrate the Laws on Executive Procedure, on Contractual Mortgage and on Pledges.

- Establish an independent Land Cadastre Office controlled by a Registrar of Lands. the real estate cadastre is computerized and the State guarantees its veracity.

- Provide that the land register for each property includes all real estate rights including details of ownership and encumbrances, that there is compulsory registration of the sale, lease or mortgage of property, including the value of the transaction and that sporadic registration of changes in real estate rights is introduced.

- Revise the Law on Inheritance to prevent further land fragmentation.

- Establish a qualification in property valuation.

Develop and Modernize Private-Sector Agricultural Institutions

218. Primary producers, traders and processors should be able to associate freely within commodity, regional and nationally oriented business associations and cooperatives that are effectively regulated and competently led. Strengthening producer and trader associations is an important element in the strategy to increase production of quality agricultural products and exports, because they give producers voice in the political arena and provide their members with valuable and productivity-enhancing services.

- A new law on producer and trader associations and cooperatives needs to be drafted and enacted; regulations applying to them should be modified.

- Provide technical assistance to establish associations of small traders in agricultural commodities.

- Assist local growers and trader associations in forming regional and national associations.

- Establish an independent apex organization for agriculture with open membership for all agriculture-related producer and trader associations.

- Integrate fruit and vegetable producer cooperatives into the grower association network.

- In cooperation with associations, organize trade fairs and exchange visits by businessmen from Western and Eastern Europe as a means to promote agricultural exports.

- Organize a program of rural leadership development to train community leaders in skills useful for service in producer and trader organizations.

- Stimulate national producer associations to form quality circles among producers, traders and customers, to improve market quality standards.

- Develop a real-time national and international market information system, the national data based on production and marketing data provided by growers associations; current system is of limited use to agricultural traders and farmers.

- Protect the rights of cooperative members through the separation of cooperative professional management and membership; the establishment of a one member, one vote rule, the linking of membership fees to contribution to cooperative throughput and the establishment of the unassailable indivisibility of cooperative assets;

- Improve the efficiency of all private sector agents through programs to improve business management.

Alleviate poverty by increasing employment and family incomes

219. All the above policies will work to increase rural incomes and employment. In making plans to improve policies, direct government efforts and make investments, officials should be careful to attend to those aspects of policy that help improve the productivity of small farmers, reduce the impediments to the economic success of the value chains that buy and add value to their output, and secure a level playing field for small processors, traders and transporters. Of the three rural poverty groups referred to above, the traditional (poor farmers) and new (unemployed) groups will both benefit markedly from a buoyant agriculture-related rural economy. The chronic poor (old, sick, handicapped) will receive benefit from economic growth mainly from intra-family transfers and will require social assistance and other traditional specific poverty interventions. The following are some examples of the choices that could benefit the poor in the context of agriculture-related development:

- Avoid decisions that direct research, technology and irrigation resources disproportionately to the benefit of large farms on the realization that small farmers can produce low-cost, high quality output.

- Assist in the formation of farmers associations and cooperatives to provide small farmers with technology, marketing and quality control services.

- Improve the prospects of young farmers by improving and making secondary education accessible to them.

- Improve the land and credit markets and revise the inheritance laws to make it possible for young, energetic farmers to gain access to farmland and farm inputs. Micro-credit markets are also important for small processors, traders and transporters.

- Disseminate knowledge about activities, such as micro livestock, herbs and small processing operations, which can mobilize the household labor resources of women.

- Develop an effective program to promote agro tourism, particularly to engage subsistence farmers who could provide accommodation and farm-stay meals to tourists, often using local products.

- Investigate mobility alternatives to costly social and economic infrastructure in remote locations, including access to mobile telephone service and distance education. ADUR insufficiently targets and follows up investments and is too centralized to efficiently allocate its limited resources.

ANNEX 1. STATISTICAL TABLES

CONTENTS

Annex 1 Table 1. Cereal Crops, Area Sown, Production, Yield and Ownership, 1991-2001

	Wheat			Rye			Barley		
	Area (ha)	Prod.(t)	Kg/Ha[1/]	Area (ha)	Prod (t)	Kg/Ha[1/]	Area (ha)	Prod.(t)	Kg/Ha[1/]
1991	112,783	340,717	3,021	11,325	19,819	1,750	54,429	163,505	3,004
1992	111,961	299,496	2,675	10,884	17,795	1,635	55,421	127,357	2,298
1993	116,987	249,767	2,135	10,717	11,414	1,065	56,424	103,482	1,834
1994	122,031	336,073	2,754	10,286	15,470	1,504	59,697	149,422	2,503
1995	130,092	381,170	2,930	8,975	14,647	1,632	54,874	152,440	2,778
1996	117,486	269,278	2,292	6,746	10,875	1,612	48,916	97,783	1,999
1997	115,267	293,816	2,549	7,213	10,776	1,494	50,936	119,954	2,355
1998	113,647	336,509	2,961	7,295	13,766	1,887	53,399	141,881	2,657
1999	113,972	319,464	2,803	6,454	10,597	1,642	50,289	126,577	2,517
2000	121,669	299,356	2,472	5,845	8,211	1,412	49,988	110,145	2,213
2001	115,504	246,207	2,132	5,406	9,455	1,749	49,334	91,534	1,855
Average	117,400	306,532	2,611	8,286	12,984	1,580	53,064	125,825	2,365
	Oats			Corn			Rice		
	Area (ha)	Prod (t)	Kg/Ha[1/]	Area (ha)	Prod (t)	Kg/Ha[1/]	Area (ha)	Prod (t)	Kg/Ha[1/]
1991	4,531	4,921	1,086	42,169	134,941	3,200	8,694	37,506	4,314
1992	4,211	5,365	1,274	43,772	130,265	2,976	8,465	42,697	5,044
1993	3,282	2,668	813	44,693	101,051	2,261	5,197	9,531	1,834
1994	3,710	4,652	1,254	42,791	133,422	3,118	1,755	8,833	5,033
1995	3,384	4,413	1,304	42,454	165,656	3,902	1,256	6,452	5,137
1996	2,828	2,836	1,003	42,031	142,401	3,388	4,157	22,277	5,359
1997	2,950	3,227	1,094	40,158	157,219	3,915	5,261	24,600	4,676
1998	3,088	4,021	1,302	39,229	140,950	3,593	4,481	22,728	5,072
1999	2,768	3,272	1,182	39,229	160,564	4,093	4,196	17,430	4,154
2000	2,374	2,477	1,095	37,488	125,383	3,382	3,871	18,433	4,773
2001	2,031	2,274	1,120	33,918	118,339	3,489	3,871	18,433	4,773
Average	3,196	3,648	1,139	40,721	137,290	3,392	4,655	20,811	4,561

