Islamic Republic of Iran
An Agricultural Policy Note

June 22, 2004

Water, Environment, Social and Rural Development Department
Middle East and North Africa Region
ABBREVIATIONS

AAA Analytical and Advisory Assistance
AMS Aggregate Measurement of Support
APERI Agricultural Planning and Economic Research Institute
ASSC Agricultural Support Services Company
CAS Country Assistance Strategy
CBI Central Bank of Iran
CEM Country Economic Memorandum
COE Computable General Equilibrium
CORC Central Organization of Rural Cooperatives
CPPO Consumer and Producer Protection Organization
EPC Effective Protection Coefficient
ESW Economic and Sector Work
EU European Union
FAO Food and Agriculture Organization
FYDP Five-Year Development Plan
GDP Gross Domestic Product
GoI Government of Iran
GSP Guaranteed Support Prices
IMF International Monetary Fund
IRI Islamic Republic of Iran
MENA Middle East and North Africa
MOFA Ministry of Jihad and Agriculture
MPO Management and Planning Organization
NPC National Petrochemicals Company
PER Public Expenditures Review
PIA Poverty Impact Assessment
SOE State Owned Enterprises
TFP Total Factor Productivity
WB World Bank
WFS World Food Summit
WTO World Trade Organization

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Agricultural Policy Note
Executive Summary

1. This report addresses key structural, institutional and sectoral policy impediments to achieving a higher and sustained economic growth in the sector and poverty reduction in rural areas of Iran. It focuses mainly on an assessment of agricultural development outcomes, a discussion of the agricultural policy agenda and provides recommendations for future policy dialogue between the Bank and the Government of Iran.

The development outcomes

2. **Growth**: Although the agricultural sector's contribution has been declining, it displayed rapid growth 4.9% during the course of the 1990's. Despite an annual growth of about 5 percent in the 1990s, the importance of the sector has been declining regardless of the severe consecutive droughts in 1999-2001. But important changes and key qualitative developments have characterized agricultural production. Within the crop sub-sector, growth rates in the production of vegetables and fruits have been substantially higher than those of field crops such as wheat, barley, rice, cotton, sugar beets and pulses.

3. **Rural poverty**: Poverty in Iran is an important rural phenomena, is geographically concentrated in some provinces and has important gender considerations. Though the share of total poverty declined from 27 to 21 percent to during the 1986-1998 period, the decline was much lower in rural areas (from 35 to 32 percent) than in urban areas (from 21 to 14 percent). Poverty in Iran has a strong rural content. While only 38% of the total population is rural, out of approximately 13 million poor people in 1998, 57% lived in rural areas. In terms of geographical composition, 50% of the rural poor were localized in the Eastern and Western provinces. It is in those same regions that the proportion of the rural population living in households with income below the poverty line is the highest.

4. **Environmental sustainability**: Growth developments and changes in the composition of agricultural output are being accompanied by increasing pressure on the natural resources with deforestation and erosion reaching alarming proportions, rangeland systems supporting too many animals, millions of hectares lost to overgrazing and ploughing for expansion of rainfed agriculture, water and wind erosion at a critical level for more than half of the arable land, and a critical lowering of the water tables with the multiplication of wells and pumping stations.

The policy context

5. **Total spending on agriculture does not necessarily match the relative importance of the sector in the economy.** It averaged 7.3% of agricultural GDP and around 7.1% of total government expenditures over 1989-2001. Iran spends substantially less than the average proportion found in a sample of developing countries. However, a strong emphasis in spending is made on capital expenditures reflecting the strong development needs in terms of water and rural infrastructure.
6. **Policy in the sector has been driven largely by the need to rely on domestic production to meet the needs of a rapidly increasing demand.** Due to geopolitical considerations, Iran places emphasis on maintaining high levels of self-sufficiency in order to provide for food and security, ensuring farmers a decent livelihood and relying on imports from developing countries. Thus, in addition to price supports and input subsidies to ensure remunerative prices for farmers and reduced costs of production, the Government has put in place procurement and distribution measures to ensure supply of essential foods to the population through a public distribution system. Import and export controls have been used largely to ensure that domestic demand is met.

**Opportunities and challenges**

7. In addition to its agro-ecological diversity and strong production potential especially for export, **significant rural development achievements** have been made over the course of the past development plans (1990-2000). Thousands of villages saw significant improvements in living conditions. Rural development achievements included bringing large areas of marginal lands put under cultivation, control and management of significant irrigation water, building more than 60000 km of graveled and asphalt rural roads, and electricity, drinking water supply systems and full sanitary systems brought to thousands of new villages.

8. However, an **inadequate market structure and organization for commodity markets, land fragmentation and related social issues are hindering further development** in agriculture and rural areas. Clearly the potential is not being fully utilized as indicated by several indicators including the level and composition of current agricultural trade and in particular exports of fruits and vegetables.

9. **Iran's agricultural exports face several constraints** that arise from conflicting domestic policies relating to production, storage, distribution, food security, and pricing concerns. Constant changes in regulations and inadequate sanitary and phyto-sanitary measures and standards, make Iranian exports very unpredictable and unreliable in the international market. There is also a lack of adequate post-harvest infrastructure like refrigerated transport, storage, and packaging, and of adequate facilities at airports and sea ports.

**Areas of intervention**

10. In the short-term, the Bank could provide input into the development of a **Strategic Framework for Sustainable Agricultural and Rural Development** in the form of high impact focused technical studies following the approach used with the energy subsidies. This could lead eventually to a comprehensive and participatory Agricultural and Rural Development Strategy Note. Knowledge sharing with the private and public sector requiring first in-depth studies could be provided before putting in place a series of show-case projects to transfer international best-practices in areas such as marketing, land reform or human development.
INTRODUCTION

1. Agriculture accounted for 15 percent of Iran's GDP over the period 1991-2001. The share of agricultural products in total non-oil export earnings is substantial (around 26 percent), albeit decreasing in recent years, while agricultural imports constitute a smaller proportion of the country's total merchandise imports (14 percent). Policy in this sector has been driven mainly by self-sufficiency; import and export controls, together with domestic support, have been used to ensure that domestic supplies meet domestic demand. The agricultural sector has been shielded from foreign competition by tariffs and/or non-tariff barriers, including quantitative restrictions, import licensing, price controls (on inputs and final goods), and marketing restrictions. One important result of these policies has been an increase in domestic production, which has contributed to meeting Iran's goals of self-sufficiency in most food supplies with the exception of wheat, rice and vegetable oils; however, food stocks (especially in fruits and vegetables) now pose problems of storage and higher food subsidy costs. In the implementation of the 3rd Five Year Development Plan (FYDP) for 2000/01-2004/05, the major changes in agricultural policy have been the gradual removal of quantitative restrictions on imports and their substitution by tariffs, and a removal of licensing and distribution restrictions on some products along with a wider coverage for commodities.

2. Iran has started the preparation process for its 4th FYDP and intends to anchor agricultural and rural development efforts within the broader goal of economic liberalization while keeping a particular emphasis on distributional justice. Iran does not currently have a strategic framework for agricultural and rural development but is keen on getting technical assistance to help in: (i) the evaluation of past and current agricultural policies adopted over the three FYDPs; and (ii) the design of a medium to long-term strategy for growth, rural poverty reduction and environmental sustainability that would address its food security concerns, water scarcity constraints and the function and role of rural development in national long-term objectives.

3. There have been no extensive evaluations of the agricultural sector and agricultural policy carried by the Bank since 1992 Agricultural Sector Note and the 1994 Services for Agricultural and Rural Development work (Report No. 11956-IRN) prepared when the Government of Iran was considering options for changes in its role and investment under the 2nd FYDP.

4. The report addresses key structural, institutional and sectoral policy impediments to achieving a higher and sustained economic growth in the sector and poverty reduction in rural areas. It focuses mainly on an assessment of agricultural development outcomes, a discussion of the agricultural policy agenda and provides recommendations for future policy dialogue between the Bank and the Government of Iran.
5. This report, focusing exclusively on agricultural policy, is a direct response to:

(a) a growing recognition of the need to assess the information gaps in terms of knowledge of the sector;

(b) the need to strengthen the analytical underpinnings for the Bank’s Country Assistance Strategy in Iran by sharpening the focus of future AAA services and lending in areas of highest development priority; and

(c) the need to support the overall economic policy reform with a more systematic and up-to-date assessment of the country agricultural policy reform agenda and priorities in rural development.

6. This report comes precisely at a time when the Bank is preparing a new CAS and at the eve of the 4th FYDP preparation. It synthesizes the findings of:

(a) the Bank’s diagnostic and customized ESW with relevance to the agricultural sector and rural areas (PIA, PER, CEM);

(b) analysis carried by researchers in Iran and outside; and

(c) an evaluation prepared on the basis of a mission in February 2003.

