

## *Realizing Azerbaijan's Comparative Advantages in Agriculture*



**FINAL REPORT: June 2005**

## CURRENCY EQUIVALENTS

(As of June 15, 2005)

Currency Unit = Manat (AZM)

US\$1 = AZM 4,754

## FISCAL YEAR

January 1 to December 31

## ACRONYMS AND ABBREVIATIONS

AAAE	Asian Association of Agricultural Engineering	ISHS	International Society for Horticultural Science
ADCP	Agricultural Development and Credit Project	LOL	Land O'Lakes
ADPA	Association of Dairy Processors of Azerbaijan	MIS	Market Information System
AMST	Azerbaijan Agricultural Markets Study Team	MED	Ministry of Economic Development
AZRIP	Azerbaijan Rural Investment Project	MOA	Ministry of Agriculture
CCs	Collection Centers	NGOs	Non-Governmental Organizations
CEE	Central and Eastern Europe	NPCi	Nominal Protection Coefficients for Inputs
CIS	Commonwealth of Independent States	NPCo	Nominal Protection Coefficients for Outputs
DRCs	Domestic Resource Cost Coefficients	NPCs	Nominal Protection Coefficients
ECA	Europe and Central Asia	O&M	Operation and Maintenance
EPCs	Effective Protection Coefficients	PAs	Professional Associations
EU	European Union	PAPA	Participatory Agriculture Project Program
EUREPG	European Good Agricultural Practices	PFP	Policy Framework Paper
AP			
FAO	Food & Agriculture Organization of the United Nations	POs	Producer Organizations
FDI	Foreign Direct Investment	PRSC	Poverty Reduction Support Credit
FIAS	Foreign Investment Advisory Service	SAIC	State Amelioration and Irrigation Committee
FIRCO	Federal Secretariat of Agriculture, Livestock, and Rural Development	SCC	State Customs Committee
FSU	Former Soviet Union	SMEs	Small and Medium Enterprises
F&V	Fruits and Vegetables	SPS	Sanitary and Phytosanitary Standards
GAP	Good Agricultural Practices	TACIS	Technical Assistance to the Commonwealth of Independent States
GDP	Gross Domestic Product	TOR	Terms of Reference
GMP	Good Manufacturing Practices	TPO	Trade Promotion Organization
GOA	Government of Azerbaijan	URAS	Uruguay Round Agreement on Sanitary and Phytosanitary Measures
GTZ	German Agency for Technical Cooperation	PS	United States
HACCP	Hazard Analysis at Critical Control Points	US	United States
		USAI	US Agency for International Development
		D	
IDSMIP	Irrigation Distribution System and Management Improvement Project	USDA	United States Department of Agriculture
IFDC	International Fertilizer Development Center	VC	Vertical Coordination
INOTIS	Integrated Non-Oil Trade and Investment Strategy for Azerbaijan	WTO	World Trade Organization
IPPC	International Plant Protection Convention	WUAs	Water User Associations

## Table of Contents

<b>Foreword</b> .....	<b>v</b>
<b>Executive Summary</b> .....	<b>vi</b>
Recommended Actions for Development of Azerbaijan’s Agricultural Markets .....	xiii
<b>1. The State of Agricultural Markets</b> .....	<b>1</b>
The Agricultural Sector Is Essential to Regional Development .....	1
A. Farm Privatization Was a Success .....	2
Agricultural Markets Collapsed During the Transition .....	2
Reforms Helped to Reverse the Decline .....	4
Cropping Patterns Shifted .....	6
B. Future Challenges.....	12
Building on Reforms .....	12
C. Commodities with the Largest Potential .....	13
Azerbaijan Has a Greater Comparative Advantage in Fruit & Vegetable and Dairy Production .....	13
Demand for Fruits & Vegetables and Dairy Products Should Grow.....	16
<b>2. The Sector is Not Reaching Its Potential Due to Missing or Inefficient Markets</b> .....	<b>19</b>
The Sector Has Been Unable to Make the Most of Its Comparative Advantages.....	19
Development of Markets is Still at a Nascent Stage .....	21
Constraints on the Development of Efficient Agricultural Markets .....	26
Disorganized Supply Chains .....	27
Poor Business Environment .....	28
High Transaction Costs to Market Organization and Trade.....	33
Poor Public Services and Institutional Capacity.....	36
Inadequate Public Investment.....	38
<b>3. Improving the Organization and Efficiency of Agricultural Markets</b> .....	<b>40</b>
The Importance of Vertical Coordination .....	42
Improve the Business Environment and Encourage Private Investment.....	45
Reduce Transaction Costs for Market Organization and Trade .....	51
Enhance Public Services and Institutional Capacity .....	58
Provide Targeted Public Investment .....	62
Sequencing of Recommendations .....	66
<b>4. Annexes</b> .....	<b>67</b>
Annex A: Obstacles for Business—Rank and Grade.....	68
Annex B: Export Procedures for Food Products.....	69
Annex C: Terms of Reference for a Standards Assessment and Action Plan.....	71
Annex D: List of People Met and Places Visited in Azerbaijan .....	74
Annex E: List of Participants, February 2004 Workshop, Baku, Azerbaijan .....	79
Annex F: Questionnaire Format for Field Interviews .....	80
Annex G: List of Background Documents.....	82
Annex H: Map of Azerbaijan .....	97

## **List of Tables**

Table 1.1: Azerbaijan agriculture and forestry—growing employment, falling productivity, 1990-2002.....	4
Table 1.2: Indices of agricultural production in Azerbaijan by farm type, 1990-2002 (1990=100).....	6
Table 1.3: Per Capita Food Consumption in Azerbaijan, 1990-2002 (kg).....	8
Table 1.4: Projected Domestic Food Demand for 2010, and Increase over 2001.....	16
Table 2.1: Imported Processed Fruit & Vegetable Products ('000 mt).....	25

## **List of Figures**

Figure 1.1: Shares of Oil Production & Processing and Agriculture in GDP and Employment, % (2002).....	2
Figure 1.2: Agricultural GDP in Constant Billion Manat and as Share of GDP, 1990-2003.....	3
Figure 1.3: Total Area for Agricultural Crops ('000 ha).....	5
Figure 1.4: Agricultural production by type of landholding, 1985 and 2002 (% of total).....	6
Figure 1.5: Comparative Advantage of Agricultural Production in Azerbaijan, %.....	7
Figure 1.6: Azerbaijan's Agricultural Imports and Exports, 1992-2003 (US\$ millions).....	8
Figure 1.7: Crop Production Indices, 1990-2003 (1990=100).....	9
Figure 1.8: Livestock Production Indices, 1990-2003 (1990=100).....	9
Figure 1.9: Crop Area Indices, 1990-2003 (1990=100).....	10
Figure 1.10: Livestock Number Indices, 1990-2003 (1990=100).....	11
Figure 1.11: Crop Yield Indices, 1990-2003 (1990=100).....	11
Figure 1.12: Livestock Yield Indices, 1990-2003 (1990=100).....	12
Figure 1.13: Agricultural Labor Productivity Indices for CIS, 1990-2002 (1990 = 100).....	13
Figure 1.14: Regional Vegetable Production Volume Indices, 1996-2003 (1996 = 100).....	14
Figure 1.15: Regional Fruit Production Volume Indices, 1996-2003 (1996 = 100).....	15
Figure 1.16: Exports of Agricultural Products by Destination Country, 2003 (share of total).....	18
Figure 2.1: How Much Azerbaijani Farmers Are Receiving for Outputs Relative to World Prices, %.....	20
Figure 2.2: How Much Azerbaijani Agricultural Processors Are Paying for Inputs Relative to World Prices, %.....	22
Figure 2.3: How Much Azerbaijani Agricultural Processors Are Receiving for Outputs Relative to World Prices, %.....	23
Figure 2.4: Fruits and Vegetables Net Exports, 1992-2002 (US\$ '000).....	24
Figure 2.5: Milk and Milk Products Net Imports, 1992-2002 (US\$ '000).....	25
Figure 2.6: Azerbaijan Fruit Exports by Destination Country, 2003 (% of total value).....	26
Figure 2.7: Foreign Direct Investment Flows into Azerbaijan (US\$ millions).....	29
Figure 2.8: Estimated Price Differentials for Apples in Guba, Azerbaijan (share of total value).....	38

## **List of Boxes**

Box 2.1: Dairy marketing channels in Azerbaijan.....	21
Box 2.2: Foreign Investment Advisory Service Study for Azerbaijan.....	30
Box 2.3: Service Cooperatives and Production Cooperatives.....	33
Box 2.4: Dairy Professional Associations in Azerbaijan.....	34
Box 3.1: Supermarkets and the Opportunities and Challenges They Bring.....	42