Production Distribution between Enterprise and Family Farm Sub-sectors - 2000

	Wheat			Rye			Barley		
	Area (ha)	Prod. (MT)	Kg/Ha[2/]	Area (ha)	Prod. (MT)	Kg/Ha[2/]	Area (ha)	Prod. (MT)	Kg/Ha[2/]
Total	121,669	299,356	2,472	5,845	8,211	1,412	49,988	110,145	2,213
Enterprises	43,916	112,418	2,578	272	368	1,410	14,801	39,906	2,721
Families	77,753	186,938	2,412	5,573	7,843	1,412	35,187	70,239	2,001
Family %	64%	62%	94%	95%	96%	100%	70%	64%	74%
	Oats			Maize			Rice		
	Area (ha)	Prod (MT)	Kg/Ha[2/]	Area (ha)	Prod. (MT)	Kg/Ha[2/]	Area (ha)	Prod (MT)	Kg/Ha[2/]
Total	4,211	5,365	1,274	43,772	130,265	2,976	8,465	42,697	5,044
Enterprises	70	64	1,280	1,410	5,649	5,062	418	1,926	4,687
Families	2,304	2,414	1,091	36,078	119,734	3,330	3,453	16,506	4,783
Family %	55%	45%	85%	82%	92%	66%	41%	39%	102%

Annex 1 Table 2. Industrial Crops: Area Sown, Production, Yield and Ownership, 1991-2001

	Sugar Beet			Tobacco			Industrial Peppers		
	Area (ha)	Prod.(MT)	Kg/Ha[1/]	Area (ha)	Prod.(MT)	Kg/Ha[1/]	Area (ha)	Prod.(MT)	Kg/Ha[1/]
1991	2,211	81,721	36,961	18,321	25,191	1,375	1,754	9,159	5,222
1992	2,380	61,440	25,815	22,496	26,500	1,178	1,664	6,075	3,651
1993	2,259	55,102	24,392	21,609	24,267	1,123	1,298	3,919	3,019
1994	1,616	54,104	33,480	14,569	18,488	1,269	898	2,925	3,257
1995	1,354	54,607	40,330	10,894	15,687	1,440	754	1,812	2,403
1996	1,998	78,278	39,178	11,734	15,407	1,313	548	2,078	3,792
1997	2,180	72,250	33,142	19,296	25,316	1,312	638	1,940	3,040
1998	1,784	58,091	32,562	25,001	32,726	1,309	839	4,698	5,600
1999	2,289	67,036	29,286	24,696	32,031	1,297	769	3,142	4,086
2000	2,022	56,450	27,918	22,785	22,175	973	853	3,932	4,637
2001	1,669	38,281	22,936	20,074	20,059	999	911	2,744	3,012
Average	1,978	61,578	31,455	19,225	23,441	1,235	993	3,857	3,793
	Cotton			Sunflower			Poppy Seed		
	Area (ha)	Prod (MT)	Kg/Ha[1/]	Area (ha)	Prod.(MT)	Kg/Ha[1/]	Area (ha)	Prod.(MT)	Kg/Ha[1/]
1991	48	41	855	28,571	38,685	1,354	543	386	711
1992	25	26	1,040	30,417	37,747	1,241	436	288	660
1993	16	15	937	27,775	18,831	678	910	371	408
1994	11	14	1,273	20,833	17,875	858	1,090	626	574
1995	6	6	1,000	14,349	22,284	1,553	1,521	864	568
1996	6	8	1,333	16,501	20,593	1,248	764	510	668
1997	6	9	1,500	13,196	14,898	1,129	428	285	667
1998	0	0		12,522	13,148	1,050	292	195	668
1999	115	60	522	9,836	13,938	1,417	440	259	588
2000	na	na	na	6,006	7,351	1,234	490	144	716
2001	na	na	na	6,034	5,475	907	270	134	499
Average	26	20	1,058	16,913	19,166	1,152	653	369	612

Production Distribution between Enterprise and Family Farm Sub-Sectors - 2000

	Sugar Beet			Tobacco			Industrial Peppers		
	Area (ha)	Prod (t)	Kg/Ha[2/]	Area (ha)	Prod.(t)	Kg/Ha[2/]	Area (ha)	Prod.(t)	Kg/Ha[2/]
Total	2,022	56,450	27,918	22,785	22,175	973	853	3,932	4,637
Enterprises	800	22,125	27,656	521	676	1,298	35	223	6,360
Families	1,489	48,127	32,322	24,175	31,355	1,297	734	2,919	3,977
Family %	74%	85%	117%	106%	141%	100%	86%	74%	63%
	Cotton			Sunflower			Poppy Seed		
	Area (ha)	Prod.(t)	Kg/Ha[2/]	Area (ha)	Prod.(t)	Kg/Ha[2/]	Area (ha)	Prod.(t)	Kg/Ha[2/]
Total	na	na	na	6,006	7,351	1,234	490	144	716
Enterprises	na	na	na	6,389	9,168	1,435	224	71	319
Families	na	na	na	3,447	4,767	1,383	216	187	867
Family %	na	na	na	57%	65%	96%	44%	130%	272%

Annex 1 Table 3. Vegetables: Area Sown, Production, Yield and Ownership, 1991-2001