7. Iran sets itself on a long-term course to be able to feed a population of 100 million in 2020 while making the agricultural sector an engine for growth and a key sector for contributing to poverty reduction. While it has rightly emphasized market liberalization, sustainable natural and human resource management and factor productivity improvements as areas of strategic priorities, the current policy implementation and program priorities in terms of output support and distribution, input subsidization and delivery, untargeted food subsidies and investment intervention detract from achieving the desired results. Iranian Agriculture needs a better mix of institutional changes, policy reforms and investment aimed at an upgrading of the production, marketing and food distribution system.

8. Three major approaches are recommended:

(a) With the impressive rural infrastructure network (irrigation, roads, electricity and communications) put in place in the 1990s, investment should now be channeled more towards:

(i) the “software” needed to make the “hardware” work; and
(ii) programs specifically targeted for the rural poor.

(b) Following the major macroeconomic reforms recently adopted (e.g., trade, exchange rate unification), it would now be timely to start the process to establish competitive agricultural output and input markets (including

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cereal markets) and commence pricing policy reform at a pace that takes the vulnerability of the rural and urban poor into consideration.

(c) Institutional reforms in the sector encompassing specific organizations and functions as well as the general regulatory framework will be needed to help transform agriculture into a dynamic sector driven by market forces and capable of feeding Iranians and putting Iranian products on the shelves of shops and supermarkets all over the world.

9. Iranian Agriculture has a strong potential but also faces enormous challenges. Some of these opportunities and constraints are presented in this reference with reference to specific areas where the Government of Iran could access the World Bank knowledge and resources to remove those constraints while turning the potential into reality for the sector.

ASSESSMENT OF AGRICULTURAL DEVELOPMENT OUTCOMES

HISTORICAL BACKGROUND ON RURAL SOCIETY AND AGRARIAN STRUCTURE

10. Agrarian relations and rural change have taken different forms in contemporary rural Iran. The nineteenth century and the first half of the half of the twentieth century up to the 1962 White Revolution saw important transformations taking place as a result of western influence on Iran’s gradual integration into the world economy. New institutions emerged and set the stage for changes in agrarian relations and rural development. During this period, the juxtaposition of new and old institutions yielded a slow but steady growth in output, market expansion and an exchange economy (Shakoori, 2001). Iran’s trade structure during the period illustrates how it fit in the global division of labor. The country imported mainly textiles, sugar and tea and exported raw commodities. The most important feature of land tenure was a mixture of public and private large-scale land ownership. On crop lands, in addition to private ownership (76 percent of total land) where a small number of families owned a large number of villages, other types of land ownership in 1960 included state land (10 percent) crown land (4 percent), religious endowments (10 percent). Pasture lands were under collective ownership by nomadic tribes.

11. Reforms, including attempts at limiting the size of individual holdings, and increasing the share of output distributed to peasants, did not materialize until 1962 when comprehensive changes in land tenure were implemented as a result of major social unrest and a number of political and socio-economic transformations. The land reform was carried in several stages the most important of which are:

(a) distribution of large holdings to peasants under a collective ownership scheme;
(b) elimination of sharecropping while maintaining the land-ownership pattern and allowing the original landlords to rent, sell, co-own or purchase back the land from peasants;

(c) transformation of leases into complete transfer to peasants or buying back the cultivation rights.

12. Despite its intended objective to redistribute land to peasants, the reform proved not to be always detrimental to the interests of landlords as many of them were able to retain their lands. By the time the land reform was officially completed, 42 percent of all rural households remained out of the land redistribution process (Shakoori, 2001), a concern that was largely overshadowed by the objective of rapidly increasing production through mechanization.

13. Policy-makers of the post 1962 Land Reform period considered the sector as a “primitive” sector and proceeded with its structural transformation with the establishment of two types of farming structures: (i) private capital intensive farms, and (ii) cooperative farms. The State provided generous financial support to the private farms but failed to address the specific needs of cooperatives by limiting its financial backing and directly intervening in the decision making process through its representatives. Level of literacy in the cooperatives was very low and participation from the rural people quasi-inexistent.

14. The elimination of traditional relations of production and their substitution by a dualistic structure (a rich rural landowners and a class of landless and small farmers) combined with an increased political influence of the State in the villages were key factors in shaping the condition of the rural society in the two decades preceding the 1979 Islamic revolution. A widening socio-economic gap between the various rural classes characterized the major developments of rural society in the period following the 1962 Land Reform. There was important rural migration as a result of declining living standards and extensive poverty, and limited growth in terms of output and productivity.

15. Land reform and government policies related to property rights in the post 1979 Revolution era have been shaped as a direct response to changes in land tenure in the pre- and post-1962 Land Reform era. While the principle of sanctity of private ownership in Islamic jurisprudence provided room for a reversal of some of the post 1962 reforms and allowed some large landowners to regain the property they had lost, land expropriation in favor of landless and small farmers was carried under pressure from various radical groups. The Revolutionary Government redistributed large areas of public lands as well as private and semi private large farms among eligible beneficiaries. Around 115,000 landless farmers benefited from the distribution of around 685,000 ha, 80 percent of which was under public ownership (Heydari, 2001). New forms of cooperatives were established to replace the old system of farm corporations with the aim to induce capital-intensive farming within the traditional production organization. The measure rapidly...

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2 Most of the landlords (92 percent) elected to rent their land rather than sell or divide the land (Shakoori, 2001).
showed its limits as farmers lacked motivation and capital and led to a de facto division of cooperative lands among the farmers.

16. The events described above reflect the observed patterns and trends of equity in land ownership over the past four decades. As shown in Figure 1, while the changes embedded in the 1962 Land Reform have contributed to more inequity in land ownership, the post 1979 reforms, while a step in the right direction, have yielded limited improvement over the situation that prevailed before 1962.

**Figure 1: Farm Size Distribution (1960-1995)**

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**AGRICULTURAL POLICIES AND GROWTH AFTER THE 1979 REVOLUTION**

**Overview**

17. Agriculture activities make a substantial contribution to GDP albeit a decreasing role in the Iranian economy: the share declined from 17.6% in 1991 to 15.2% in 2001 with a 17.3% average over the past decade\(^3\). However, it continues to provide almost one quarter of the employment opportunities\(^4\). About 38% of the population resides in rural areas in 2000\(^5\).

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\(^3\) Contribution of agriculture in non-oil GDP has declined from 25.1% in 1991 to 21.8% in 2000 (World Bank Database based on Central Bank information; data for contribution in total GDP are based on information provided by APERI.

\(^4\) 23.3% in 1996, APERI.

\(^5\) World Development Indicators Database.
18. Total area of the country is 165 million ha, of which 51 million is considered potentially arable land. In 2000, agricultural lands occupied 18 million ha, 33% was under irrigation, 28% in rainfed farming, 27% under fallow and 12% in fruit orchards. A large share of irrigated lands is cultivated in cereals and fodder crops (Figure 2).

**Figure 2:** Cereals and fodder cover more than 60% of irrigated lands...

![Cereals and fodder cover more than 60% of irrigated lands](image)

19. There are approximately 3.6 million holdings in Iran. Small holdings of less than 10 ha cover 22% of the total area but represent 85% of the households, medium holdings of 10-50 ha cover 65% and constitute 14% of total households while large holdings cover the remaining 13% of the area and are about 1% of total households. Important changes have occurred over the past four decades in terms of farm size distribution (Figure 3).

**Figure 3:** Trends in Farm Size Distribution in Iran (1960-1995)

![Trends in Farm Size Distribution in Iran (1960-1995)](image)

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6 Statistical Center of Iran: 1993 General Census.
20. *Significant rural development achievements* have been made over the course of the three FYDP. In the 1988-1998 decade alone and before the merging of the Agriculture and Jihad Ministries, 15000 villages saw significant improvements in living conditions. Rural development achievements include:

(a) 2.2 million ha of marginal lands put under cultivation,

(b) 13 billion m³ of additional irrigation water controlled and managed,

(c) 51000 km of graveled rural roads and 11600 km of asphalt rural roads built,

(d) electricity brought to 13700 villages,

(e) drinking water supply systems provided to 17500 villages and full sanitary systems to 15000 villages.

21. *Despite those major rural development efforts, ageing of the agricultural labor force is a serious problem* for the sector in comparison with other economic sectors. The share of workers older than 60 in agriculture has been increasing over time (Figure 4) was found to be around 21% in 1995 compared to 7.5% in the whole economy (Figure 5). Only 4% in industry and 5% in services of the active population is more than 60 years old.

Figure 4: Trends in the Composition of Active Population in Agriculture

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7 FAO, 1998 State of Food and Agriculture, Section on Islamic Republic of Iran.
8 M. Ramezanin, 2002.
22. **Gender composition of the agricultural labor force is difficult to assess**\(^9\). Current official numbers reflect a limited participation of women in agriculture. Only 10% of the labor force is female, a share that has not seen any improvement over the 1976-1996 period. However, other studies report a different account of the role of women in agriculture. It is estimated that approximately 6 million women participate in the agricultural production. Most livestock husbandry activities tend to be predominantly carried by females and in particular those related to milking, milk processing, and livestock feeding, watering and health care.