---

Box 3.2: Case Study—Contracting with small farmers in the Romanian dairy sector .....	44
Box 3.3: Trade and Transport Facilitation .....	47
Box 3.4: Warehouse Receipts.....	49
Box 3.5: Investing in Milk Collection Centers.....	51
Box 3.6: Development of Trade Promotion Organizations.....	52
Box 3.7: Water User Associations and the IDSMIP Project .....	54
Box 3.8: International Experiences with Food and Agricultural Product Standards.....	55
Box 3.9: Steps to Ensure a Coherent and Efficient Approach to Standards and Grades.....	56
Box 3.10: Process Standards vs. Product Standards.....	57
Box 3.11: Agricultural Development and Credit Project (ADCP) .....	59
Box 3.12: Action Plan for Implementation of a Market Information System .....	61
Box 3.13: Azerbaijan Rural Investment Project (AZRIP).....	63
Box 3.14: Establishment of Wholesale Markets .....	65

## **FOREWORD**

This report was prepared by a team led by William Sutton (Agricultural and Resource Economist, ECSSD), and comprising Daniele Giovannucci (Consultant), Ebru Ocek (Consultant, ECSSD), Emmanuel Hidier (FAO), Denis Caigniet (Consultant), and Gurbanali Alekperov (Consultant). Contributions were also provided by Rufiz Chirag-Zade, Irene Bomani and Joop Stoutjesdijk. Helpful guidance and comments were received from Ahmed Jehani, Julian Lampietti, Johan Swinnen, Christian Petersen and Ousmane Sissoko. Kathy Sharrow and Yagut Ertenlice provided support. The report was prepared under the guidance of ECSSD Sector Managers Benoit Blarel and Juergen Voegele. Peer reviewers are Patrick Labaste and Cornelis van der Meer.

This study is based on extensive fieldwork in and review of literature on Azerbaijan, and lessons from international best practice. The main mission for the study was carried out in January and February 2004. It included semi-structured, qualitative interviews with all of the main stakeholders in Azerbaijan's agricultural markets, including farmers, processors, traders, retailers, exporters, local and national government officials, NGOs, and international development partners (see Annex F for an outline questionnaire). The study also benefited from the extensive data collection and analysis on agricultural markets conducted as part of the *Policy Framework Paper* and its annexes prepared by the Rural Policy Unit of the Azerbaijan Agency for Support to the Development of the Private Sector in Agriculture. A stakeholder workshop was held at the end of the main mission to discuss the initial findings and recommendations of the report, and to receive feedback (see Annex E for a list of participants).

The team would like to thank all who participated in the study for giving generously of their time and knowledge. In particular, the study would not have been possible without the cooperation of representatives from the Ministry of Agriculture, Council of Ministers, Parliament, and The Agency.

## **EXECUTIVE SUMMARY**

- 1. The agricultural sector has good potential to make important contributions to economic growth, diversification, poverty reduction and employment creation in rural areas of Azerbaijan, but to realize this potential more must be done to improve markets.** A major challenge for Azerbaijan today is to diversify its economy away from oil and to spread the benefits of economic growth to rural areas. Agriculture can help the country to reach these goals because it is the largest economic sector in Azerbaijan after oil, and is the largest employer in the country, providing 40% of employment in 2002 compared to only 1% for oil. It has also contributed more than any other sector to poverty reduction in rural areas.
- 2. The agricultural sector suffered during the transition.** Azerbaijan has a wealth of natural resources for agriculture, including a favorable and diverse climate, and it has long been a major agricultural producer and exporter. However, under the Soviet economy, the agricultural sector was pumped up on an artificial diet of heavily subsidized inputs like fertilizer and irrigation. When these subsidies stopped flowing after the breakup of the Soviet Union, the area cultivated and yields fell, and agricultural GDP was cut in half. Meanwhile, due to a lack of employment opportunities in urban areas, labor flooded into agriculture, resulting in a sharp decline in productivity and wages, and an increase in rural poverty.
- 3. Thanks to land privatization and other reforms, agriculture has since rebounded from its depths.** Although initial reforms were largely cosmetic, when Azerbaijan finally adopted a comprehensive reform agenda beginning in 1997, they moved ahead rapidly, spurring a significant recovery in agriculture. In particular, the restructuring of former state and collective farms created an entire new class of independent, landowning small farmers. The new private farms eventually contributed to an increase in area under cultivation, yields, production and agricultural GDP. This resulted in increased farmer incomes and reduced rural poverty by the end of the 1990s.
- 4. However, the character of agriculture has shifted.** In contrast to the large, diversified former collectives, the average farm is now less than three hectares, has a few head of livestock, and has virtually no machinery or agricultural inputs. It is no longer possible to practice the land-extensive, machinery- and input-intensive cultivation of field crops that was the norm during the Soviet period. Many of the new farmers also have little or no experience managing their own farming operations.
- 5. Azerbaijan's natural comparative advantages began to re-emerge, and as a result cropping patterns shifted.** With the abolition of input subsidies and restructuring of farms, the comparative advantages of agricultural production changed. Due to the small farm size, abundance of labor, and favorable natural resource endowments of the country, Azerbaijan's comparative advantage lie in the production of fruits and vegetables such as oranges, apples, olives, tomatoes, cabbage, and chickpeas, and livestock products such as beef and milk. In response, farmers slowly began to shift production to these sub-sectors.
- 6. Demand also changed during the transition.** The guaranteed markets in sister Soviet states were no more. Exports declined precipitously and Azerbaijan became a net importer of agricultural products by the early 1990s. Meanwhile, due to falling incomes at home, domestic demand also shrank and shifted from luxury goods like meat, milk, and sugar in favor of staples like potatoes and grains. Production also took on more of a subsistence quality, with households cultivating those crops that could be grown on their small plots, and used for own-consumption or barter as well as sale. These included

vegetables and fruits, as well as potatoes and grains. Later, Azerbaijan began to export small quantities of specialty products like exotic fruit juices and buffalo mozzarella to EU countries.

7. **The Government of Azerbaijan has begun to take the appropriate steps to take advantage of the new market realities.** In addition to land reform, Government has supported farmers with extension, business advisory and rural credit services, as well as increasing its agricultural policy capacity, through the World Bank-financed Agricultural Development and Credit Project (ADCP). More recently, Government has started to increase investment in small-scale rural infrastructure at the local level through the World Bank-financed Azerbaijan Rural Investment Project (AZRIP). These are important steps in the right direction, and Government should carefully evaluate these and other projects in order to scale up the most successful approaches on a national level.

8. **The challenge now is to build on these reforms to complete the transition and harness agriculture as an engine of rural growth and poverty reduction.** While significant progress has been made, there is still work to be done. Efficient and rapid production growth needs to be sustained. This will happen only if Azerbaijan moves away from subsistence crops for own consumption, and focuses its efforts instead on those high-value products where it enjoys a natural comparative advantage and which provide opportunities for exports and value-added processing. These include fruits and vegetables for both the domestic and export markets, and dairy products for the domestic market. These commodities also have the most potential for increased domestic demand in the future as incomes rise, and would be more likely to remain competitive in the face of currency appreciation.

9. **Prices of agricultural products are low, and as a result the sector has been unable to make the most of its comparative advantages.** Farmers need a place to sell their products and need good prices so that they can make necessary investments to increase production and productivity. Unfortunately, prices received by farmers in Azerbaijan have not recovered and remain substantially lower than international prices. What is more, farmgate prices are lowest for those products where Azerbaijan should have a comparative advantage, such as tomatoes, cabbage, grapes, apples, pomegranates, beef and milk. This reduces the incentive for farmers to invest in the production of these goods. As a result, the area cropped to fruits has not recovered, investment in agriculture has continued to drop to almost nothing and Azerbaijan has remained a net importer of agricultural products. Further, due to a lack of these products and low prices, among other things, investment in agro-processing is low, off-farm employment remains limited, and labor productivity in agriculture remains one of the lowest in the CIS.

### **For Agriculture to Reach Its Potential, Markets Must Be Developed**

10. **Markets have not developed.** Although farms were privatized, the market structures and institutions necessary for the shift to a market-based economy in the agricultural sector are still undeveloped. Market channels are fragmented and exist only in a very rudimentary form, and the informal sector dominates. This makes it difficult for farmers and processors to sell their products and receive a good price, and for processors to receive the quantity and quality of inputs they need, when they need them. Value-added processing remains undeveloped with, for example, only 3-4% of milk processed on an industrial scale. Consistent vertical and horizontal linkages are almost non-existent, and there is no evidence of any clustering benefits.