	Potatoes			Beans			Cabbage & Kale		
	Area (ha)	Prod (MT)	Kg/Ha1/	Area (ha)	Prod (MT)	Kg/Ha1/	Area (ha)	Prod (MT)	Kg/Ha1/
1991	12,643	116,619	9,224	5,917	5,722	967	3,604	50,013	13,877
1992	12,808	136,047	10,622	6,230	5,788	929	3,493	54,449	15,588
1993	12,851	106,650	8,299	6,417	3,529	550	3,510	52,239	14,883
1994	13,575	131,406	9,680	6,519	5,052	775	3,468	51,628	14,887
1995	14,094	153,582	10,897	6,383	6,351	995	3,474	52,878	15,221
1996	14,068	153,454	10,908	7,007	5,893	841	3,275	49,384	15,079
1997	13,532	155,199	11,469	6,902	7,509	1,088	3,373	52,474	15,557
1998	13,460	178,224	13,241	6,886	5,729	832	3,727	68,610	18,409
1999	13,440	165,433	12,309	6,971	7,619	1,093	3,537	69,562	19,667
2000	13,665	160,444	12,146	9,274	6,154	861	3,539	64,708	18,816
2001	13,023	172,473	13,243	6,678	5,301	793	3,269	67,360	20,605
Average	13,378	148,139	11,094	6,835	5,877	884	3,479	57,573	16,599
	Tomatoes			**Onion**			**Melons**		
	Area (ha)	Prod.(MT)	Kg/Ha1/	Area (ha)	Prod.(MT)	Kg/Ha1/	Area (ha)	Prod (MT)	Kg/Ha1/
1991	7,993	169,172	21,165	4,353	34,027	7,817	11,476	152,126	13,256
1992	7,456	139,643	18,729	4,562	34,210	7,499	9,809	118,895	12,121
1993	7,207	125,668	17,437	4,450	30,852	6,933	9,127	88,751	9,724
1994	6,971	120,800	17,329	4,375	32,222	7,365	8,758	110,316	12,596
1995	7,244	134,144	18,518	4,747	38,588	8,129	8,805	116,235	13,201
1996	8,706	146,104	16,782	4,782	38,691	8,091	9,150	116,425	12,724
1997	6,946	116,526	16,776	4,610	35,538	7,709	7,949	93,242	11,730
1998	6,727	125,707	18,687	4,425	35,727	8,074	8,271	119,623	14,463
1999	6,751	128,384	19,017	4,309	38,255	8,878	7,877	121,274	15,396
2000	6,784	134,654	18,866	4,071	36,336	9,025	8,607	124,968	14,821
2001	6,373	126,313	19,819	3,723	30,594	8,217	7,419	130,073	17,532
Average	7,196	133,374	18,466	4,401	35,004	7,976	8,841	117,448	13,415

Production Distribution between Enterprise and Family Farm Sub-sectors - 2000

	Potatoes			Beans			Cabbage & Kale		
	Area (ha)	Prod (t)	Kg/Ha2/	Area (ha)	Prod (t)	Kg/Ha2/	Area (ha)	Prod.(t)	Kg/Ha2/
Total	13,665	160,444	12,146	9,274	6,154	861	3,539	64,708	18,816
Enterprises	70	1,067	15,245	8	4	523	24	280	10,015
Families	13,595	159,337	12,129	9,266	6,150	862	3,515	64,428	18,888
Family %	99%	99%	80%	100%	100%	165%	99%	100%	189%
	Tomatoes			**Onion**			**Melons**		
	Area (ha)	Prod (t)	Kg/Ha2/	Area (ha)	Prod (t)	Kg/Ha2/	Area (ha)	Prod (t)	Kg/Ha2/
Total	6,784	134,654	18,866	4,071	36,336	9,025	8,607	124,968	14,821
Enterprises	359	13,465	35,249	118	352	4,759	52	468	9,008
Families	6,425	121,189	18,948	3,953	35,984	3,150	7,710	116,129	15,180
Family %	95%	90%	54%	97%	99%	66%	90%	93%	169%

1/ Yields calculated on area harvested 2/ Family % calculated as % of enterprise farm yield

Source: Statistical Yearbook (2001), Statistical Office, Republic of Macedonia. Year 2001, unpublished statistics

Annex 1 Table 4. Fruit Crops: Area, Production, Yield and Ownership, 1991-2001

	Apples		Pears		Plums	
	MT	Kg/Tree[1/]	MT	Kg/Tree[1/]	MT	Kg/Tree[1/]
1991	48,426	19	14,722	13	24,107	16
1992	87,642	33	16,527	16	27,821	18
1993	71,676	28	14,116	14	21,220	14
1994	70,060	28	11,632	13	25,230	17
1995	69,850	28	9,118	11	17,221	12
1996	65,399	26	12,730	18	30,878	21
1997	76,602	25	8,226	12	17,633	12
1998	61,663	20	9,257	16	19,751	14
1999	72,952	23	9,839	18	28,089	20
2000	84,275	27	8,949	17	23,421	18
2001	38,433	12	6,487	10	13,251	9
Average	67,907	24	11,055	14	22,602	16
	Sour Cherries		**Apricots**		**Peaches**	
	MT	Kg/Tree[1/]	MT	Kg/Tree[1/]	MT	Kg/Tree[1/]
1991	8,117	6	5,698	9	7,590	14
1992	8,739	8	6,758	13	8,386	16
1993	6,840	6	5,715	13	5,293	11
1994	6,057	6	5,066	12	5,405	12
1995	5,300	6	6,061	16	4,333	10
1996	4,625	6	4,296	15	7,343	15
1997	3,067	5	1,305	5	3,545	6
1998	5,109	8	2,348	9	6,823	11
1999	5,774	9	4,426	18	9,003	15
2000	3,293	5	4,168	24	9,512	17
2001	3,031	4	2,839	15	4,598	9
Average	5,450	6	4,425	14	6,530	12

Production Distribution between Enterprise and Family Farm Sub-sectors - 2000

	Apples		Pears		Plums	
	MT	Kg/Tree[2/]	MT	Kg/Tree[12/]	MT	Kg/Tree[2/]
Total	84,275	27	8,949	17	23,421	18
Enterprises	9,378	14	584	8	227	5
Families	74,897	31	8,365	19	23,194	18
Family %	89%	221%	93%	238%	99%	360%
	Sour Cherries		**Apricots**		**Peaches**	
	MT	Kg/Tree[12/]	MT	Kg/Tree[2/]	MT	Kg/Tree[2/]
Total	3,293	5	4,168	24	9,512	17
Enterprises	1,486	3	379	10	3,725	13
Families	1,807	19	3,789	28	5,787	20
Family %	55%	633%	91%	280%	61%	154%

1/ Fruit bearing trees only

2/ Family % calculated as % of enterprise farm yield

Annex 1 Table 5. Macedonian Livestock Population and Ownership (1990-2000)