23. **Poverty in Iran has a strong rural bias, is geographically concentrated in some provinces and has important gender considerations:** Though the share of total poverty declined from 27 to 21 percent to during the 1986-1998 period, the decline was much lower in rural areas (from 35 to 32 percent) than in urban areas\(^10\) (from 21 to 14 percent). Poverty in Iran has a strong rural content. While only 38% of the total population is rural\(^11\), out of approximately 13 million poor people in 1998, 57% lived in rural areas (Table 1). In terms of geographical composition (Table 2), 50% of the rural poor were localized in the Eastern and Western provinces\(^12\). It is in those same regions that the proportion of the rural population living in households with income below the poverty line is the highest (Table 2). Furthermore, out of approximately 790,000 rural households characterized as extremely vulnerable, approximately one third were headed by a female

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\(^9\) Information on this subject is scant and difficult to assess.

\(^{10}\) World Bank (2002) and Salehi-Isfahani and Souri (2002).

\(^{11}\) 1996 Census.

\(^{12}\) Three of the Eastern provinces (Khorasan, Sistan and Kerman) had a combined 2 million poor, 416,000 lived in Golestan, 764,000 in the two Azeri provinces (East and West) and 413,000 in Khuzistan.
member, one third by an unemployed male member, and slightly less than one third by a seasonal worker.\footnote{13 Information based on a study covering the period 1986-1991 and reported in Abkari and Zahedi (1996).}

### Table 1: One out of eight Iranians is a poor person living in a rural area in 1998

<table>
<thead>
<tr>
<th>Numbers (in millions)</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural poor</td>
<td>7.5</td>
</tr>
<tr>
<td>Urban poor</td>
<td>5.6</td>
</tr>
<tr>
<td>Rural non-poor</td>
<td>16.2</td>
</tr>
<tr>
<td>Urban non-poor</td>
<td>34.1</td>
</tr>
<tr>
<td>Total</td>
<td>63.4</td>
</tr>
</tbody>
</table>


### Table 2: Poverty is more pervasive in rural areas

<table>
<thead>
<tr>
<th>Region</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of poor</td>
<td>Share of poor</td>
</tr>
<tr>
<td>Central</td>
<td>1853</td>
<td>33%</td>
</tr>
<tr>
<td>Caspian</td>
<td>452</td>
<td>8%</td>
</tr>
<tr>
<td>Northwest</td>
<td>397</td>
<td>7%</td>
</tr>
<tr>
<td>West</td>
<td>1375</td>
<td>24%</td>
</tr>
<tr>
<td>Persian Gulf</td>
<td>459</td>
<td>8%</td>
</tr>
<tr>
<td>East</td>
<td>1049</td>
<td>19%</td>
</tr>
<tr>
<td>Total</td>
<td>5640</td>
<td></td>
</tr>
</tbody>
</table>


Note: Total number of poor does not add up because of rounding errors; Head count refers to the proportion of the population in each area (urban or rural) living in households with income per person below the poverty line.

### Recent Growth Performance of Agriculture GDP

Despite an annual growth of about 4.9% in the 1990s, the importance of the sector has been declining regardless of the severe consecutive droughts in 1999-2001. The share of agriculture in GDP has been on a downward trend since the end of the Iraq-Iran War (Figure 7) with no indication of a trend reversal during the implementation period of the 3\textsuperscript{rd} FYDP.
25. **The crop sector dominates agricultural GDP**... Field crops and horticulture are the largest contributor to agricultural GDP, and the share of the sub-sector increased from 62 percent in 1989 to 66.5 percent in 1998. Livestock production has been declining from 35 percent in 1989 to 31 percent of agricultural GDP in 1998. The contribution of both forestry and fishery activities remained unchanged at around 1-1.5 percent during the same period.

26. **But important changes and key qualitative developments have characterized agricultural production with the implementation of the 1st FYDP (1990/91-1994/95).** Within the crop sub-sector, growth rates in the production of vegetables and fruits have been substantially higher than those of field crops such as wheat, barley, rice, cotton, sugar beets and pulses. On the animal production side, poultry meat production has increased at rates much higher than those found for red meat. Overall, those resulting
changes in production have been a direct reflection of either agro-ecological factors (e.g., droughts, irrigation potential) or changes in relative prices of output and government support policies with incidentally the lowest rates of growth for those commodities where price support is provided.

27. The implementation of the 3rd FYDP began in March 2000. The plan aims to attain growth of about 6 percent per year by 2005 in the agricultural sector, through a combination of measures including structural, institutional, and price incentive reforms (Box 1). Agricultural and trade policies aim at protecting farmers from foreign competition, and also at increasing exports. The Plan attempts to combine an import substitution strategy with an export promotion approach to development. In practice, priority is to increasing the production of major crops and support agriculture with limited regard to comparative advantage and the strengthening of agriculture as a dynamic export sector with its high potential in horticulture crops.

Figure 8: Agricultural Production Indices (100 = 1985)

Box 1: Strategic Agricultural Priorities in the 3rd FYDP

The focus of the Policies and strategies in the 3rd FYDP is on:
- Emphasis on adopting comprehensive and holistic approaches, decentralization, and reducing government intervention, in order to improve the institutional structure of agriculture and water;
- Conservation, rehabilitation, development and optimum utilization of the resource base in order to achieve sustainable development;
- Optimizing the use of border rivers and other shared bodies;
- Human resources development and improving the efficiency of production factors in water and agriculture;
- Promoting investment security and expansion of investment in agriculture;
- Transparency and stability in supportive policies for agriculture and water;
- Reforming farming systems to benefit from the economy of scale;
- Expansion of job opportunities through diversification of agricultural activities;
- Placing priority on research, education and extension, as well as developing information systems;
- Promotion of agricultural exports.

28. **With this kind of growth, sustainability is a major challenge.** These growth developments and changes in the composition of agricultural output are being accompanied by increasing pressure on the natural resources\(^{14}\) with:

(a) Deforestation and erosion reaching alarming proportions,

(b) Overgrazed rangeland systems supporting too many animals (only 15 percent of rangeland considered today in good condition),

(c) Millions of hectares lost to overgrazing and ploughing for expansion of rainfed agriculture,

(d) Water erosion and wind erosion at a critical level for more than 50 percent of the arable land,

(e) A critical lowering of the water tables with the multiplication of wells and pumping stations.

29. The government has started recognizing the environmental sustainability implications of past and current agricultural performance and has included in the 3\(^{rd}\) FYDP an institutional framework for environmental protection with its National Strategy for the Environment and Sustainable Development and the Organization for the Preservation of the Environment. Limited information is available on the concrete steps taken to implement the strategy.

**AGRICULTURAL POLICY AGENDA**

30. Having reviewed and analyzed the main agricultural development outcomes in the past, this section focuses on key issues in Iran’s agricultural policy agenda to achieve the goals intended in its agricultural sector strategy. The agricultural policy assessment is related to the country’s overall development objectives, strategy and priorities as reported in the 3\(^{rd}\) FYDP and reflect the ongoing discussions on policy issues and options in the country.

31. The approach taken while assessing agricultural and trade policies is selective and strategic, with the intent to inform rather than prescribing particular courses of actions on the GOI side. The policy assessment focuses on those policies that are judged to be important to the desired objectives outlined in the 3\(^{rd}\) FYDP. The specific policy areas covered in the discussion include the following elements:

(a) Agricultural trade policies;

(b) Output price support and input subsidies, and

(c) Public expenditures in agriculture.

\(^{14}\) FAO, 1999 State of Food and Agriculture.
32. Policy in the sector has been driven largely by the need to rely on domestic production to meet the needs of a rapidly increasing demand. Due to geopolitical considerations, Iran places emphasis on maintaining high levels of self-sufficiency in order to provide for food and security, ensuring farmers a decent livelihood and relying on imports from developing countries. Thus, in addition to price supports and input subsidies to ensure remunerative prices for farmers and reduced costs of production, the Government has put in place procurement and distribution measures to ensure supply of essential foods to the population through a public distribution system. Import and export controls have been used largely to ensure that domestic demand is met.

33. Few changes were made to these controls until recently with the implementation of the 3rd FYDP. The changes include:

   (a) the removal of quantitative restrictions and the tariffication of non-tariff barriers;
   
   (b) lifting the sugar monopoly; and
   
   (c) allowing the private sector to purchase, sell, produce, distribute and make imports with a few exceptions such as wheat.

**COMMODITY TRADE POLICY**

**Import policy**

34. Agricultural products constitute 15 percent of the country's total imports, in 2001/02. During 1996/97 to 2000/01, agricultural imports were in the range of 17-22 percent of total merchandise imports. In 2000/01, agricultural imports reached 4500 billion IR representing roughly 6 percent of agricultural GDP. Iran’s agricultural imports are mainly cereals (55 percent), vegetable oils and oilseeds (19 percent), prepared foods (19 percent) and animal products (7 percent). Canada, Australia, Argentina and the EU have provided most of the wheat imported in the past decade.

35. The agricultural sector like other sector of the economy has been protected from foreign competition by tariffs and non-tariff barriers including import licensing, and marketing restrictions. Imports have been controlled/regulated, to protect farmers and local agro-industrial industries.