11. **The causes of inefficient markets are varied.** A host of market imperfections have conspired to depress agricultural prices and thereby reduce incentives for production and investment. These factors effectively negate Azerbaijan's comparative advantages and constrain the development of the sector. The main constraints include:

- **Disorganized supply chains:** vertical coordination (VC) in the supply chain is essential for improving markets and developing the sector, but at present little of this is taking place. VC is typically driven by private investment in agro-processing, especially foreign direct investment (FDI). But the poor business environment and high transaction costs discourage such investment.
- **Poor business environment:** the business environment in Azerbaijan is characterized by a poor investment climate, inadequate contract law and enforcement and undeveloped judicial system, corruption, and poor management of the import/export regime. This discourages the private investment that is so crucial to promoting VC, and reduces the impact of public investments. It also reduces the ability of processors to buy supplies from suppliers at adequate prices, and leads to outdated processing technology that reduces competitiveness by increasing costs and decreasing quality.
- **High transaction costs for market organization and trade:** high transaction costs make it more difficult for agro-enterprises to develop VC. The causes of high transaction costs include the absence of producer organizations and professional associations, and a lack of appropriate standards, grades and packaging.
- **Poor public services and institutional capacity:** the general lack of public services, such as agricultural extension services, appropriate research and market information systems, further increases transaction costs for investors if they have to then provide these services themselves. Business advisory services are also needed because the inadequacy of business and marketing skills among both producers and agro-enterprises reduces their ability to take advantage of market opportunities. Low institutional capacity hinders the ability of Government to respond to the needs of the sector with appropriate policies, investments and services.
- **Inadequate public investment:** the lack of investment in electricity and gas supply imposes higher production costs on processors and producers. In some places, poor transportation and communications infrastructure are also constraints. These have the effect of further reducing investment. The lack of public marketing infrastructure such as wholesale markets increases transaction costs and also reduces market opportunities for producers.

## HOW CAN THE SECTOR REACH ITS POTENTIAL?

12. **In order for the agricultural sector to reach its potential, the organization and efficiency of markets must be improved.** The constraints highlighted in the previous section indicate leverage points that can be used to improve agricultural markets in Azerbaijan. Government has an important role to play in this, although it should be limited to the provision of public goods and services and sound policy to support the private sector in its initiatives. Further, Government's approach should be "bottom-up", incorporating the views and responding to the needs of all stakeholders.

13. **The priority is to increase vertical coordination.** Recent research by the World Bank has demonstrated the crucial role that VC plays in the development of the agricultural sector in transition countries. Traders, processors and supermarkets in these countries are contracting with farmers to provide basic inputs in return for guaranteed and quality supplies of agricultural products. As it has in many other countries in Europe, VC can help to bridge the gaps in the development of efficient markets in Azerbaijan. This is especially true for developing export markets, as well as domestic markets like dairy that require coordinated supply chains. The development of vertically coordinated supply chains is driven by private investment from downstream enterprises like processors, especially foreign direct investment (FDI). However, Government can facilitate this process by:

- **Improving the business environment and encouraging private investment**

- **Reducing transaction costs for market organization and trade**
- **Enhancing public services and institutional capacity**
- **Providing targeted public investment**
- **Improving management of the import/export regime**

### **Improving the Business Environment and Encouraging Private Investment**

14. **Vertical coordination will only take place with increased private investment, and this requires an improved business climate.** An improved business climate is a pre-condition for development, without which other investments will have little chance of succeeding. This is a general issue affecting the economy as a whole and much has already been written elsewhere about it. For example, fighting corruption is key to improving the business climate. This study focuses on those business environment issues that are particularly pertinent to agriculture. Because VC is so important to the development of transition agricultural markets, the agricultural sector is even more dependent on a good business environment than other sectors. Recommended actions include:

- **Improve management of the import/export regime:** Discourage the importation of subsidized agricultural products or below-market-priced food aid in order to prevent it from depressing prices in the local economy. Combat the smuggling of foodstuffs in avoidance of taxes and tariffs, which also depresses prices. Encourage exports by simplifying official export procedures and removing unofficial barriers to trade and transport, including implementing a “single window” approach to customs.
- **Improve contract law and enforcement:** This is particularly important for agriculture because VC depends on it. While long-term reform of the judiciary and contract law are required, in the short term alternatives such as out-of-court mediation managed by professional associations should be explored. Also, inform all stakeholder participants on the rules and methods of recourse.
- **Improve implementation and enforcement of the Law on Collateral:** Improve implementation of the Law on Collateral so commercial banks can re-possess land for unpaid debts, while educating both parties on their rights under this law. This would increase the incentive of banks to lend to farmers.
- **Encourage foreign direct investment (FDI):** Since Azerbaijan’s domestic market is small, it must endeavor to create an even better investment climate than larger countries if it is to attract the FDI that is so effective in driving VC. One specific action is to improve the FDI legislation.
- **Increase access to rural finance:** This is another issue that has been widely covered elsewhere, so this study will not go into detail on it. But it should be emphasized that this is necessary to encourage domestic firms to participate in VC, and can be promoted by facilitating borrowing knowledge acquisition and investing in permanent financial institutions in rural areas. Credit should not, however, be subsidized.
- **Implement a system of warehouse receipts:** Develop a system of warehouse receipts to provide farmers and others with needed working capital, as well as offer more choices on when and how to market crops, by developing a warehouse receipts system. This requires, among other things, proper storage, a legal framework, and inspection and licensing of warehouses.
- **Provide matching grants, co-financing and other incentives to encourage private investments with a public good aspect, for example:**

- Creating a series of incentives to facilitate investments in milk collection systems to lower the transaction costs of VC. Incentives could take various forms that would need to be assessed, including exemption of duties for imported equipment (cooling tanks, refrigerated trucks, testing equipment), investment grants, etc. In fact, this is an obvious area where MED's new Entrepreneurship fund could be used, as well as for the storage facilities mentioned below. Beneficiaries would be all private operators wishing, on the basis of sound business plans, to invest in milk collection.
- Financing at least part of agricultural storage facilities, including cold storage, that would be open to the public. These could feature a combination of private operation (including by producer organizations) with public oversight to ensure transparent rules, rates, and equitable access. In addition to improving prices received by farmers and reducing losses due to spoilage, this will also decrease the transaction costs for downstream enterprises wishing to establish vertically coordinated supply chains.

### Reducing Transaction Costs for Market Organization and Trade

15. **Reducing the risks and costs of engaging in vertical coordination will make it easier for processors, retailers and other private investors to establish vertical links with farmers.** Vertical coordination is more challenging for processors and retailers in an environment like Azerbaijan's that is dominated by many small producers. The following actions will help to reduce the transaction costs:

- **Encourage the formation of producer organizations and professional associations:** Provide training in business practices and organizational skills. Provide capital for start-up, investments and services through matching grants and vouchers. Facilitate technical assistance to identify, design and implement programs and services for members. Strengthen public-private sector dialogue. Speed-up the registration process for these organizations.
- **Enhance standards, grades and packaging:** Increase access to standards and grades information and provide training. Improve the infrastructure and services necessary for testing and enforcement of standards. Foster the increased production and use of improved packaging and storage technology. Meet the requirements of importers to access higher-value markets, including harmonization with EU and other standards systems. Facilitate voluntary, market mechanisms to create incentives to meet these higher standards.

### Enhancing Public Services and Institutional Capacity

16. **Enhance public services and institutional capacity to help producers and processors to improve production quality and identify new market opportunities, and improve government capacity for agricultural policy-making.** Public services that normally exist in developed agricultural sectors collapsed after the break-up of the Soviet Union and never recovered. These include extension and business advisory services, research, and market information services. In the short term, VC can help to fill some of the gaps in service delivery, but in the long term Government should increase the provision of these services, especially for those not integrated into vertical supply chains. Recommended actions include:

- **Invest in extension and business advisory services, and improve agricultural education:** This has already begun under the ADCP. Lessons should be learned from the successes under such projects and scaled up, and most importantly they should be made sustainable. Rural business development services can serve as an effective nexus for delivering farm extension, business training, new technology, and information services. In the short term, some of these services can be provided by processor-driven VC or local civil institutions like professional associations.

Improving the agricultural education system will increase the capacity to deliver these important services.

- **Reform the agricultural research system:** Make the agricultural research system more demand-driven so that it responds to the needs of the new small-scale farmers, and focuses on those activities in which Azerbaijan has a comparative advantage.
- **Improve the quality and availability of market information:** Market information should be provided on not just prices, but also volumes, levels of demand, trends, and locations. This information is particularly useful to small farmers and entrepreneurs who engage in trade outside of vertically coordinated systems, and would help them to identify opportunities and level the playing field with established middlemen. Government should invest in a modern market information system with these goals in mind.
- **Increase Government's capacity for agricultural policy:** Reinforce the capacity of the Ministry of Agriculture to devise appropriate policies for the sector through education, training and technical assistance. In particular, increase the capacity of Government to deal with agricultural trade issues in the context of WTO negotiations, in order to get more advantageous terms upon entry. Establish open policy dialogue forums between Government and stakeholders through professional and inter-professional associations.