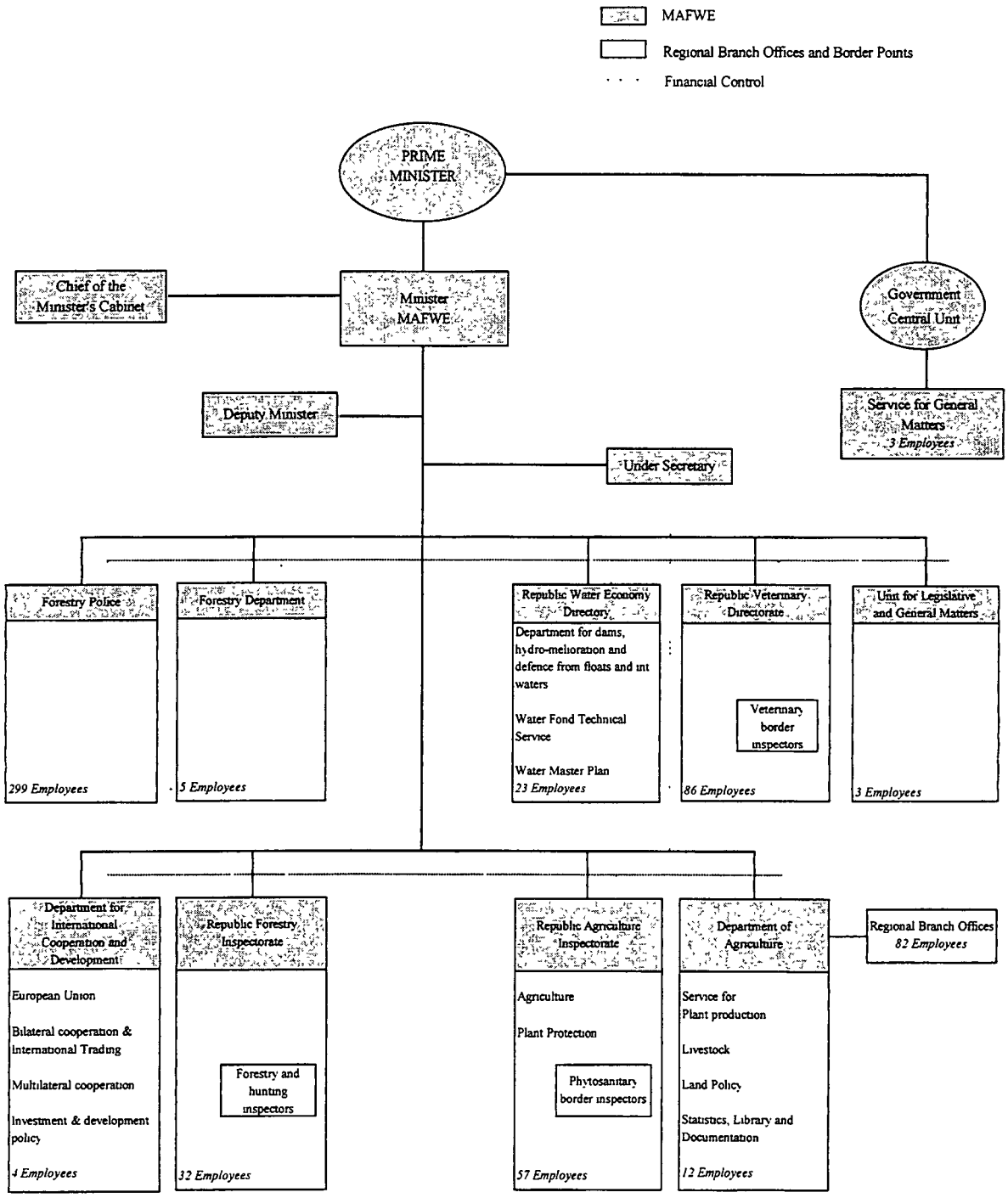
	Cattle		Pigs		Sheep		Horses		Poultry
	total	cows, heifers in calf	total	sows, first-farrow sows	total	ewes for breeding	total	mares, fillies in foal	total
Total Livestock Population									
1990	287,174	166,237	178,537	22,584	2,297,115	1,612,527	66,252	14,874	5,728,981
1991	282,349	163,733	170,975	22,828	2,250,549	1,623,242	65,155	13,976	4,562,497
1992	284,919	164,578	173,006	23,788	2,351,408	1,663,781	64,576	13,869	4,297,350
1993	280,324	165,280	184,920	29,678	2,458,648	1,841,809	61,748	13,135	4,392,721
1994	281,336	165,813	171,571	29,288	2,466,099	1,710,338	61,797	13,353	4,685,021
1995	283,237	166,374	175,063	29,420	2,319,905	1,736,717	61,733	15,338	4,879,873
1996	294,613	175,621	192,396	28,546	1,813,895	1,232,890	66,479	15,139	3,360,801
1997	289,428	177,383	184,293	32,948	1,631,034	1,177,724	65,869	14,535	3,274,570
1998	267,459	166,553	196,839	30,834	1,315,176	947,263	59,847	15,595	3,338,764
1999	270,147	171,969	226,047	32,674	1,288,733	868,661	57,152	10,214	3,223,184
2000	264,968	171,745	204,135	29,247	1,250,686	887,057	na	na	3,713,369
Agricultural Enterprises Livestock Population									
1990	27,943	11,520	82,308	9,228	208,835	144,233	820	212	3,531,767
1991	26,312	10,360	72,875	8,953	183,564	145,947	641	152	2,246,452
1992	27,346	10,592	77,366	8,100	174,874	127,021	546	156	1,767,255
1993	24,297	10,571	71,190	8,611	169,392	124,848	676	194	1,602,901
1994	24,029	9,500	65,570	8,745	157,779	122,917	542	148	1,708,578
1995	23,615	8,967	66,286	9,391	155,289	112,708	644	244	1,769,659
1996	22,118	7,824	69,709	9,137	143,879	105,721	699	145	1,293,663
1997	20,543	7,594	60,011	8,875	123,646	96,169	681	164	1,121,079
1998	14,028	6,978	72,446	9,198	116,213	89,989	654	204	1,108,333
1999	12,800	7,031	75,370	8,723	107,647	78,336	424	136	977,093
2000	12,413	6,519	77,717	9,496	101,323	75,757	na	na	1,744,560
Individual Agricultural Holdings Livestock Population									
1990	259,231	154,717	96,229	13,356	2,088,280	1,468,294	65,462	14,662	2,197,214
1991	256,037	153,373	98,100	13,875	2,066,985	1,477,295	64,514	13,824	2,316,045
1992	257,573	153,986	95,640	15,688	2,176,534	1,536,760	64,030	13,713	2,530,095
1993	256,027	154,709	113,730	21,067	2,289,256	1,716,961	61,072	12,941	2,789,820
1994	257,307	156,313	106,001	20,543	2,308,320	1,587,421	61,255	13,205	2,976,443
1995	259,622	157,407	108,777	20,029	2,164,616	1,624,009	61,089	15,094	3,110,214
1996	272,495	167,797	122,687	19,409	1,670,016	1,127,169	65,780	14,994	2,067,138
1997	268,885	169,789	124,282	24,073	1,507,388	1,081,555	65,188	14,371	2,153,491
1998	253,431	159,575	124,393	21,636	1,198,963	857,274	59,193	15,391	2,230,431
1999	257,347	164,938	150,677	23,951	1,181,086	790,325	56,728	10,078	2,246,091
2000	252,555	165,226	126,418	19,751	1,149,363	811,300	na	na	1,968,809