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15 Over the period 1997-2001, the food self-sufficiency rates (domestic production compared with domestic consumption) for primary food items were as follows. Iran is almost self-sufficient in terms of tree nuts, vegetables, eggs, starchy roots, milk, pulses and fruits. The rates for meat and animal fats, were 96 percent and 83 percent, respectively. Cereals (64 percent) and oil crops (57 percent) have medium levels. Iran on the other hand depends for more than half of its consumption needs on imports in sugar (46 percent and vegetable oils (13 percent). Computations were based on production and import data from FAO food balance sheets.

16 Iranmania news.
36. The government has made significant progress in implementing trade reforms and intends to do more according to the ambitious plan outlined in the 3rd FYDP\textsuperscript{17}. Removing non-tariffs and gradually reducing tariffs is the stated objective of current trade policy. According to some estimates, the unweighted economy-wide average tariff equivalent was about 30\% in 2000\textsuperscript{18}. While in other developing countries agricultural tariffs tend to be higher than industrial tariffs, the average unweighted agricultural tariffs in 2002 was around 23.5\%\textsuperscript{19}. Iran’s agricultural tariff schedule exhibits a wide dispersion with 47\% of the tariff lines below 15\%, 16\% in the 15-25\% range, and 37\% higher than 25\%. The highest tariffs are in beverages (120\%) and processed food items (45-60\%), processed vegetable oils and sugar (40-60\%) while the lowest tariffs are in cereals (1-6\%), live animals (1\%), meat (1-15\%), oilseeds (1-10\%) and dairy (3-24\%). Table 3 shows the average tariff for major commodity groupings.

**Table 3: Average Tariff for Selected Commodity Groupings (2002)**

<table>
<thead>
<tr>
<th>Commodity Group</th>
<th>Tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverages</td>
<td>97.9</td>
</tr>
<tr>
<td>Vegetables and fruits preparations</td>
<td>50.1</td>
</tr>
<tr>
<td>Meat preparations</td>
<td>45.2</td>
</tr>
<tr>
<td>Cereal preparations</td>
<td>44.5</td>
</tr>
<tr>
<td>Fruits</td>
<td>43.1</td>
</tr>
<tr>
<td>Sugar</td>
<td>32.2</td>
</tr>
<tr>
<td>Products of the milling industry</td>
<td>23.4</td>
</tr>
<tr>
<td>Vegetable products</td>
<td>22.5</td>
</tr>
<tr>
<td>Cotton</td>
<td>19.8</td>
</tr>
<tr>
<td>Fats and oils</td>
<td>19.7</td>
</tr>
<tr>
<td>Live plants and flowers</td>
<td>18.5</td>
</tr>
<tr>
<td>Vegetables</td>
<td>16.0</td>
</tr>
<tr>
<td>Dairy</td>
<td>16.0</td>
</tr>
<tr>
<td>Coffee and tea</td>
<td>14.5</td>
</tr>
<tr>
<td>Meat</td>
<td>14.5</td>
</tr>
<tr>
<td>Oilseeds</td>
<td>10.4</td>
</tr>
<tr>
<td>Live animals</td>
<td>10.3</td>
</tr>
<tr>
<td>Tobacco</td>
<td>5.0</td>
</tr>
<tr>
<td>Cereals</td>
<td>3.9</td>
</tr>
<tr>
<td>Hides and leather</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Source: staff computations based on IRICA tariff schedule for 2003.

\textsuperscript{17} World Bank (2001).

\textsuperscript{18} For more details on overall import policy, see World Bank (2001) and Jensen and Tarr (2002).

\textsuperscript{19} The tariff schedule used for the analysis reported in this report was downloaded from the Iranian Customs Agency web site http://www.irica.org/L/HomeIE.htm on January 15, 2003. Agricultural tariffs are those tariffs in chapters 01-24 plus selected tariffs under chapters 29-53 in a way consistent with the definition of agricultural tariffs in WTO though the fish and seafood group is included.
37. Compared to MENA countries which are members of WTO, Iran stands in mid-way between the countries whose schedules exhibit a high average rate such as Morocco and Tunisia, and those with low tariffs such as Egypt and Jordan. The average tariff in Iran remains higher than that of developing countries and industrialized countries (Figure 9).

![Figure 9: Average Applied Tariffs in Agricultural Commodities](image)

**Import restrictions**

38. Agricultural import restrictions have been an important component of Iran’s trade policy. Recent trade liberalization reforms have included replacing non-tariff barriers with tariffs adopting a negative list of imports\(^{20}\). All imports of agricultural goods are subject to the agreement of the Ministry of Commerce for recording purposes. Imports of cotton in its various forms are also subject to the agreement of the Ministry of Jihad-Agriculture. Prohibitions apply not only to imports of alcoholic beverages and pig meat products but also to other food items such as jams and marmalades, fruit juices and mineral water\(^{21}\).

**Export policy**

**Overview**

39. Agricultural products as a whole have been an important contributor to the country’s non-oil exports. The share of agricultural products in total non-energy export earnings though substantial tends to be subject to high yearly fluctuations. In 2000-01, this share was only 39% while agricultural exports covered around 53% in 1996/97. In this broad category of agricultural and traditional products, carpets and fresh and dried fruits (mainly pistachios and raisins) covered respectively 20% and 15% of total exports\(^{22}\). Major agriculture exports include dried nuts, animal products, seafood

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\(^{20}\) IMF, 2002 (Article IV, Staff Report 02/211).

\(^{21}\) IRI Customs.

\(^{22}\) CBI, Annual Report 2000-01.
products and horticulture (Figure 10). Over the period 1990/91 to 2001/02, agricultural exports have increased at about 4.4 percent annually. However, agricultural exports as a share of total non-oil exports have been decreasing in recent years, from 40 percent in 1990-91 to some 22 percent in 2001/02 valued at around US$ 900 million. Middle Eastern and European markets are the major destinations of Iranian products.

Figure 10: Main Exports of Agricultural Commodities

40. The agricultural export potential has not been fully tapped considering Iran's fourth place in terms of diversity with 15 types of horticultural products in the ranking of countries with the highest number of main products produced, right after China (17 products), the United States and Turkey (both with 16 products). Iran is the world first producer of pistachios and dates, the second in cucumber, apricot and walnut, the third in muskmelon, cantaloupe, melon and raisins, the fourth in watermelon, almond and tea, and the fifth in lemon. It ranks between sixth and tenth in onions, apples, tangerine, hazelnut, grapes, oranges, tomato and lentils.

41. Iran's agricultural exports face several constraints that arise from conflicting domestic policies relating to production, storage, distribution, food security, and pricing concerns. Constant changes in regulations in exportables such as fruits and vegetables, and inadequate sanitary and phyto-sanitary measures and standards, make Iranian exports very unpredictable and unreliable in the international market. There is also a lack of adequate post-harvest infrastructure like refrigerated transport, storage, and packaging, and of adequate facilities at airports, sea ports, etc. Numerous cases of merchandise being turned back or stopped from being shipped because of spoilage and other reasons illustrates the type of problems facing agricultural exports. For example, the European Union imposed a ban on Iranian pistachios in 2002 following the discovery of high levels of aflatoxin. Iranian authorities have challenged the ban and claim they are being held to higher standards than other pistachio exporting countries such as China or India. Iran exported 110,000 tons of pistachios to the EU in 2001, worth $385 million.23

Export restrictions and subsidies

42. Exports of some agricultural goods have been restricted through seasonal prohibitions, to prevent shortages of fruits. These measures are put in place with a view to ensuring an "adequate" supply of these commodities to the domestic consumers at "reasonable" prices. This type of restrictions while "effective" in stabilizing the local market are very disruptive on the export side.

43. Exports of raisin, tomato paste, tea, eggs and poultry, and shrimp are officially subsidized but cumbersome procedure have prevented exporters from benefiting from this kind of support. Shrimp producers faced difficulties with 60 percent of their product unsold in the last quarter of 2001 out of a total production of 6000 tons. With the cooperation of Bank Keshawarzi, the government gave subsidies in the amount of 37.5 cents for every dollar of shrimp exports 24.

Future framework for policies affecting trade in agricultural goods

44. Despite the important reforms conducted as part of the recent Government's trade liberalization agenda, important areas where additional substantial steps to use market mechanisms as a means of regulating foreign trade remain. Future agricultural negotiations in the context of Iran's highly sought WTO membership and a Trade and Co-operation Agreement with the EU, Iran's main trading partner, will reveal the extent to which agricultural trade liberalization could play a significant role in achieving faster growth through trade. Implementing a successful non-oil trade intensification and a shift from import substitution to export-oriented activities will require a new set of policies affecting agricultural trade beyond the tariffication process carried recently. There is, however, limited information and research on the framework for making and enforcing policies affecting agricultural trade. Important insights could be gained by looking into more details at the following issues:

(a) Import regulation (including licensing procedures, rules of origin, customs valuation, pre-shipment inspection, safeguard regime, etc...);

(b) Export regulation (including export financing, subsidy and promotion policies, export performance requirements, credit guarantees, import duty drawback schemes);

(c) Technical regulations and standards, including measures taken at the border with respect to imports;

(d) Sanitary and phyto-sanitary measures;

(e) State-trading enterprises and para-statals involved in import/export;

(f) Government procurement practices specific to food products; and

(g) Plant variety protection.