### Providing Targeted Public Investment

17. **Make strategic investments in public goods.** Reliable and cost-effective infrastructure in rural areas is a pre-condition for investment in agro-processing, and should be a priority for improvement, especially energy. These investments are the clear responsibility of Government, but should be based on the expressed needs and demands of the private sector. In addition to energy and transportation infrastructure, they should include investments in communications infrastructure, public storage facilities and wholesale markets, and laboratory testing facilities. Government should also create incentives for investment in milk collection systems, and promote renewable energy technologies. Some examples include:

- Investing in the establishment of modern wholesale markets. Wholesaling not only facilitates establishing a single price for a commodity but also performs storage and warehousing functions, and allows economies of scale to be obtained in the transportation of produce. If designed and managed well wholesale markets can play a vital role in channeling a wide variety of produce to consumers.
- Financing or co-financing of internationally accredited certification laboratories to assist with the implementation and verification of improved sanitary and phytosanitary standards. Other laboratory facilities could be used to verify the quality of private seed production.
- Promoting and providing favorable financing for modern renewable energy technologies. New advancements in small to mid-scale setups for hydro, wind, and solar energy for example can significantly improve enterprise competitiveness in rural areas with very low recurring costs.

18. **The timeframe for implementation of the recommended actions should be based on the potential impact, ease of implementation and degree of current coverage. The Action Matrix that follows** provides a summary of the recommendations for development of agricultural markets in Azerbaijan, along with an assessment of the timeframe for implementation and degree of coverage by existing or planned projects. These recommendations should be discussed in open forums between Government and other stakeholders in the agricultural sector, including private enterprises, preferably

represented by professional associations. As mentioned earlier, improvement of the business climate is a pre-condition for development of the agricultural sector, and it is unlikely that either public or private investments will succeed otherwise. This is therefore a clear priority, and requires action and collaboration from agencies across Government. To a great degree the implementation of any of the recommendations will depend on the capacity of Government, and particularly the Ministry of Agriculture. Thus, capacity development is also a major priority, and the recent decision to consolidate The Agency under MOA is a step in the right direction. However, this is a long-term effort and other activities should begin in the meantime as specified in the Action Matrix, especially if technical assistance is provided to help manage the activities. Clearly, developing agricultural markets also requires money, and it is imperative that the agricultural sector be allocated resources commensurate with its importance. What is essential is that the momentum established by the reforms of the past decade not be lost, so that agricultural markets can be improved, Azerbaijan can realize the potential of its comparative advantages, and the sector can grow and contribute to rural incomes, employment and poverty reduction.

## RECOMMENDED ACTIONS FOR DEVELOPMENT OF AZERBAIJAN'S AGRICULTURAL MARKETS

Action	Timeframe	Current or Planned Coverage	Degree of Coverage
<b>Improve the Business Environment and Encourage Private Investment</b>			
Improve management of the import/export regime	Medium	<ul style="list-style-type: none"> <li>• Foreign Investment Advisory Service (FIAS) Study provides analysis and policy advice.</li> <li>• Trade and Transport Facilitation Policy Note provides analysis and policy advice.</li> </ul>	Medium
Improve contract law and enforcement	Medium	<ul style="list-style-type: none"> <li>• FIAS Study and Integrated Non-Oil Trade and Investment Strategy (INOTIS) provide analysis and policy advice.</li> </ul>	Medium
Improve implementation and enforcement of Law on Collateral	Medium		Low
Encourage foreign direct investment by improving investment climate, including FDI legislation	Long	<ul style="list-style-type: none"> <li>• Improving the investment climate is a key objective of the Poverty Reduction Support Credit (PRSC).</li> <li>• FIAS Study provides analysis and policy advice.</li> </ul>	Medium
Increase access to rural finance	Short	<ul style="list-style-type: none"> <li>• World Bank-financed Agricultural Development and Credit Project (ADCP) I &amp; II provide small-scale rural credit services on a pilot basis.</li> <li>• New government program provides subsidized equipment leasing.</li> </ul>	Medium
Implement system of warehouse receipts	Short		Low
Provide matching grants or co-financing for private investments with a public good aspect, for example: agricultural storage facilities, milk collection systems, renewable energy technologies	Short	<ul style="list-style-type: none"> <li>• Proposed support for this under World Bank-financed ADCPIL.</li> <li>• The President of the Republic recently announced the creation of a new state-owned agricultural equipment leasing company, though the details are unclear.</li> <li>• MED also has a new Entrepreneurship Fund that should be well-suited to this type of investment</li> </ul>	Medium
<b>Reduce Transaction Costs for Market Organization and Trade</b>			
Encourage formation of producer organizations and professional associations	Medium	<ul style="list-style-type: none"> <li>• Various USAID projects have attempted to promote these (for example, the Land O' Lakes Participatory Agriculture Project Program), with little success.</li> <li>• The World Bank-financed Azerbaijan</li> </ul>	Low

		Rural Investment Project (AZRIP) requires beneficiaries of matching grants to form associations.	
Enhance grades, standards and packaging	Medium	<ul style="list-style-type: none"> <li>Proposed support for this under World Bank-financed ADCP II.</li> <li>Future potential under EU Action Plan to receive funds for harmonization, after first successfully completing certain required actions.</li> <li>Potential future World Bank project to improve standards framework for the economy in general (though not specific to agriculture).</li> </ul>	Low
<b>Enhance Public Services and Institutional Capacity</b>			
Invest in extension and business advisory services	Medium	<ul style="list-style-type: none"> <li>World Bank-financed ADCP I &amp; II support agricultural extension and business advisory services on a pilot basis.</li> </ul>	Medium
Reform the agricultural research system	Long		Low
Improve the quality and availability of market information	Short	<ul style="list-style-type: none"> <li>Some donor-supported efforts to provide price newsletters, but the information is neither timely nor widespread enough.</li> </ul>	Low
Increase Government's capacity for agricultural policy	Long	<ul style="list-style-type: none"> <li>World Bank-financed ADCP I &amp; II support the Agricultural Policy Unit under the Cabinet of Ministers.</li> <li>A GTZ-financed projects supports policy work in the Ministry of Economy.</li> </ul>	Medium
<b>Provide Targeted Public Investment</b>			
Improve general rural infrastructure, including energy, communications and transportation	Long	<ul style="list-style-type: none"> <li>Local-level, small-scale investments that are public/quasi-public goods could qualify for matching grants under the World Bank-financed AZRIP, depending on community priorities.</li> </ul>	Medium
Make strategic investments in public marketing infrastructure, such as wholesale markets and market information systems.	Medium	<ul style="list-style-type: none"> <li>Local-level, small-scale investments that are public/quasi-public goods could qualify for matching grants under the World Bank-financed AZRIP, depending on community priorities.</li> </ul>	Medium
Invest in testing laboratories to improve standards	Medium	<ul style="list-style-type: none"> <li>Possible support under the proposed World Bank-financed ADCP II.</li> </ul>	Low

# 1. THE STATE OF AGRICULTURAL MARKETS

## The Agricultural Sector Is Essential to Regional Development

1.1 **Development of rural areas is a priority for Azerbaijan, and development of agriculture is key to this.** In a decree by the President of Azerbaijan on *Measures to Accelerate Socio-Economic Development in Azerbaijan*,<sup>1</sup> he urged the Cabinet of Ministers to develop an action plan for unemployment reduction and job creation; to draft a state program for the socio-economic development of rural regions;<sup>2</sup> to accelerate development of the non-oil sector; and to develop proposals for the second phase of reforms in the agricultural sector. Promoting regional development, and in particular agro-processing, is also one of the objectives of Azerbaijan's Poverty Reduction Support Credit (PRSC) Policy Framework Matrix. Improving agricultural markets is essential to achieving these objectives.

1.2 **The agricultural sector is the most important source of employment in Azerbaijan, and is essential to economic diversification.** One of the greatest challenges of economic management in the country is to diversify the economy in the face of growing dependence on the oil sector.<sup>3</sup> Agriculture provides a good source of diversification, as it accounted for approximately 12.3% percent of GDP in 2004, the largest economic sector in Azerbaijan after oil.<sup>4</sup> Agriculture's share of employment has increased to 40 percent in 2004 from approximately 31 percent in 1990, while the oil sector still accounts for only 1 percent of employment (see **Figure 1.1**). This is especially important since the percentage of the total population in rural areas has grown to 49% since independence. In addition, agro-industry (including textiles) represents over 50% of total manufacturing employment.