Annex 1 Table 6. Budget for the Ministry of Agriculture, Forestry and Water Resources - 1998 - 2000

Current Expenditure	MKD			US$1= MKD70	%
	1998	1999	2000	2000	2000
Salaries and Allowances	**108,633,316**	**97,530,000**	**97,530,000**	**1,393,286**	**14.0%**
Basic (Gross) Salaries	***95,097,245***	***89,125,000***	***89,125,000***	**1,273,214**	**12.8%**
Basic wages, senior management	4,467,904	6,462,000	6,462,000	92,314	0 9%
Basic wages, other staff	90,629,341	82,663,000	82,663,000	1,180,900	11 9%
Allowances	**13,536,071**	**8,405,000**	**8,405,000**	**120,071**	**1.2%**
Transport allowance for travel to/from work	1,751,000	1,751,000	1,751,000	25,014	0 3%
Food allowance	11,785,071	6,654,000	6,654,000	95,057	1 0%
Goods and Services	**227,858,689**	**259,860,000**	**284,330,000**	**4,061,857**	**40.9%**
Travel and subsistence expenses	**2,572,688**	**5,773,000**	**5,230,000**	**74,714**	**0.8%**
Domestic travel	1,300,000	1,300,000	1,380,000	19,714	0.2%
Foreign travel	1,272,688	4,473,000	3,850,000	55,000	0.6%
Utilities and Heating	**3,833,000**	**3,333,000**	**3,400,000**	**48,571**	**0.5%**
Post, telephone, telex and courier services	1,081,000	1,081,000	1,000,000	14,286	0.1%
Electricity	975,000	975,000	1,000,000	14,286	0.1%
Water supply	292,000	292,000	400,000	5,714	0 1%
Central heating	1,485,000	985,000	1,000,000	14,286	0 1%
Goods	**4,324,000**	**3,624,000**	**3,200,000**	**45,714**	**0.5%**
Office materials and stationary	2,730,000	2,030,000	1,500,000	21,429	0.2%
Text books, magazines, newspapers etc	194,000	194,000	200,000	2,857	0.0%
Other goods	1,400,000	1,400,000	1,500,000	21,429	0.2%
Transport expenses	**995,000**	**995,000**	**1,300,000**	**18,571**	**0.2%**
Fuel and lubricants	875,000	875,000	900,000	12,857	0.1%
Tires and spare parts	120,000	120,000	400,000	5,714	0.1%
Servicing of vehicles	100,000	100,000	100,000	1,429	0.0%
Contractual Services	**215,461,001**	**245,462,000**	**270,800,000**	**3,868,571**	**38.9%**
Program for protection of rivers and lakes	0	0	22,500,000	321,429	3.2%
Agriculture support program	214,000,001	244,001,000	244,000,000	3,485,714	35 1%
Allowances for consultants	0	0	2,500,000	35,714	0.4%
Other	1,461,000	1,461,000	1,800,000	25,714	0.3%
Other operational expenses	**673,000**	**673,000**	**400,000**	**5,714**	**0.1%**
Expenses for representation	373,000	373,000	300,000	4,286	0.0%
Other operational expenses	300,000	300,000	100,000	1,429	0 0%
Current Transfers	**3,000,000**	**40,000,000**	**170,000,000**	**2,428,571**	**24.4%**
Transfers to government institutions	0	37,000,000	167,000,000	2,385,714	24 0%
Transfer to agro-stock exchange	3,000,000	3,000,000	3,000,000	42,857	0.4%
Sub-total: Current Expenditure	**339,492,005**	**397,390,000**	**551,860,000**	**7,883,714**	**79.3%**
Capital Expenditure					
Acquisition of Capital Assets	**29,200,000**	**30,000,000**	**30,000,000**	**428,571**	**4.3%**
Reforestation	29,200,000	30,000,000	30,000,000	428,571	4 3%
Capital transfers	***39,000,000***	***68,000,000***	***114,000,000***	**1,628,571**	**16.4%**
Villages revitalizartion program	20,000,000	20,000,000	20,000,000	285,714	2 9%
Program for investment in agriculture	19,000,000	48,000,000	94,000,000	1,342,857	13 5%
Sub-total: Capital Expenditure	**68,200,000**	**98,000,000**	**144,000,000**	**2,057,143**	**20.7%**
Total Budget	**407,692,005**	**495,390,000**	**695,860,000**	**9,940,857**	**100.0%**
Fee Income					
Veterinary Inspection	na	na	187,000,000	2,671,429	26 9%
Plant Protection	na	na	25,000,000	357,143	3 6%
Reforestation Program	na	na	50,000,000	714,286	7.2%
Forestry Police	na	na	35,000,000	500,000	5 0%
Total Fee Income	na	na	**297,000,000**	**4,242,857**	**42.7%**
Net Cost to Government	na	na	**398,860,000**	**5,698,000**	**57.3%**