DOMESTIC POLICIES

45. All three FYDP sought self-sufficiency in foodstuffs as part of an overall goal of decreased economic dependence on the rest of the world. Higher government subsidies for grain and other staples and expanded short-term credit and tax exemptions for farmers complying with government quotas are intended to promote self-sufficiency. Domestic support in Iran continues to be provided mainly through guaranteed prices for final goods and subsidized inputs.

Support to agricultural production

46. Basic staples in Iran are subject to guaranteed support prices according to the Act of Guaranteed Purchase of Staples in 1989 by the Parliament. In this Act, the government is vested with a mandate to purchase annual crops by farmers, including wheat, rice, barley, corn, sugar beet, cotton, oilseeds, tea, potatoes, onions and food legumes. The Act was amended in 1993 to include other products such as raisins, dates, dried fruits, citrus, apples, pomegranates and silk cocoons. A guaranteed price system has also been extended to cotton, sunflower and soybean but on a temporary basis. The stated objectives of the Act are to:

(a) support the production of strategic crops;
(b) create a balance with other commodities;
(c) control the loss of agricultural produce; and
(d) safeguard farmers against losses.

47. In preparation for future consideration for accession to WTO, an analysis for the determination of "hypothetical" commitments to reduce support to agriculture has been made by APERI. Iran’s Aggregate Measurement of Support (AMS) is reported in Table 4 for selected products having some form of administered price operating. With the exception of pistachios and rice, all other major commodities had a product-specific AMS above the 10% de minimis level allowed for not reporting the support. However, support to commodities with high AMS levels such as wheat, grapes and maize has been going down.

Table 4: Product-Specific Aggregate Measure of Support (percent of production value)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>22.1</td>
<td>18.3</td>
<td>15.7</td>
<td>18.7</td>
</tr>
<tr>
<td>Grapes</td>
<td>17.8</td>
<td>17.0</td>
<td>20.0</td>
<td>18.3</td>
</tr>
<tr>
<td>Maize</td>
<td>17.0</td>
<td>16.9</td>
<td>16.6</td>
<td>16.8</td>
</tr>
<tr>
<td>Dates</td>
<td>17.2</td>
<td>13.4</td>
<td>15.4</td>
<td>15.3</td>
</tr>
<tr>
<td>Sugar beet</td>
<td>13.3</td>
<td>11.7</td>
<td>11.2</td>
<td>12.1</td>
</tr>
<tr>
<td>Pistachios</td>
<td>5.9</td>
<td>12.7</td>
<td>6.9</td>
<td>8.5</td>
</tr>
<tr>
<td>Oranges</td>
<td>9.1</td>
<td>7.9</td>
<td>7.7</td>
<td>8.2</td>
</tr>
<tr>
<td>Rice</td>
<td>6.5</td>
<td>6.2</td>
<td>5.6</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Notes: Computations are based on the open market exchange rate.

25 APERI (2003): WTO Accession and Iran’s Agriculture (unpublished and unofficial manuscript provided by Dr. Gilanpour in February 2003).
48. The responsibility for purchasing field and horticulture crops lies with the Central Organization of Rural Cooperatives (CORC). Guaranteed Support Prices (GSP) for wheat, rice, oil seeds, etc. are announced by the Consumer and Producer Protection Organization (CPPO) after taking into account recommendations made by APERI. The price of wheat and rice are determined on the basis of cost of production and what is considered as an appropriate profit margin. While the Government has a monopsony in wheat, farmers are free to sell other commodities such as barley, potatoes, onions, raisin, dates and corn either to CORC or to private traders in the event that they receive prices higher than the GSPs.

Support to consumers

49. Wheat, rice, sugar, and edible oils are procured and/or processed by the State and provided to consumers through a network of outlets. The system is operated under the responsibility of the Consumer and Producer Protection Organization (CPPO). The government bears the responsibility for procurement, storage, transportation, bulk allocation and distribution to consumers of basic commodities at subsidized prices.

50. For 1999, the food subsidy was estimated at approximately 7090 billion rials, of which 5200 billion accounted for wheat and 935 billion for rice, sugar, dairy and milk. The unification of the exchange rate regime in March 2002 has affected the direct and indirect costs of these subsidies. As a response to a mounting dissatisfaction among policy-makers with the financial and economic transparency of a system combining subsidies, price controls and rationing, the government has setup the Committee for Re-orienting Subsidies to investigate ways of compensating consumers for the removal of consumption subsidies. A more detailed account of the consumer subsidization system is provided in the 2003 Country Economic Memorandum.

Support to inputs

51. Agricultural policy has focused on securing increased production through subsidies of inputs such as fertilizer, herbicides, pesticides, seeds and animal vaccines. The Agricultural Support Services Company, established in 1994 is an SOE responsible for procurement and distribution of subsidized fertilizers, pesticides and improved seeds through local branches of CORC (Figure 11). For fertilizers and micronutrients, farmers pay only 45 percent of the cost paid by ASSC. In terms of procurement sources, ASSC covers 70 percent of its total fertilizer purchases from the state-owned National Petrochemicals Company (NPC), 10 percent from the private sector with the rest being imported. The share of imports is expected to decrease as the private sector expands its activities in this area. For pesticides and herbicides, only 20 percent of the needs are imported in a final form. The rest is manufactured by the private sector from either domestic or imported raw materials. ASSC subsidizes 65 percent of the total cost of this type of input. ASSC intervenes also in the procurement of improved seeds for wheat.

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26 In calculating the GSPs, CPPO considers a number of factors, including input/output price parity, trends in market prices, demand and supply, cost of production.

barley and High Yielding Variety corn through a network of 4000 contractors. Only wheat seeds are substantially subsidized with farmers paying about 47 percent of the cost.

52. Over the period 1991-1999, the share of subsidies on chemical inputs and improved seeds has was around 2 percent of value added and 6 percent of intermediate consumption in the field crop and horticulture sub-sector. As shown in Figure 11, the share of subsidies has been declining since 1996. Because of organizational problems in the sector and bottlenecks in procurement and distribution, the authorities are considering several steps in the reform of the sector, including the elimination of the ASSC monopoly. The Government wishes to move gradually towards a more deregulated regime in input provision while emphasizing the need to continue supporting farmers. A study is under way with the aim of providing various options for the privatization of input delivery systems, and increasing the role of the private sector and the degree of coordination with ASSC.

Figure 11: Subsidies for inputs stable in value but declining in importance

Support to credit

53. To ensure an adequate flow of credit, another important input to the sector, 25 percent of all bank credits of all commercial banks have been earmarked for agriculture and water in the 3rd FYDP. The Government has made a clear policy choice to subsidize agricultural lending to promote the sector and raise the standard of living of farmers and inhabitants of rural areas.

54. Credit for agriculture is channeled at below market interest rates, through Bank Keshawarzi, the major supplier of rural credit. The Bank has disbursed in 2000-2001 approximately 1 million credit facilities\(^{28}\) amounting to 10.7 trillion rials (14% of agricultural GDP for the same period). Of this amount, 34% was in the form of payments for special projects approved and provided for by the government. About two-thirds of the total credit to the sector is granted to farmers engaged in field crops and horticulture

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With a growing recognition of the importance of agri-business activities to promote development in the sector, there has been an increasing trend in the facilities offered to agricultural related industries and services (up to 14% of new investments). Debt problems, especially those of large projects, have been a major issue for the Bank as an average of about only two thirds of debts have been collected in 1990-2000 and 2000-2001 representing approximately 80% of the total amounts due.

Table 5: Bank Keshawarzi's Disbursement Share of Credit by Activity (2000-2001)

<table>
<thead>
<tr>
<th>Activity</th>
<th>New Investment (%)</th>
<th>Working Capital (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crops and orchards</td>
<td>73.2</td>
<td>34.1</td>
<td>42.0</td>
</tr>
<tr>
<td>Animal husbandry</td>
<td>5.9</td>
<td>27.2</td>
<td>22.9</td>
</tr>
<tr>
<td>Others</td>
<td>2.5</td>
<td>25.5</td>
<td>20.8</td>
</tr>
<tr>
<td>Agribusiness</td>
<td>14.9</td>
<td>11.0</td>
<td>11.8</td>
</tr>
<tr>
<td>Handicrafts and carpets</td>
<td>1.6</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Fisheries</td>
<td>0.7</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Forests and pastures</td>
<td>1.2</td>
<td>0.0</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total (billion rials)</strong></td>
<td><strong>1423</strong></td>
<td><strong>5616</strong></td>
<td><strong>7039</strong></td>
</tr>
</tbody>
</table>


Agricultural loans are subsidized with interest rates varying between 4 and 12 percent. Considering an average inflation rate of 15 percent in recent years, real interest rates are negative. Credits have been used in fact as an income transfer policy. However, the high transaction costs associated with the loan application procedure have acted as a deterrent for farmers in need of financial resources and pushed them to rely on informal sources of credit with much higher interest rates.