---

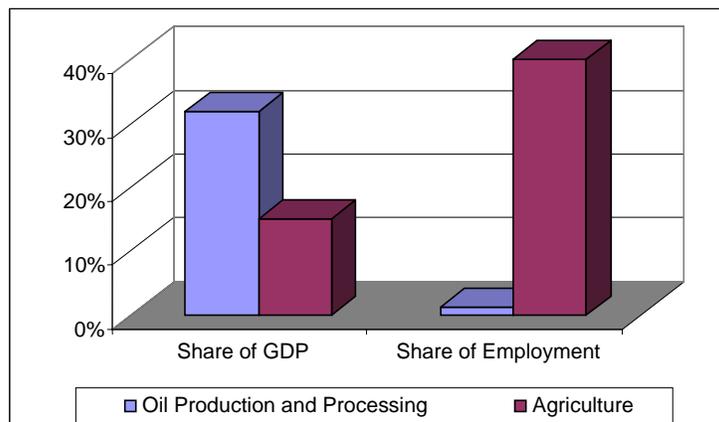
<sup>1</sup> Ilham Aliyev, President of the Republic of Azerbaijan (November 24, 2003), *Measures to Accelerate Socio-Economic Development in Azerbaijan*.

<sup>2</sup> In response, the Ministry of Economic Development has since drafted a "State Program on the Socio-Economic Development of Regions," Baku, 2004.

<sup>3</sup> See *Azerbaijan, Building Competitiveness: An Integrated Non-Oil Trade and Investment Strategy (INOTIS)*, Report No. 25818-AZ, the World Bank, 2003; and *Azerbaijan Republic—Selected Issues and Statistical Appendix*, IMF Country Report No. 03/130, the International Monetary Fund, 2003.

<sup>4</sup> Oil and oil processing grew from an estimated 22.0% of GDP in 1996 to 31.6% of GDP in 2001. Source: *Policy Framework Paper for the Agricultural Sector in Azerbaijan (PFP)*, draft, Agency for Support to the Development of the Private Sector in Agriculture (The Agency), World Bank-financed Agricultural Development and Credit Project, Baku.

**Figure 1.1: Shares of Oil Production & Processing and Agriculture in GDP and Employment, % (2002)**



Source: State Statistical Committee; World Bank SIMA Database and IMF Country Report 2003 Report No:03/130

**1.3 Agriculture also has an economic importance that is more significant than its current monetary value because of its role in food security and rural poverty reduction.** It is an important source of income and stability for rural areas where the benefits of Azerbaijan's petroleum wealth are much less evident, and its health will determine in part the extent of rural-to-urban migration. Unlike in many other countries, rural poverty in Azerbaijan, at 43%, is lower than urban poverty, at 56% (although rural areas are still at a great disadvantage in terms of access to infrastructure and public services). This fact is due in large part to agriculture, since agriculture is the major source of income for rural households (53%), and contributes a larger share of income in non-poor households than in poor households or extremely poor households (59%, 49% and 38%, respectively).<sup>5</sup> Therefore, the reliance on agriculture as a major source of income is associated with a lower risk of poverty. Further, the share of expenditures on food by Azerbaijani households is high (75%), and even higher for the rural poor (81%). Of this, rural households produced half of the food they consumed, and for the poorest households the reliance on own consumption was even higher (65%) and growing over time. Thus, own-produced food can be considered a social safety net for rural households.

## A. FARM PRIVATIZATION WAS A SUCCESS

### Agricultural Markets Collapsed During the Transition

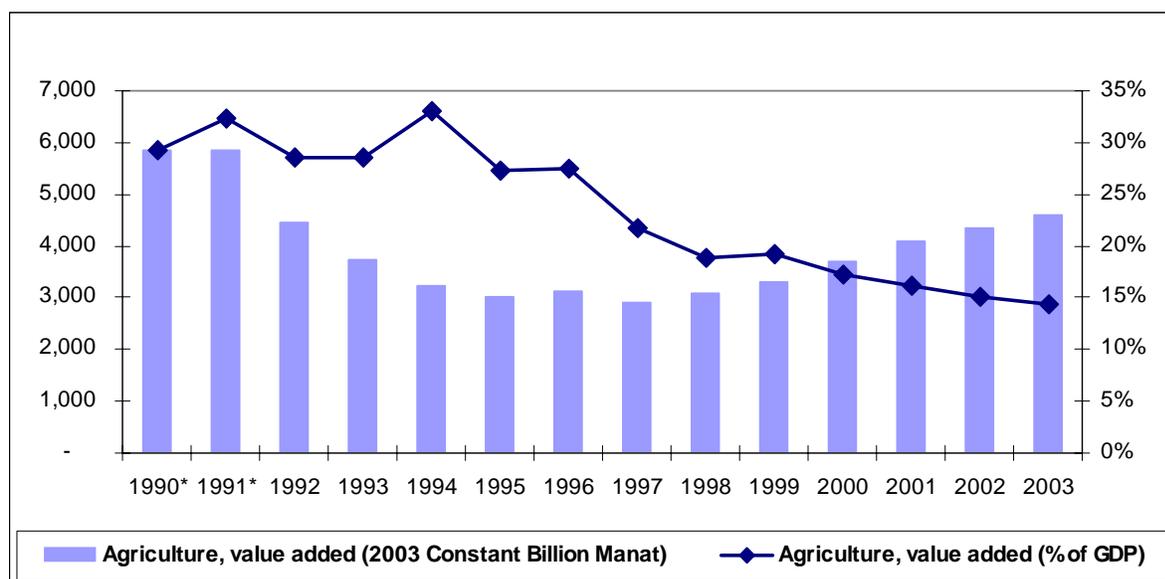
**1.4 Like other former Soviet Republics, Azerbaijan's agricultural sector declined precipitously after independence.** Before independence, large quantities of agricultural products were exported to Russia (about 75% of the fruit and vegetable production).<sup>6</sup> After independence, the Russian and other traditional agricultural export markets were lost and local marketing channels were disrupted. At the same time, there were drastic reductions in the availability of formerly subsidized inputs such as fertilizer and irrigation. The combination of the loss of markets and reduction in subsidies resulted in a dramatic decline in the terms of trade for agriculture. Agricultural machinery also became obsolete. In the face of these shocks, Government policy from 1990 to 1995 aimed at preserving the collective and state farm

<sup>5</sup> Azerbaijan Republic Poverty Assessment (2003), the World Bank. D. Sedik et al., Azerbaijan Rural Poverty Assessment (2002), draft, the World Bank. Lehis, E. and X. Wu (2004), "AZRIP Social Assessment Report", the World Bank. All figures are from 2001.

<sup>6</sup> Fock, K. (2003), "Policy Note on Azerbaijan's Agrifood System", internal World Bank document.

system, thereby delaying reform. In response, the total area cultivated dropped from 1.86 million ha in 1990 to 0.95 million ha in 1999. The decreases were largest for fodder crops, industrial crops like cotton and tobacco, and grapes. Meanwhile, yields for crops such as cotton, grapes and wheat also decreased by 52%, 22% and 4% respectively.<sup>7</sup> Livestock numbers also decreased at first, though not so abruptly, with cattle and sheep numbers falling, respectively, from 1.54 and 5.22 million in 1990 to 1.38 and 4.43 million in 1995. In response, agricultural GDP dropped from approximately 5,834 billion manat in 1990 to 2,894 billion manat in 1997, a decrease of over 50% (see Figure 1.2). At the same time, the Azerbaijan economy has become more dependent on energy exports, with crude oil and refined oil products now accounting for 80% of the value of exports.

**Figure 1.2: Agricultural GDP in Constant Billion Manat and as Share of GDP, 1990-2003**



Source: World Bank SIMA; note: 1990 and 1991 figures estimated. \* = estimated using GAO Index

1.5 **Shifts in employment and labor productivity also occurred.** Agriculture traditionally accounted for a sizeable portion of employment in Azerbaijan, with agriculture and forestry combining to account for 31% of employment in 1990. While agricultural GDP decreased during the early 1990s, employment in agriculture remained stable and eventually increased to 40% of the total in 2002 (see Table 1.1). This increase in agricultural employment was the result of job losses in other sectors of the economy—in particular construction, industry, transport and communications—rather than from the increased attractiveness of agriculture.<sup>8</sup> Capital investment in agriculture also dropped to almost nothing as the sector became increasingly unattractive and sources of credit dried up. The predictable result was a drop in labor productivity (value added per worker) in agriculture to less than half the economy-wide average. The drop in productivity was reflected in agricultural wages, which sank to 28.5% of the economy average by 2002. Although there are no figures on changes in rural poverty in the period 1990-1995, it is highly likely that rural poverty in this period grew, primarily as a consequence of falling wage employment and falling income from agricultural production.<sup>9</sup>

<sup>7</sup> PFP, op. cit.