ANNEX 2. MAFWE ORGANIZATION CHART

Annex 2 Chart 1. MAFWE Organization Chart



Note January 2000

ANNEX 3. TRADE AND PRICE POLICY REFORM SCENARIOS: WHEAT AND LAMB, 2001-2007

Annex 3 Table 1. Scenarios for Reform of Wheat Trade and Price Policy

	2001	2003	2005	2007
Wheat Price ex Hungary ($US/t)	106	108	110	113
Exchange Rate (den/$US)	69	71	73	73
Border Price[a] (den/ton)	9039	9452	9877	10039
Base Case Scenario				
Trade Policy				
Licensed Zero Tariff Imports (t)	Discretionary allocation			
Non-Quota Ad Valoreum Tariff	20	20	20	20
Non-Quota Unit Tariff (den/t)	6000	6000	6000	6000
Tariff Equivalent (%)	86%	84%	81%	80%
Price Policy – Producer Floor Price (den/t)	10000	10000	10000	10000
Subsidy Policy				
Producer Subsidy (den/kg)	2500	2500	2500	2500
Transport Subsidy (den/kg)	500	500	500	500
Policy Response				
Total Production (t)	311375	311375	311375	311375
Human Consumption (t)	388033	392034	396063	400320
Net Import Requirement[b] (t)	130092	134092	138121	142378
Producer Price (den/ton)	10000	10000	10000	10000
Consumer (Mill) Price (den/kg)	9.462	9.688	9.930	10.023
Tariff Revenue (m den)	0	0	0	0
Subsidy Expenditure (m den)	310	310	310	310
Scenario (2)				
Trade Policy Reforms				
Licensed Zero Tariff Imports t)	Abolished			
Non-Quota Ad Valoreum Tariff	20	20	20	20
Non-Quota Unit Tariff (den/t)	6000	5000	3000	1000
Tariff Equivalent (%)	86%	73%	50%	30%
Price Policy – Producer Floor Price (den/t)	10000	10000	10000	10000
Subsidy Policy	Producer Subsidies Abolished			
Policy Response				
Total Production (t)	311375	311375	311375	311375
Human Consumption (t)	388033	387287	392251	397557
Net Import Requirement[b] (t)	130092	129345	134309	139615
Producer Price (den/ton)	10000	10000	10000	10000
Consumer (Mill) Price (den/kg)	9462	13552	12766	11737
Tariff Revenue (m den)	0	891.2	668.2	419.9
Subsidy Expenditure (m den)	0	0	0	0
Scenario (3)				
Trade PolicyReforms				
Licensed Zero Tariff Imports t)	Abolished			
Non-Quota Ad Valoreum Tariff	25	25	25	25
Non-Quota Unit Tariff (den/t)	0	0	0	0
Tariff Equivalent (%)	86%	31%	30%	30%
Price Policy Reforms	Floor Price Abolished			
Subsidy Policy	Producer Subsidies Abolished			
Policy Response				
Total Production (t)	311375	311384	311498	311789
Human Consumption (t)	388033	390539	394294	398422
Net Import Requirement[b] (t)	130092	132589	136250	140137
Producer Price (den/ton)	10000	10917	11433	11645
Consumer (Mill) Price (den/kg)	9.462	10.917	11.433	11.645
Tariff Revenue (m den)	0	313.3	336.4	351.7
Subsidy Expenditure (m den)	0	0	0	0

[a] After allowing for transport and handling charges [b] After allowing for usage for animal feed and seed, and losses

Annex 3 Table 2. Scenarios for Reform of Lamb Trade and Price Policy				
	2001	**2003**	**2005**	**2007**
Lamb Meat Export Price (EU market $US/t)	3570	3606	3642	3678
Exchange Rate (den/$US)	69	71	73	73
Lamb Meat Border Price[a] (den/kg)	246	256	266	269
Base Case Scenario				
Trade Policy				
Ad Valoreum Import Tariff (%)	40	40	40	40
Export Subsidy (den/kg)	0	35	35	35
Policy Response				
Producer Price (den/kg liveweight)	123	163	168	169
Total Lamb Meat Production[b] (t)	5910	6684	7363	7660
Consumer Price[c] (den/kg)	250	358	372	376
Domestic Consumption (t)	3063	2516	2496	2511
Net Exports[d] (t)	2256	3499	4131	4384
Export Revenue (m den)	556	896	1098	1177
Subsidy Expenditure (m den)	0	122	145	153
Scenario (2)				
Trade Policy Reforms				
Ad Valoreum Import Tariff (%)	40	35	25	0
Export Subsidy (den/kg)	0	0	0	0
Policy Response				
Producer Price (den/kg liveweight)	123	128	133	134
Total Lamb Meat Production[b] (t)	5910	6684	7363	7660
Consumer Price (den/kg)	250	256	266	269
Domestic Consumption (t)	3063	2992	2967	2985
Net Exports[d] (t)	2256	3024	3659	3909
Export Revenue (m den)	556	774	973	1050
Subsidy Expenditure (m den)	0	0	0	0
Scenario (3)				
Trade PolicyReforms				
Ad Valoreum Import Tariff (%)	40	0	0	0
Export Subsidy (den/kg)	0	0	0	0
Policy Response				
Producer Price (den/kg liveweight)	123	128	133	134
Total Lamb Meat Production[b] (t)	5910	6684	7363	7660
Consumer Price (den/kg)	250	256	266	269
Domestic Consumption (t)	3063	2992	2967	2985
Net Exports[d] (t)	2256	3024	3659	3909
Export Revenue (m den)	556	774	973	1050
Subsidy Expenditure (m den)	0	0	0	0

[a] fob prices based on FAO commodity forecasts
[b] As the incentive to increase production is already high, the production response is based on the capacity to increase livestock numbers by retaining stock, rather than a response to increased producer prices (MAMA)
[c] For purposes of comparison, the base case assumes that import tariffs affect consumer prices.
[d] After allowing for domestic consumption and losses

ANNEX 4. AGRICULTURE SECTOR ACTION PLAN

Goal: *Increasing the profitability, competitiveness and sustainability of Ma cedonian primary production and agricultural processing industries and enhancing the natural resource base to achie ve greater national wealth a nd stronger rural communities.*

Policy Area	Objectives	Key Issues	Accomplished	Action Plan	
				Short to Medium-Term	Longer-Term
Agricultural policy	**Integrate policy analysis into MAFWE decision making**	MAFWE lacks effective policy capacity	∘ EU project supporting policy analysis in MAFWE about to start	∘ Establish policy analysis staff positions in MAFWE ∘ Contract studies on key policy issues ∘ Design Agricultural Fund policy and programs ∘ Send MAFWE staff for post-graduate training	∘ Establish agricultural support on coherent, fiscally sustainable basis ∘ Integrate Agriculture Fund supported activities into rationalized MAFWE program
	Focus State Office for Commodity Reserve (SOCR) on food security	SOCR is a key instrument for government price intervention with some commodities	∘ Price interventions on all products except wheat and tobacco cancelled	∘ Increased transparency in SOCR transactions ∘ Definition of strategic reserve policy within WTO framework ∘ Revise law to limit SOCR role to strategic stocks	∘ Limit SOCR role to acquisition and management of strategic stocks
	Move to an open, transparent trade policy	Existing policies inhibit rather than promote trade, encourage rent-seeking behavior, and lead to non-optimal patterns of trade	∘ WTO negotiations proceeding and free trade agreements negotiated with most regional partners increasing regional competition	∘ Establish trade analysis and negotiation capacity ∘ Analyze impact of trade agreements and develop new administrative procedures for allocating quotas	∘ Shift agricultural sector interventions toward support for increased competitiveness and WTO Green Box measures
	Design a rural development strategy	Incoherent and under resourced government rural development program	∘ Law on the development of under-developed regions provides up to 1% of GDP for rural development ∘ Poverty Reduction Strategy Paper under preparation	∘ Preparation of a rural development strategy ∘ Incremental staffing and capacity building of the Office for the Development of Under-developed Regions	∘ Full funding of ODUR as proscribed under the law ∘ Expand role of the public extension service into areas of rural poverty alleviation and rural development
	Increase stakeholder participation in agricultural policy development	Effective policy formation requires stakeholder participation		∘ Establish broad-based Agricultural Advisory Council within MAFWE, to review and advise on government policy ∘ Set up a rural leadership training program	∘ Develop democratic processes for registered farmers to elect representatives to local and national agricultural advisory boards