PUBLIC EXPENDITURES IN AGRICULTURE, RURAL DEVELOPMENT AND WATER

Government spending in Iran is estimated at as much as 42% of GDP though the government budget itself is only 25% of GDP. This is related to the large size of implicit revenues and expenditures as a result of the dual exchange rate and non-market transfer pricing of petroleum products (World Bank, 2003). Public expenditures in Iran are classified broadly under four broad groups: general services, national defense, social services and economic services. Within each group, expenditures are distinguished according to the type of use, current or capital. Average capital spending, which was about one fourth of total expenditures, ranged from 5-7% in the late 1990's but is expected to have doubled for the fiscal year 2002-2003.


30 In Iran, current expenditures cover compensation of employees, use of goods and services, expenditures related to assets and properties, subsidies, grants, social security benefits and other expenses. Capital expenditures cover building and property, machinery and equipment, other fixed assets, use of inventories, precious items, land and other non-produced assets (PER Report, 2003).
57. Given the objectives set in its past and current development plans, it is clear that the government of Iran has been confronted with issues of strategic importance with respect to the selection of specific projects and in the determination of expenditures priorities. While issues of (i) internal efficiency regarding the mix of outlays within sectors and (ii) external efficiency measured by the extent to which sectoral goals have been achieved are crucial in the analysis of public expenditures, they are beyond the scope of this report and are left for future Public Expenditures Reviews to tackle. However, this review of agricultural policy will try to provide next some key facts about the magnitude, content and trends of spending in areas of direct relevance to agricultural and rural development.

58. Total spending on agriculture does not necessarily match the relative importance of the sector in the economy. Total spending on agriculture taken in a broader sense as including expenditures on rural development, agricultural and natural resources, and water resources averaged 7.3% of agricultural GDP over 1989-2001. Recent spending in agriculture 7.0% in 1999 and 7.7% in 2000 have been below the average annual spending in the 2nd FYDP with 8.4% (Figure 12). This is substantially less than the average proportion of spending to sector GDP found in a sample of developing countries. Agriculture related expenditures in Iran have averaged around 7.1% of total government expenditures over the period 1988-2000. An upward trend in the share over the course of the 1st FYDP (from 6.8% in the first year to 8.2% in the last year) was followed by a sharp decline over the 2nd FYDP (from 8.9% in 1995 to 5.9% in 1999). The first year of the 3rd FYDP show a slight increase with 6.2% of the budget allocated to agriculture related activities. Taking agricultural expenditures in a narrower sense by limiting them to agricultural and natural resources, Iran allocated 3% of its agricultural GDP to spending on the sector over 1988-2000. This share has been declining substantially over the 2nd FYDP with no evidence of reversal in the trend in the 3rd FYDP (2.5% in 2000).

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31 The analysis in this section is based on data collected from various issues of Iran’s Statistical Yearbooks and compiled from the database on public expenditures, maintained by the Iran Public Expenditures Management Team in MNSED (World Bank).

32 A further breakdown of these three groups was not possible given the current data availability.

33 In a sample of 26 developing countries, one group (countries with structural adjustment programs) spent on average 9.4% of agricultural GDP on agriculture, while another group (countries with no adjustment loans) spent an average of 15.7% (Van Blarcom, Knudsen and Nash, 1993).
Real spending has been declining in recent years. Patterns of spending in the sector have not necessarily matched the declared and continued emphasis on agriculture and rural development in the three development plans (1990-2004). After an initial period of increasing expenditures in real terms, spending in agriculture has slowed down in the 2nd FYDP and has been on a downward trend since 1995. In sharp contrast with the agriculture spending, expenditures in the rest of the economy have been on the rise (Figure 13).
60. **The share of spending on water resources and rural development is on the rise reflecting a relatively lower emphasis on agricultural and natural resources:** Expenditures on agricultural and natural resources have represented around 45% of the total over the period 1988-2000 while water resources have taken 40% of the share. There have been some substantial changes in the composition with rural development expenditures increasing significantly from an average of 6.4% in the 1\textsuperscript{st} FYDP to 27.5% in the 2\textsuperscript{nd} FYDP, a change that has affected the share of agricultural and natural resources more than that of water resources. The start of the 3\textsuperscript{rd} FYDP saw water resources taking almost half of all the spending while expenditures on agricultural and natural resources had one of their lowest share (32%) since 1988 (Figure 14).

*Figure 14: A shift in spending towards water resources and rural development*

61. **High spending on capital:** Current spending as a share of total spending in agriculture averaged 24% over the period 1988-2000 (Figure 15). The allocation current/capital in agriculture is in sharp contrast with the average capital spending for the whole economy with overall development activities having taken about one fourth of total budgetary spending\textsuperscript{34}. Combined capital spending on agriculture, rural development and water resources has ranged from 3% to 10% of agricultural GDP with an average of 5.5% over the period 1988-2000. This share of agricultural capital spending showed more variability than total capital spending as a percent of GDP, which ranged from 5% to 7%.

62. ...the importance of current expenditures varied significantly according to the area of expenditures. While the share of current expenditures in total rural development expenditures averaged 20% over 1988-2000, it reached a high of 53% in the course of the 1st FYDP before dropping significantly in the 2nd FYDP. Current spending on agriculture and natural resources averaged 43% over 1988-2000 and fluctuated between 30-60% to start the 3rd FYDP with around 40%. Current spending in water resources has been consistently below 2.5% as the bulk of expenditures in water resources goes to infrastructure.  

63. The decomposition of current and capital expenditures according to the three areas of spending show evidence of a shift in emphasis operated in the various development plans. Though most of the current expenditures have been directed towards agricultural and natural resources, there has been a more significant increase in the spending on rural development during the 2nd FYDP with the trend pursued in the 3rd FYDP (Figure 16). Capital expenditures on the other hand have been shifted away from agricultural and natural resources with the largest share going to the development of water resources. Rural development expenditures on capital while insignificant before and during the implementation of the 1st FYDP saw a substantial increase in the 2nd FYDP to reach more than a third of the total before declining in 2000 with only 18% (Figure 17).
Figure 16: Current Expenditures on Natural Resources dominate Current Spending...

Figure 17: Increasing Emphasis on Water Resources and Rural Development in Investment
Incentives

64. Having taken stock of the current policy environment and its recent evolution, this section examines the state of agricultural incentives in Iran. It is intended to update knowledge and generate discussion to help develop a better understanding on the appropriate mix of incentives that will raise agricultural growth without jeopardizing poverty alleviation efforts or environmental sustainability and without requiring substantial budgetary outlays. Quantitative analyses of the incentive framework and comparative advantage patterns for agriculture focusing on price and trade related interventions has been carried out by various Iranian researchers. Though these studies span a period during which macroeconomic and pricing policies have changed, the country-wide and regional analyses conducted contribute to a better understanding of the current agricultural support system in Iran. These analyses rely on the calculation of standard indicators of protection and taxation such as the nominal and effective protection coefficients (NPC and EPC), product-based specific competitiveness using a Domestic Resource Cost (DRC) approach as well as Revealed Comparative Advantage (RCA) indices.

Protection and Taxation Patterns

65. Based on various price indicators, an attempt is made first to determine the efficiency of the various price interventions undertaken by the Government in key commodity markets. Table 6 shows the levels of protection/taxation in selected markets based on available NPC and EPC\textsuperscript{35}. In the case of the most important commodity, current work being finalized by FAO and the Ministry of Agriculture and Jihad confirm the implicit taxation of wheat found in past studies. Iran seems to exhibit an unusual pattern of government intervention in agricultural markets where import substituting activities are taxed and export oriented activities are protected.

\textsuperscript{35} NPC is a simple and easy indicator of price distortions. It serves as a summary indicator for all taxation and subsidy interventions, causing domestic and world prices to differ from each other; if NPC > 1, the actual market price is above the social price, implying an implicit protection of producers. EPC is an extension to the nominal protection context and includes the combined effects of price distortions on output and input markets; if EPC > 1, it implies a direct protection of producers. It is important to note that these two coefficient, when greater than one, refer to an implicit subsidy and do not necessarily imply explicit government expenditures. A caution should be made, however, about these indicators given their generally accepted weaknesses.
Comparative Advantage Patterns

66. The analysis of comparative advantage patterns (See Annex 1 for a full list of commodity and area specific DRC indicators) reveals significant differences within and across commodity groups on a national basis. In cereals, Iran tends to have a comparative advantage in wheat and maize but not in barley and rice. For industrial field crops, no comparative advantage is found in sugar beet while cotton makes a good use of resources. In fruits and vegetables, there are patterns of comparative advantage for walnuts but not for apples or potatoes. However, these aggregate levels of comparative advantage masks substantial differences when the analysis is carried at a more disaggregated level to cover production patterns at the province level. This comes at no surprise, in light of the presence of various agro-ecological systems in the country. For example, while no comparative advantage was found at the national level for several commodities, Fars Province has a significant comparative advantage in rice, wheat and potatoes, Hormozgan in citrus and West Azerbaijan in apples.