<sup>8</sup> Sedik, D., et al., op. cit.

<sup>9</sup> Ibid.

**Table 1.1: Azerbaijan agriculture and forestry—growing employment, falling productivity, 1990-2002<sup>10</sup>**

Year	Employment in Agriculture and Forestry (%) <sup>1</sup>	Agriculture and Forestry Portion of GDP (%)	Capital Investment, Agriculture (%)	Agriculture Monthly Wages (% of average) <sup>2</sup>	Rural Population (End of Year, %)	Labor Productivity = Ag. GDP/ Ag. Employment (2003 Constant Billion Manat)
1990	30.8	29.3	14		47	5.12
1991	31.6	32.3	15		47	4.95
1992	34.6	28.5	6.2		47	3.46
1993	32.3	28.5	5.3		47	3.10
1994	31.4	33.0	0.9		48	2.85
1995	30.7	27.3	1.9	53.6	48	2.72
1996	31.7	27.5	1.5	42.3	48	2.66
1997	28.9	21.7	0.5	35.0	48	2.71
1998	30.8	18.9	0.6	26.1	49	2.70
1999	42.3	19.2	1.2	28.7	49	2.10
2000	41.0	17.1	0.7	31.2	49	2.43
2001	39.9	16.1	0.7	30.3	49	2.77
2002	40.1	15.0	0.8	28.5	48	2.92

Source: State Statistical Committee of the Republic of Azerbaijan (2003); Sedik, D., et al., op. cit.; AMST

## Reforms Helped to Reverse the Decline

**1.6 Land privatization and other reforms were carried out to reverse the decline of the agricultural sector.** Reforms begun in the mid-1990s to privatize land and agro-enterprises, promote market-oriented production, free market prices, and liberalize procurement and trade policies helped to spur a recovery in the agricultural sector. The most important change was the privatization of the 2,020 former state and collective farms—after decades of state control—that began with pilots in 1997 and was eventually rolled out on a national scale. Altogether, about 95% of arable farmland has now been privatized.<sup>11</sup> This created a whole new class of private farmers, and put the productive resources of land and other assets into their hands. This resulted in three recognized production categories: agricultural enterprises, peasant farms, and household farms.<sup>12</sup> A considerable number of the second two categories of farmers were relatively new to the business of independent farming, and adapted to their new roles with some difficulty and mostly by trial and error.<sup>13</sup> However, after an initial dip in the land area under cultivation, as new farmer-landowners adapted to the demands of small-scale individual farming, the total area of cultivated land stabilized and began to rise (see **Figure 1.3**).

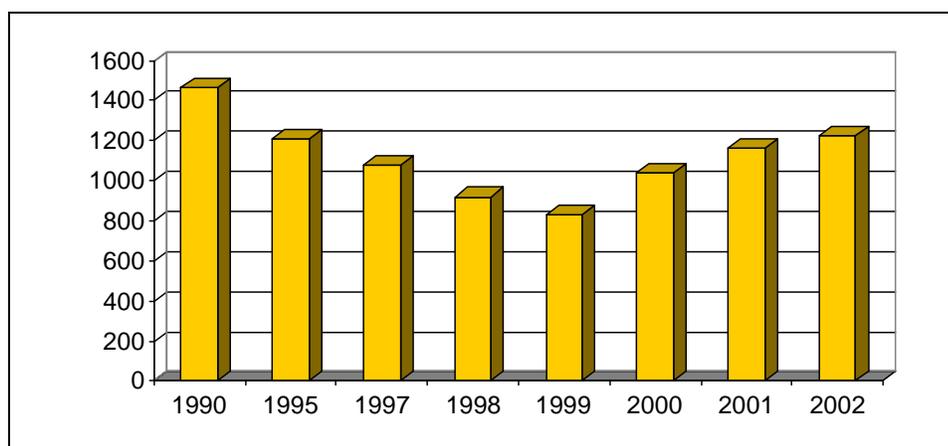
<sup>10</sup> Notes: 1) Includes employment in agricultural enterprises, private farms and self-employment in household farms. 2) In agricultural enterprises.

<sup>11</sup> Azerbaijan Farm Privatization Project (2004), *Implementation Completion Report (ICR)*, The World Bank.

<sup>12</sup> Agricultural enterprises are registered as legal entities and include joint ventures, agro-industrial enterprises, and agricultural cooperatives that employ people. A peasant farm is a form of independent entrepreneurship wherein a farmer engages in production of agricultural products and sometimes their processing and sale. Household or private farms include individual productive gardens and other very small landholdings for family or personal use.

<sup>13</sup> Although many have worked on some of the large Soviet-era farms they did not necessarily participate in the agronomic or farming aspects and may have filled another specialized position, such as equipment operator or bookkeeper.

Figure 1.3: Total Area for Agricultural Crops ('000 ha)



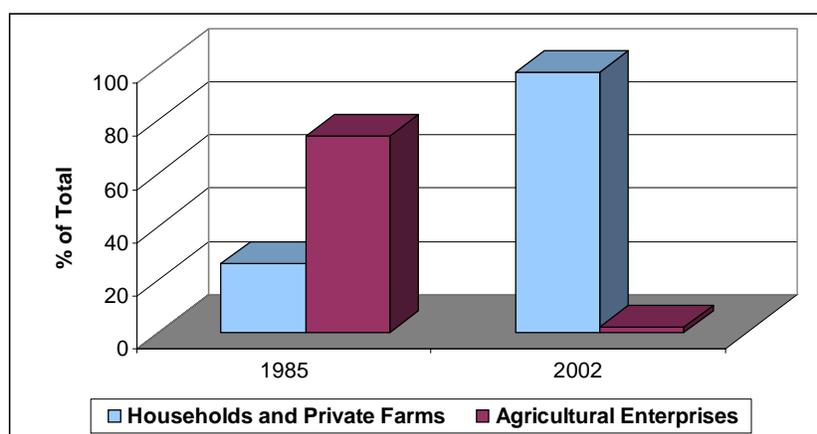
Source: State Statistical Committee of the Republic of Azerbaijan

1.7 **With the privatization of farms and other reforms, small-scale agriculture has been able to lead a recovery in the agricultural sector.** The positive impact of reforms on agricultural GDP is visible in **Figure 1.2**, with the sector starting to grow by 6.2% in 1998 and reaching its highest growth rate of 12.1% in 2001. By 2003, overall agricultural output had increased by a total of 53% over 1995 levels (though it was still only 79% of the 1990 levels). The contribution of small farmers to this revival is evidenced by the substantial increase in production from household and private farms, and the concurrent tremendous decrease in production from large agricultural enterprises (see **Figure 1.4 and Table 1.2**). Privatization has also resulted in large and continuing differences in crop yields between the corporate and individual farm sectors, demonstrating the greater efficiency of the new small farms.<sup>14</sup> Privatization of livestock has also been smooth and thorough, and has helped Azerbaijan avoid the dramatic declines in herd sizes seen in some of the Central Asian FSU countries. The total numbers of livestock were twice as high in 2002 than they were in 1990. What is more, it is estimated that agricultural reforms that put agricultural assets (livestock, land) in the hands of smallholders were largely responsible for reducing rural poverty over the period from 1995 to 2001.<sup>15</sup> And although, as mentioned above, rural households derive much of their food from own-production, that is not to say that they practice subsistence agriculture. In 2001, 81% of rural households marketed at least some of their agricultural production, and in total they sold 60% of the value of this production. Participating in agricultural markets was also associated with a lower risk of poverty.

<sup>14</sup> Dudwick, D., K. Fock, and D. Sedik (2005), "A Stock-Taking of Land Reform and Farm Restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan", The World Bank.

<sup>15</sup> Sedik, D., et al. (2002), op. cit.