Agricultural Sector Action Plan – Page 2

Policy Area	Objectives	Key Issues	Accomplished	Action Plan	
				Short to Medium-Term	Longer-Term
Competitiveness of Macedonian agricultural and food products	**Improve the production efficiency and quality of Macedonian agricultural and food products**	Limited ability of private sector producers and processors to compete on domestic and international markets	• Some companies have invested in modern packaging lines and a few in new products with IFC and other credit • Land O'Lakes initiative • SME Development and Credit Funds • PFSP farmer's association program • PFSP Management Information System • Chamber of Commerce being restructured • USAID Competitiveness Study • GTZ food industry projects	• Develop industry owned and managed "stable to table" quality control and marketing strategies • Improve the Cooperative Law and broaden the Law on Association of Citizens and Associations to include self-regulating professional organizations • Strengthen flow of available credit to rural investors • Training programs in company management and marketing	• Help processors develop higher quality and niche products with higher margin and positive cash flow resulting in capital growth, which would create interest from foreign partners for commercial links • Introduce HACCP programs in milk and meat industries, which will require costly investments • Clarify public and private sector roles in market development • Provide unambiguous government support for the establishment of democratically elected national farmers and commodity associations
		Lack of credible Government assurance that Macedonian products meet the international food safety and bio-security requirements needed for exports to the EU and other industrial countries and sales to supermarket chains	• New Food Law in final stages of drafting • PFSP financed veterinary epidemiological system operational • Analytical capacity of the Veterinary and Health Institute laboratories enhanced through GTZ and PFSP support	• Define legally the respective roles of MAFWE (bio-security, animal welfare, animal slaughter, crop and animal inputs) and MOH (food processing, markets and retail) • Confirm MOH as the lead ministry for food safety • Institutionalize Hazard Analysis Critical Control Point (HACCP) certification • Ensure EU certification of a designated national food safety reference laboratory • Establish key EU food safety directives under Macedonian law • Incorporate the directives in the EU *acquis communautaire* into Macedonian law	• Establish a Food Assurance Authority (FAA) under MOH, to integrate the food regulatory functions of MAFWE and MOH, set policy and standards, negotiate international agreements and monitor food inspection services • For FAA, establish a board with expertise in public health, food science, food production, retailing, consumer rights, nutrition, and public administration • Establish technical advisory groups • Liberalize seed and agro-chemical registration in line with EU norms • Establish sources of sustainable funding
	Improve the knowledge and technology base of Macedonian agriculture	The Macedonian agricultural knowledge and information system (AKIS) is unable to respond to the sustainable-technology or information needs of the sector	• Limited number of competitively allocated research programs funded under Private Farmer Support Project • Active cadre of private extension agents established • Decentralization of agricultural extension management in progress	• Collaborate with all stakeholders to prepare an agricultural Research Plan • Review/allocate public and private sector roles within AKIS • Restructure remaining research network within an Agricultural Research Foundation having a management Board with strong stakeholder participation	• Transfer responsibility for applied agricultural research from MOSE to MAFWE • Establish an Agricultural Research Board, including elected industry representatives, to set the research agenda and award contracts on a competitive basis • Identify the means for sustainable agricultural research funding, including stakeholder contribution

Agricultural Sector Action Plan – Page 3

Policy Area	Objectives	Key Issues	Accomplished	Action Plan	
				Short to Medium-Term	Longer-Term
Development of private agri-business	**Complete the privatization of food and beverage processors**	Public sector still owns equity in many privatized agro- processing companies	○ Privatization Agency has disposed of some company shares on the stock market at high discounts	○ Sell remaining unsold shares held by public sector appropriately discounted by Privatization Agency	○ Dispose of the remaining, problematic agro-kombinats
	Develop privatized companies into competitive commercial ones	Products now unimaginative, cannot compete on price or quality with fully private companies Most MEBOs have little potential Corporate income and cash reserves not sufficient to modernize industry	○ A few ex-public sector companies have restructured and are operating commercially competitive processing companies	○ Assist selected firms to restructure and develop viable, financeable business plans ○ Establish programs to improve quality at all levels, and develop new and niche processed products, ○ Work with financial institutions to develop financial products geared toward working capital for the processing industry	○ Establish and ensure the effectiveness of HACCP programs in milk and meat industries ○ Monitor progress of surviving companies. Higher quality and niche products should produce higher margins, positive cash flows, and capital growth and create interest from foreign partners for commercial links
		Business management and technical skills are low at most ex-public sector processors		○ Finance retraining in management and ISO 9002 at selected plants ○ Promote worker skills development programs ○ Sponsor young professional development programs	○ Assist firms to restructure firms and be responsive to shareholders, with the result that talented, well trained young professionals assume executive positions
	Increase foreign investment in privatized companies	FI needed for investment in new equipment, modernized processes, new products, working capital, market intelligence and management skills	○ A few agro-companies have attracted some foreign investment (nine firms, however, with one company receiving more than 50%)	○ Develop a conducive environment for business generally ○ Improve the security situation ○ Remove impediments of attractive opportunities in agri-business	○ Continue to improve the business environment ○ Improve the effectiveness and speed of contract enforcement
	Facilitate private sector institutions to assist agri-business enterprises to modernize, and to compete profitably in domestic and export markets	Industry institutions and associations not user friendly, need to be instilled with modern business culture Current laws do not allow separate Chambers of Commerce or agri-business associations	○ Some promotions and fairs are run (or attended) by the Ministry of Economy, business generated quantified ○ Foreign NGO's have developed marketing and quality programs but these in danger of collapse when foreign assistance finishes	○ Revise laws to enable producer-controlled processing-industry chambers and associations to be established ○ Promote the linkage of the Agri-Business Association with similar Associations in SEE, CEE and some EU countries	○ Producer, processor and retailer associations need to establish full ownership of business and marketing promotion programs