National Export Performance

67. Agricultural export performance is the result of agricultural trade and pricing policies set in Iran, domestic supply considerations as well as the dynamics of international demand. A more active participation in international trade has become a key priority in Iran as evidenced by the wide-ranging program of economic reforms included in the 3rd FYDP (e.g. Article 109-Section F on fruit export promotion, exemption of tariffs and duties on intermediate products used in the export sectors, exemption from taxes and levies and permits for export of goods ). A number of important points can be drawn from trends and patterns of Revealed Comparative Advantage (RCA) using the ratio of Iran’s exports of a particular agricultural good to the world’s exports of that good divided by Iran’s share of exports in total world exports. Based on work conducted by Salami and Pishbahar (2001) for the period 1989-2000, three distinct groups of commodities appear:

(a) Pistachios, almonds and dates have traditionally had high levels of revealed comparative advantage (RCA > 30) but with declining trends indicating a worsening performance;
(b) Walnuts, cotton, potatoes and tomatoes, initially a set of activities absent from the export scene have moved quickly in recent years to exhibit substantial patterns of comparative advantage (on average $1 < \text{RCA} < 3$);

(c) Apples and onions have maintained some stability in terms of comparative advantage and do not show signs of a declining trend (Average RCA of 3).

68. Gauging the effectiveness of national and sectoral agricultural trade performance and identifying priority products for trade development can be done also by comparing Iranian national export change in world market share to the growth of international demand. Market analysis conducted by the International Trade Center\textsuperscript{36} (ITC) show distinct patterns in terms of performance for the period 1997-2000. Grapes (fresh or dried) and spices (ginger, saffron and turmeric) are winners in growth markets. These “champion” commodities have performed very well and are considered dynamic products for which Iran has outperformed world market growth and increased its share in world imports. On the other hand, nuts and vegetables (dried or shelled) are considered achievers in adversity in the sense that they are winners in declining markets. From a trade promotion perspective, these two types of performances require different strategies. For the champions, promotional efforts should be directing at increasing the supply capacity of the country whereas a niche-marketing strategy is required to encourage achievers in adversity cope with the overall decline in these markets.

**Agricultural Terms of Trade**

69. Unfavourable terms of trade have characterized those commodities with Government support. Recent increases in prices of several commodities of economic importance to the country must be seen in the context of agricultural and non-agricultural price trends. The 1990s had seen a *steady deterioration in the terms of trade of supported field crops* (e.g. wheat, barley, maize, cotton, potatoes, sunflower and chickpeas). By 2000 the net barter terms of trade (or real prices) of these commodities had fallen to less than 60 to 85 percent of the levels of the early 1990s\textsuperscript{37} (Table 7).

**Table 7: Declining Terms of Trade for Commodities with Guaranteed Prices...**

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Agricultural Terms of Trade (1990/91 = 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickpeas</td>
<td>0.41</td>
</tr>
<tr>
<td>Potatoes</td>
<td>0.57</td>
</tr>
<tr>
<td>Sunflower</td>
<td>0.66</td>
</tr>
<tr>
<td>Barley</td>
<td>0.75</td>
</tr>
<tr>
<td>Maize</td>
<td>0.76</td>
</tr>
<tr>
<td>Cotton</td>
<td>0.79</td>
</tr>
<tr>
<td>Wheat</td>
<td>0.85</td>
</tr>
<tr>
<td>Soybeans</td>
<td>1.88</td>
</tr>
</tbody>
</table>

Source: APERI, 2002.
Note: Indicator is an average over the period 1998-99-2000/01.

\textsuperscript{36} See detailed analysis reported by ITC at http://www.intracen.org/countries/toolpd01/irn_5.pdf.
\textsuperscript{37} APERI, 2002.
70. Removing policies that distort agricultural incentives could yield significant improvements in efficiency and investment to facilitate further growth in some markets. A stock-taking of current policies in wheat and milk markets suggest a significant space to improve agricultural incentives and efficiency. A study on the welfare effects of market liberalization in wheat has shown that a move away from guaranteed prices and government monopoly/monopsony in various segments of the marketing chain could boost domestic wheat production and improve national welfare (Bakhshoodeh and Najafi, 2002). Wheat producers are expected to gain from the market liberalization process while consumers loose and in particular the low income segment of the population. Important savings in the government budget are also expected. Another study looking at the effects of market liberalization in rice yielded a positive outcome at the national intervention level though this time consumers are the main beneficiaries of the removal of distortions generated by government (Bakhshoodeh and Soltani, 2000).

**Production**

71. A decomposition of growth trends in crop production reveals that most of the increase in value had its origin in the support policies adopted over the past two decades. Total value of crops in the country increased by 11.5% annually (Salami and Eshrarghi, 2002). Three quarters of the increase is attributable to increase in prices, 6 percent to increases in area and 13 percent to increases in yields and the rest to changes in cropping patterns (Table 8). In terms of geographical differences, the contribution of expansion in area has been the highest in the Eastern Provinces while the highest contribution of yields to crop value is found in the Persian Gulf Provinces (Table 8).

<table>
<thead>
<tr>
<th>Province</th>
<th>Contribution to Total Growth (percent)</th>
<th>Total increase in Value (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area</td>
<td>Prices</td>
</tr>
<tr>
<td>Fars</td>
<td>7</td>
<td>74</td>
</tr>
<tr>
<td>Khorasan</td>
<td>7</td>
<td>79</td>
</tr>
<tr>
<td>Central</td>
<td>7</td>
<td>74</td>
</tr>
<tr>
<td>Northwest</td>
<td>5</td>
<td>77</td>
</tr>
<tr>
<td>Caspian</td>
<td>6</td>
<td>80</td>
</tr>
<tr>
<td>Persian Gulf</td>
<td>2</td>
<td>68</td>
</tr>
<tr>
<td>East</td>
<td>13</td>
<td>69</td>
</tr>
<tr>
<td>National</td>
<td>6</td>
<td>75</td>
</tr>
</tbody>
</table>

Source: Salami and Eshrarghi, 2002.

72. Sources of growth in crop production: A decomposition of the sources of growth in Iranian crop production (Figure 18) reveals some important features about how the implemented technology and inputs used determined the level of output. The most striking result is the limited importance of technical change, which contributed only by 25% in output growth. In comparison, Total Factor Productivity (TFP) contributed up to

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38 Salami and Eshrarghi, 2002.
40 percent of growth in China\textsuperscript{39}, between 40 and 45 percent in Indonesia and between 27 and 32 percent in Thailand\textsuperscript{40}. The contribution of capital (machinery) is substantive and is consistent with the view that physical capital serves as a constraint to agricultural growth. Fertilizers accounted for 30 percent of the growth, which is extremely high. This is an alarming finding because this source of growth has important environmental implications and cannot go on forever. The contribution of labor was negative, indicating that the growth of output was not in the labor-intensive techniques. For agriculture to play a more significant role in poverty reduction, policies aimed at the improvement of labor will have to be sought.

Figure 18: Determinants of Agricultural Growth (1956-1997)

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure18.png}
\end{figure}

THE WAY FORWARD: CHALLENGES IN AGRICULTURAL DEVELOPMENT PLANNING

73. The Five-Year Development Plan (FYDP) process is considered an important strategic tool in terms of policy design and policy-making in Iran. While presently in the second half of the implementation period for the 3\textsuperscript{rd} FYDP, Iranian authorities have started in 2003 the consultative process for preparing the 4\textsuperscript{th} FYDP. The following areas are being considered for a particular emphasis given the scope and nature of the challenges faced: (i) land and water resource management, (ii) production technology and human resources, (iii) incentive policies, (iv) marketing systems, and (v) capital and investment. Table 9 provide details of some of the most important challenges to be addressed in those areas.

74. The current thinking in terms of priorities does not necessarily reflect a new paradigm but rather a determination to go after the root causes of the limited impact of past and current strategies adopted in the development of the sector. The public and private stakeholders in agriculture are slowly recognizing that a shift in emphasis from “how to produce more” to “how to produce better” is urgently needed to achieve the

\textsuperscript{39} Fan, 1991.

\textsuperscript{40} Mundlak, Larson and Butzer, 2002.
desired social, economic and environmental goals set for a sustainable development in the sector.