Figure 1.4: Agricultural production by type of landholding, 1985 and 2002 (% of total)



Source: State Statistical Committee of the Republic of Azerbaijan

Table 1.2: Indices of agricultural production in Azerbaijan by farm type, 1990-2002 (1990=100)

Year	All Farms			Agricultural Enterprises			Household and Private Farms		
	Total	Crops	Livestock	Total	Crops	Livestock	Total	Crops	Livestock
1990	100	100	100	100	100	100	100	100	100
1991	100	102	97						
1992	77	75	79						
1993	65	63	68						
1994	56	53	63						
1995	53	47	63	32	35	24	90	84	95
1996	54	48	64	30	33	19	99	96	101
1997	51	41	67	18	22	8	111	105	116
1998	54	43	73	8	10	3	139	152	129
1999	58	47	76	4	4	2	157	185	136
2000	65	56	79	2	2	3	180	232	141
2001	72	65	82	2	2	4	201	272	147
2002	77	70	87	3	2	6	214	292	154

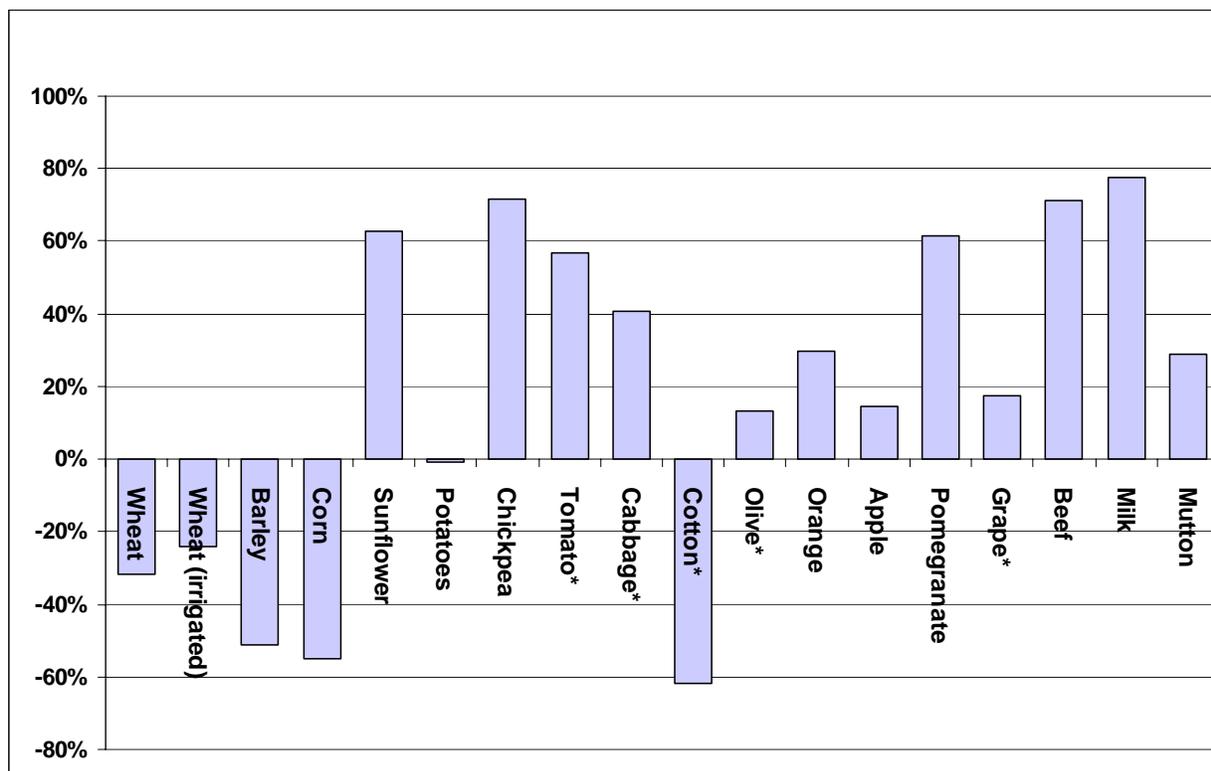
Source: State Statistical Committee of the Republic of Azerbaijan, Sedik, et al., op. ci

### Cropping Patterns Shifted

1.8 **The shift from large-scale to small-scale farms changed the character of agricultural production.** For agriculture in general, the great majority (over 85%) of the 865,000 rural farm families have five hectares or less of land. The new small farms are more conducive to production of labor-intensive, high-value crops like fruits and vegetables, as well as milk. For example, the vast majority of the country's productive capacity for fruits and vegetables (98.5%) and 84% of the land used for these crops is now in the hands of more than 60,000 small producers. Their average landholding is 1.7 hectares and the average farm size is 2.5 hectares. At the same time, the relative price of farm labor dropped considerably, as mentioned above. As a result of these and other factors (such as natural resource endowments—see below), Azerbaijan now has a comparative advantage in the production of perennial crops such as oranges, apples, pomegranates and olives; in vegetable crops such as tomatoes, cabbage, and chickpeas; in oilseeds like sunflower; and in livestock products such as beef, milk and mutton. Azerbaijan's comparative advantages are illustrated by **Figure 1.5**, which uses a standard indicator of

comparative advantage (or production efficiency).<sup>16</sup> The analysis also indicates that Azerbaijan has less of a comparative advantage in the production of the cereals (including irrigated) wheat, barley, and maize, and in cash crops like cotton and tea, and would be less competitive with imports of these commodities. Potatoes are essentially neutral.

Figure 1.5: Comparative Advantage of Agricultural Production in Azerbaijan, %<sup>17</sup>



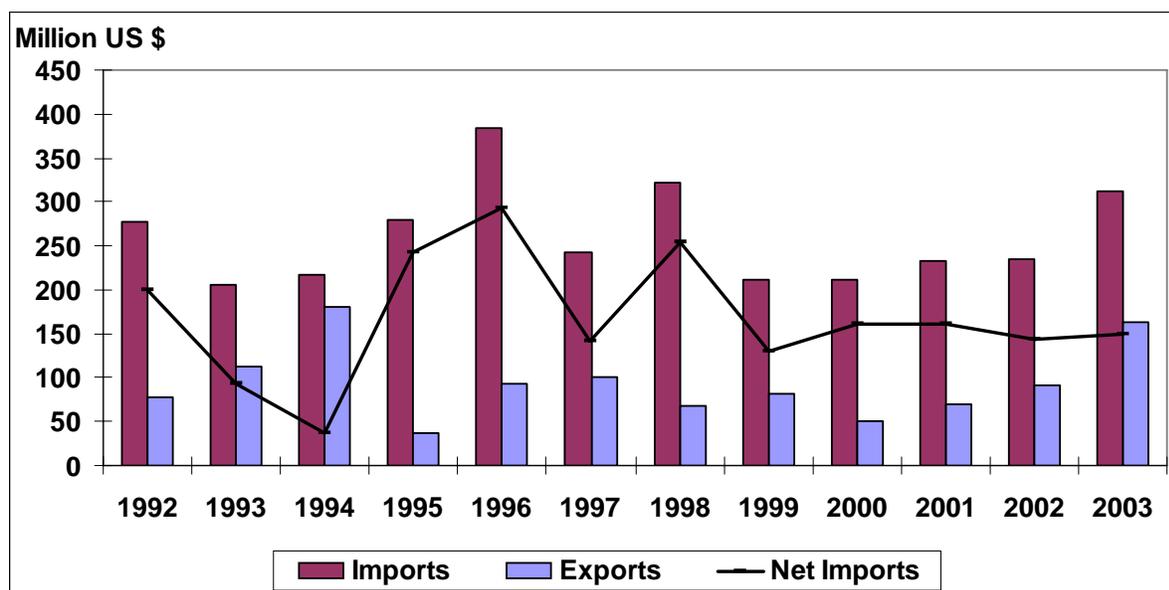
Source: calculated from the DRCs in the PFP, op. cit.

1.9 **With the collapse in traditional markets, demand also shifted and declined overall.** After the breakup of the Soviet Union, traditional marketing channels broke down and Azerbaijan lost much of its export market. As a result, Azerbaijan became a net importer of agricultural products, with imports covering 100% of local sugar consumption, 90% of vegetable oil, 30% of meat and 45% of dairy products (see Figure 1.6). With the decline in incomes domestically, demand for foodstuffs generally decreased, but also shifted. Consumption of agricultural products that could be considered luxuries (in other words, with high income elasticities of demand), such as sugar, meat, fish, dairy and eggs, declined considerably during the transition period (see Table 1.3). Meanwhile, consumption of products that are typically produced on small household farms, such as potatoes, vegetables, and fruits saw major increases. Thus, production took on more of a subsistence quality. In a similar vein, many of the newly independent farmers keep small numbers (1-5) of dairy cows for own consumption, selling only the surplus milk. Consumption of staples like grains and vegetable oil remained relatively stable.

<sup>16</sup> Domestic Resource Cost ratios (DRCs) are commonly used to compare a country's relative efficiency in the utilization of its resources and its international comparative advantage in the production of different outputs. A DRC of less than one for a product indicates that a country should have a comparative advantage in its production, whereas a DRC greater than one indicates an absence of comparative advantage. This discussion is based on the findings of the Policy Framework Paper (PFP) for the Agricultural Sector in Azerbaijan, Agricultural Development and Credit Project, The World Bank/The Agency, and details of the methodology can be found there.