Agricultural Sector Action Plan – Page 4

Policy Area	Objectives	Key Issues	Accomplished	Action Plan	
				Short to Medium-Term	Longer-Term
	Create conducive commercial business climate to support growth of agro-processing industries	Continuing constraints to efficient agriculture-related business operation	• Insufficient progress has been made to improve the business climate	• Reduce regulatory burden and reduce corruption • Improve contract enforcement • Improve tax administration • Reduce border transit time	• Continue to improve regulatory burden, corruption, contract enforcement and tax administration • Standardize export regulations and export credit facilities for exporters • Revise standards to be consistent with EU
	Reestablish linkages among producers, processors and target markets	Earlier markets in Serbia and neighboring countries have not yet been re-established Current shipment of part loads are expensive and unreliable; bulking centers needed to create full loads for transportation to target markets	• While some producers or traders of mushrooms, fruit, vegetables and forest fruits have penetrated foreign markets, most others have small and irregular loads uneconomic to transport • Some producers have formed bulking groups to invest in packing and grading sheds and product assembly points	• Study the successful examples and learn from their experience • Encourage more producer groups to invest in bulking, packing and grading sheds	
Agricultural land market	**Establish a competitive land market supported by efficient and secure legal processes**	Agricultural land market lacks transparency and legal process, reducing capital mobilization and efficient land use	• Laws addressing State land restitution and rent established • Law on contractual mortgages updated	• Revise and intergrate laws on survey, cadastre, registration of real property rights, registries, executive procedure, mortgage, pledges and inheritance • Mandate compulsory registration of sale, lease or mortgage of property • Establish a training course in property valuation	• Establish self-regulating bodies in the real estate and valuation markets
		Land cadastre is unreliable and courts are slow to process mortgage foreclosures	• Law on Administration of Registries passed, but requires clarification concerning land registration	• Establish an independent Land Cadastre Office controlled by a Registrar • Require land register for each property to include all details of ownership and encumbrances • Introduce sporadic registration • Provide state guarantee of computerized cadastral records	• Complete the computerized land cadastre • Public access to computerized cadastral records
		State land policy lacks clear objectives and verifiable indicators	• Law on agricultural land before parliament	• Have MAFWE set clear objectives and measurable indicators for the national agricultural estate; develop core staff competence • Exercise MAFWE option to lease 15% of the national agricultural estate	• Carry out progressive sale of state agricultural land to the private sector • Introduce a comprehensive, unifying law on natural resource management

Agricultural Sector Action Plan – Page 5

Policy Area	Objectives	Key Issues	Accomplished	Action Plan	
				Short to Medium-Term	Longer-Term
		Unproductive use of agro-kombinat land belonging to the state	○ 1998 legislation requiring at least 15% of ex-agro-kombinat land to be rented to private farmers	○ Make more AK land available to private farmers ○ Commence requireing ex-AK's to pay substantial rent on state land	○ Revise law on state land following resolution of land restitution and land registration issues to require sale to private farmers
Irrigation Sector Reform	**Improve services on state owned irrigation schemes**	Water management organizations are dysfunctional	○ Principles of restructuring were agreed between Bank and Government, Jan 2002 ○ A Business plan was drafted for restructuring Project water management organizations (WMOs)	○ Draft and enact new law for restructuring WMOs ○ Do initial drafting of new water law ○ Appoint restructuring team and begin data assembly ○ Analyze WMO debt and negotiate restructuring, settlement and write off	▷ Enact new water law: ▷ Restructure and refinance all WMOs ▷ Establish supervision of WMOs in MAFWE ▷ Establish regulatory body for national water resource management
		Insufficient user involvement in irrigation delivery	○ New law for Water User Associations (WUAs) now before parliament ○ WUAs successfully piloted by Project ○ Policy of irrigation transfer agreed	○ Complete transfer of distribution to WUAs across three Project schemes ○ Plan country-wide expansion of WUAs ○ Establish WUA Supervision Office or assign to PMU	▷ Transfer small independent schemes to WUAs ▷ Complete transfer distribution to WUAs across remainder of Macedonia
Environ-mental protection	**Improve control over emissions, effluents and pollutants**	Overlap of responsibilities among ministries and agencies		○Tighten the regulations to remove contradictions ○Remove overlap in the responsibilities of various agencies	▷ Assign clear responsibility to the Environment Ministry for overall control and final decision in environmental matters
		Current regulations on soil pollution and conservation and run-off from agricultural land are weak	○ There are some generalized rules that no-one may pollute the land – nothing specific	▷ Enact new laws on chemical applications and run-off, and on deposits of waste contaminants	▷ Carry out monitoring, feedback and publication of results, linked to improvements in regulations where necessary
		Long term neglect of emission and effluent controls has resulted in many processors exceeding latest pollution limits	○ Ministry of Environment established in 1999 ○ Some laws passed and implementation started ○ An Inspectorate established with qualified inspectors environmental inspection	○Strengthen the Ministry and the Inspectorate	▷ Bring EPA standards up to EU levels in readiness for EU accession
	Introduce soil preservation and organic production of high value products	Preservation of areas of special environ-mental quality by reserving for organic production	○ Some trials have been done, and NGO's are active in increasing awareness of producers and potential consumers	○Draft clear regulations for organic production areas ○Provide in depth training at all levels in the requirements of organic production and marketing	▷ Set up an independent body to promote organic production and marketing

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Policy Area	Objectives	Key Issues	Accomplished	Action Plan	
				Short to Medium-Term	Longer-Term
Incremental employment in the rural sector	**Increase employment in the food and beverage production and marketing chain**	40% rural unemployment Further job loss in processing due to rationalization and loss of EU wine quota likely	• No program exists to tackle the issue of rationalization and unemployment	•Stimulate growth in private sector processing industries •Design redundancy packages in advance •Locate non-EU wine markets •Develop intensive agriculture •Develop SMEs for processing and trade	• Develop rural entrepreneurs and SMEs • Promote regional development • Prepare for significant redundancies following expiration of contractual 5-year business plans of the privatized agro-kombinats
	Improve income of women in the rural sector	Involvement is mainly seasonal in harvesting and primary processing Women employed in 20-40% of full-time jobs in processing but few as senior staff	• Some NGO activities have been instituted in rural communities for programs to improve female employment	•Implement farm bookkeeping and budgeting system through various programs to promote the management skills of rural women •Institute programs to train potential women managers and entrepreneurs in the be processing industry	• Setup Women in Management forum for female staff to promote their expertise, and to encourage female staff to apply for promotion