Table 9: Summary of Potential Challenges for Consideration in the 4th FYDP

<table>
<thead>
<tr>
<th>Areas</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land, vegetative cover and water resource management</td>
<td>Changes in land use, Soil degradation and loss, Degradation of rangelands and forests, Extinction of plant genetic resources, Land fragmentation, Lack of groundwater monitoring, Undeveloped irrigation system, Low irrigation efficiency, Degradation of groundwater resources</td>
</tr>
<tr>
<td>Production technology and human resources</td>
<td>Inappropriate manpower composition, Lack of basic and applied research, Inefficient application of research findings</td>
</tr>
<tr>
<td>Marketing structures</td>
<td>Post-harvest losses, Low quality, Limited varieties adapted to processing, Low processing know-how, Insufficient technologies in processing</td>
</tr>
<tr>
<td>Incentives structures and policy environment</td>
<td>Price support policies, Lack of stable regional and international markets, Inefficient and poor coverage in insurance system, Government intervention in commodity markets, Inefficient crop market organization</td>
</tr>
<tr>
<td>Capital resources and investment</td>
<td>Limited or inadequate financial resources, Insufficient agricultural machinery, High risk in production and marketing</td>
</tr>
</tbody>
</table>


AREAS FOR POLICY DIALOGUE

75. Agricultural development policies in the last half of the 20th century had different emphases. The earlier encouragement of large and highly mechanized agribusiness driven by efficiency motives and the current emphasis on the need to strengthen the traditional small and medium size farms for equity considerations have created an imbalance in the sector. Despite the major quantitative achievements in terms of production and rural infrastructure, Iranian agriculture operators work in a difficult environment affected by heavy and inefficient government intervention on the incentive front through output support, input delivery and marketing. Land fragmentation and property rights, and the absence of well functioning market structures leading to substantial post-harvest losses, are considered the major hurdles in the viability of the sector as a contributor to growth and employment.

76. What Iranian Agriculture needs today is the initiation of a process of structural change in the sector that would lead to well functioning agricultural markets and agro-enterprises. After the intensive investment in rural infrastructure, Iran should put in place a new architecture for agricultural market institutions and incentives, promoting private
commercial activity in input delivery, wholesaling and retailing, and reorienting state activity toward a focus on creating an enabling regulatory and physical infrastructure in a way consistent with its “distributional justice” motives. The Bank is well placed to help GoI to addressing the needs of agricultural market systems by providing assistance in capturing new opportunities and innovative ways of tackling some problems of food security, economic competitiveness, poverty alleviation, and sustainable rural development.

77. In the short-term, the Bank could provide a highly sought input into the development of a Strategic Framework for Sustainable Agricultural and Rural Development in the form of high impact focused technical studies following the approach used with the energy subsidies leading eventually to a comprehensive and participatory Agricultural and Rural Development Strategy Note. Iran currently has good micro-level information on the agricultural sector, skilled researchers and practitioners in various institutions but lacks the capacity to provide medium and long-term consolidated assessments of agricultural, food, water and natural resources policies.

78. A collaboration between the Bank and various government institutions could be built on the micro-level work currently undertaken to enhance policy-makers understanding of the impact of critical rural and social development, and water issues for the future from an efficiency, equity and environmental sustainability standpoint. Activities could include but are not limited to: (i) Transfer of a World Bank sponsored CGE model\textsuperscript{41} to MoJA/MPO and its extension to include a better focus on agriculture\textsuperscript{42} in order to evaluate alternative growth paths in the sector; (ii) help in the design of a spatial agricultural sector model\textsuperscript{43} with adequate provincial and agro-ecological dis-aggregation; (iii) provision of technical assistance to the current Agricultural Decision Support System Program housed in the Planning Directorate of MoJA. This type of intervention could provide an ideal vehicle for the design of targeted, transparent, equitable and efficient agricultural policies addressing the needs of the rural poor while tackling the important environmental and water scarcity challenges.

79. While the current process of preparation for the 4\textsuperscript{th} Five-Year Development Plan (2005-2009) is underway, three axes of potential emphasis for the medium and long-term ought to be considered.

80. First, marketing of agriculture produce has been widely recognized as a key priority in the development of the sector. The Bank could assist both State and private sector to better understand current bottlenecks in the agricultural market systems and enhance their ability to initiate, plan, and monitor supportive activities and analytical work on setting a system of inter-linked networks of information, relationships, rules of operations (regulatory environment and private rules for commerce). The system would be aimed at linking farmers with agro-enterprises that provide farm inputs for production (seeds, fertilizer, crop protection, equipment, and technology) and related services


\textsuperscript{42} In terms of farming systems, rural households, cropping activities.

\textsuperscript{43} Including water and land resource representation.
(animal health, reproduction and nutrition) and those enterprises engaged in the post-harvest sorting, grading, processing, packaging, storing, transporting, marketing, and financing of agricultural products. This set activities could take both the form of lending and AAA services and focus on the following areas: (i) market assessments, (ii) policies and regulations, (iii) market information, food safety and standards, (iv) post-harvest technologies, (v) market infrastructure and logistics, (vi) specific support to farmers and small and medium agro-enterprises, (vii) support to farmers associations and cooperatives, finance, investment and risk management, and (viii) export promotion. These areas of intervention represent extremely relevant entry points to address critical issues in Iran’s development strategy: food security, employment and human development, gender and natural resource management. A better functioning market system will limit the scope for intervention via the current set of price distorting measures on the production, input supply and consumption side and provide opportunities not only for enhancing agricultural competitiveness but also for promoting non-oil agricultural exports. Intervention from the Bank in this area could take the form of a series of combined lending/knowledge programs.

81. Second, **land tenure and ownership** has been a major challenge as evidenced by the several attempts at land reform since 1962. The current system with its high level of land fragmentation and limitations of land market transactions has shown its limits not only in terms of access to inputs and services but also in terms of opportunities for productivity enhancement. Areas of interventions could include new approaches based on recent international experiences with land-related investments to improve land administration and reform programs. Given the nature of the problems in Iran, new investment directions could be targeted at (i) land administration and reform, (ii) land policy frameworks, and (iii) land markets, in a way consistent with Islamic principles of resource ownership and rights to ownership of resource use.

82. Third, **human resources development** should now be preceding infrastructure development and be part of an overall strategy to harmonize the “hardware” and “software” aspects of rural development. A bottom-up approach to agricultural planning involving farmer’s participation and empowerment along with a recalibration of research, training and extension services to fit the needs of farmers and agro-enterprises would represent a major shift in emphasis away from the purely quantitative targets set behind the current planning process. What the Bank could do for the client is a set of pilot programs and strategic exercises aimed at providing Iran with practical international best-practices that have shown their high degree of adaptability to specific socio-economic, cultural and political environments.

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References


CAPES, 1996. Food security in Iran, WFS Secretariat.


IRI Statistical Center of Iran, Yearbook, various issues.


Annex 1

Patterns of Comparative Advantage based on Domestic Resource Cost (DRC) Indicators

<table>
<thead>
<tr>
<th>Commodity</th>
<th>DRC</th>
<th>Coverage of study</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>0.85</td>
<td>Iran</td>
<td>1992/93</td>
<td>Musanejad-Zarghami (1994)</td>
</tr>
<tr>
<td>Rice</td>
<td>0.63</td>
<td>Fars</td>
<td>1994/95</td>
<td>Haj Rahimi (1993)</td>
</tr>
<tr>
<td>Wheat</td>
<td>0.33</td>
<td>Fars</td>
<td>1994/95</td>
<td>Haj Rahimi (1993)</td>
</tr>
<tr>
<td>Wheat</td>
<td>0.85</td>
<td>Iran</td>
<td>1992/93</td>
<td>Musanejad-Zarghami (1994)</td>
</tr>
<tr>
<td>Wheat</td>
<td>0.76</td>
<td>Iran</td>
<td>2003/04</td>
<td>APERI (2003)</td>
</tr>
<tr>
<td>Almonds</td>
<td>2.74</td>
<td>Iran</td>
<td>2003/04</td>
<td>APERI (2003)</td>
</tr>
<tr>
<td>Apple</td>
<td>0.36</td>
<td>West Azerbaijan</td>
<td>1994/95</td>
<td>Chizari-Niamanesh (1998)</td>
</tr>
<tr>
<td>Citrus</td>
<td>0.82</td>
<td>Hormozgan</td>
<td>1996-97</td>
<td>Vakilpor-Sadrolashrafi (2000)</td>
</tr>
<tr>
<td>Walnuts</td>
<td>0.97</td>
<td>Iran</td>
<td>2003/04</td>
<td>APERI (2003)</td>
</tr>
<tr>
<td>Cotton</td>
<td>0.3</td>
<td>Iran</td>
<td>1992/93</td>
<td>Musanejad-Zarghami (1994)</td>
</tr>
<tr>
<td>Cotton</td>
<td>0.97</td>
<td>Iran</td>
<td>2003/04</td>
<td>APERI (2003)</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>1.77</td>
<td>Iran</td>
<td>2003/04</td>
<td>APERI (2003)</td>
</tr>
<tr>
<td>Potatoes</td>
<td>0.45</td>
<td>Fars</td>
<td>1994/95</td>
<td>Haj Rahimi (1993)</td>
</tr>
</tbody>
</table>

Note: DRC determines whether the production of a specific commodity makes efficient use of the domestic resources; DRC < 1 indicates that the contribution of a commodity’s value added at social prices is greater than the cost of domestic resources used to produce the commodity, meaning a comparative advantage.