<sup>17</sup> Note: \* = irrigated crop.

Figure 1.6: Azerbaijan's Agricultural Imports and Exports, 1992-2003 (US\$ millions)



Source: FAOSTAT

Table 1.3: Per Capita Food Consumption in Azerbaijan, 1990-2002 (kg)

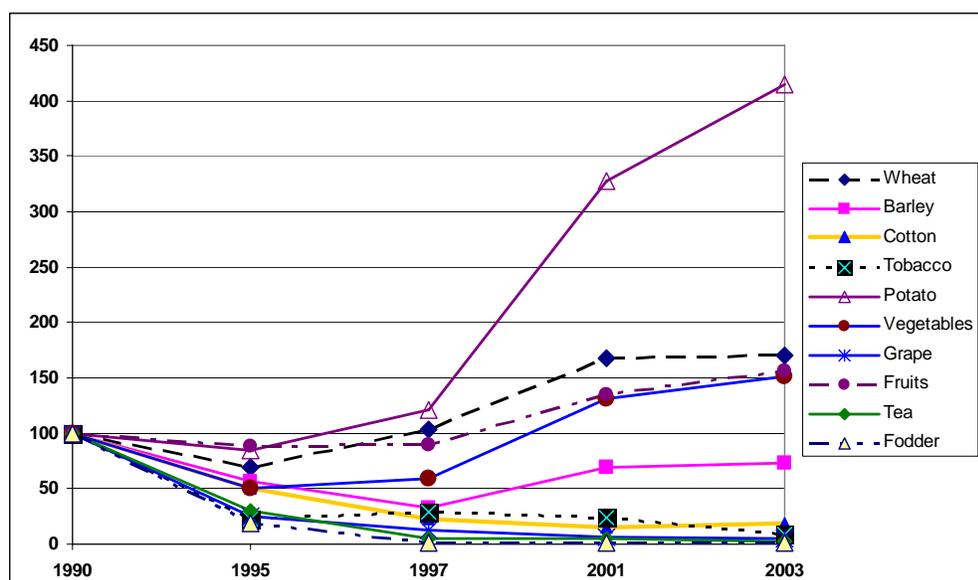
Food Items	1990	1995	1997	1999	2000	2001	2002
Grain Products (flour equivalent)	153	141	143	150	155	160	165
Potato	27	23	27	38	47	55	57
Vegetables	68	69	73	109	129	135	139
Fruits (incl. grapes, excl. wine production)	33.4	61.8	60.1	63.8	60.1	62	63
Sugar and Sugar products	35	12.2	14.1	16.1	16.8	22.2	24.5
Meat and Meat Products (including animal fat)	32	15	15	22	22	21	25
Fish and fish products	4.2	1.3	1.6	2.7	2.7	4.5	4.7
Milk and Dairy products (as milk equivalent, incl. butter)	295	138	142	152	154	178	192
Eggs (units)	144	76	76	110	112	117	121
Vegetable Oil	2.5	2.1	2.3	2.7	3.1	5.8	7.8

Source: Statistical Yearbook of Azerbaijan (<http://www.azstat.org/statinfo/foodsecurity/yearbook/2003/en/index.shtml>)

**1.10 Cropping patterns changed in response to the elimination of price distortions and shifts in demand.** Because export markets were lost and most output subsidies ceased after independence, prices were determined primarily by local market conditions. Domestic demand focused on staples and those products that could be produced on small farms and were useful for own-consumption. In response, farmers began to shift production, and naturally started to produce more of the products where the natural comparative advantage was re-emerging (see Figures 1.7 and 1.8). Cash, industrial and export-oriented products like tea, fodder, cotton and pork continued their decline. At the same time, production of

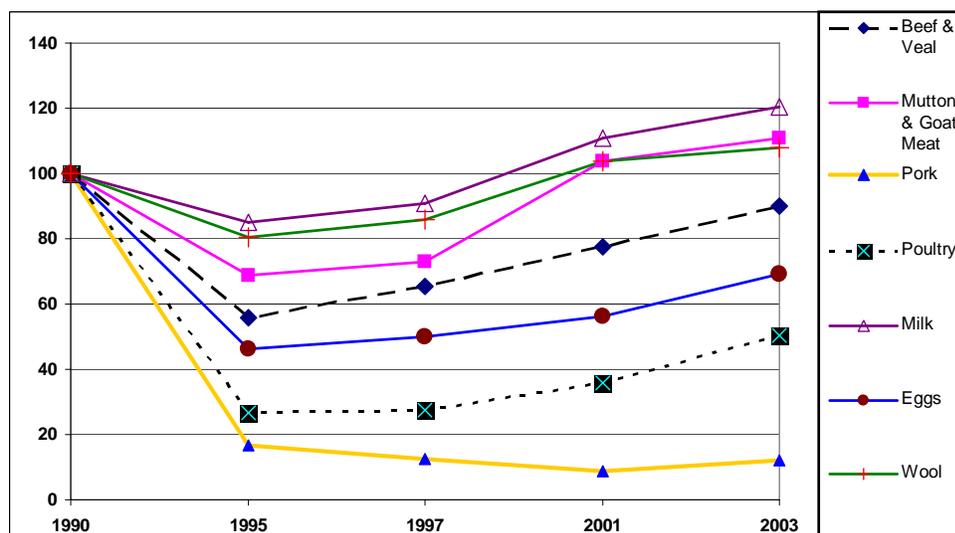
potatoes, fruits, vegetables, wheat, milk, beef and mutton recovered to levels above where they were at independence. The gains in wheat and potato production were despite the fact that Azerbaijan does not appear to have any comparative advantage in their production, and likely resulted because of their use for subsistence and barter, their relative ease of storage, constraints on markets for the other crops, and in the case of potatoes ease of production on household plots. Crops like wheat that typically require mechanization might also have benefited from fuel subsidies provided to agriculture by Government. Meanwhile, grape production has not fared as well as other fruit crops, likely because of the dependence on the wine processing industry. In contrast milk, which can be produced with one backyard cow and can be used for own consumption or sale, has experienced a steady increase in production, from 970 million liters in 1990 to 1.2 billion liters in 2003.

Figure 1.7: Crop Production Indices, 1990-2003 (1990=100)



Source: State statistical Committee of Azerbaijan (<http://www.azstat.org/statinfo/agriculture/en/index.shtml>); Note: melons have been included with vegetables for consistency with cross-country FAO figures below

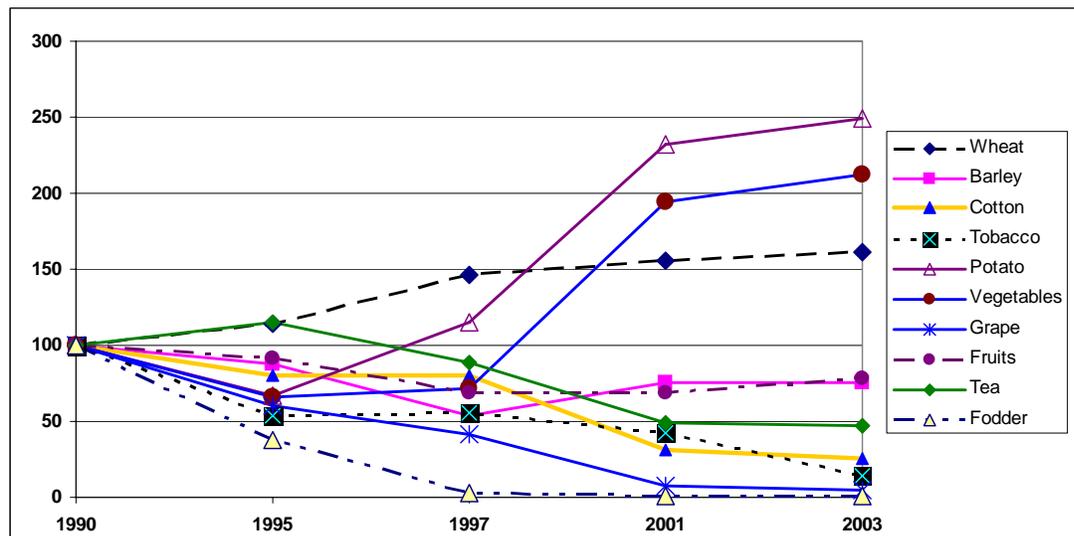
Figure 1.8: Livestock Production Indices, 1990-2003 (1990=100)



Source: State statistical Committee of Azerbaijan (<http://www.azstat.org/statinfo/agriculture/en/index.shtml>)

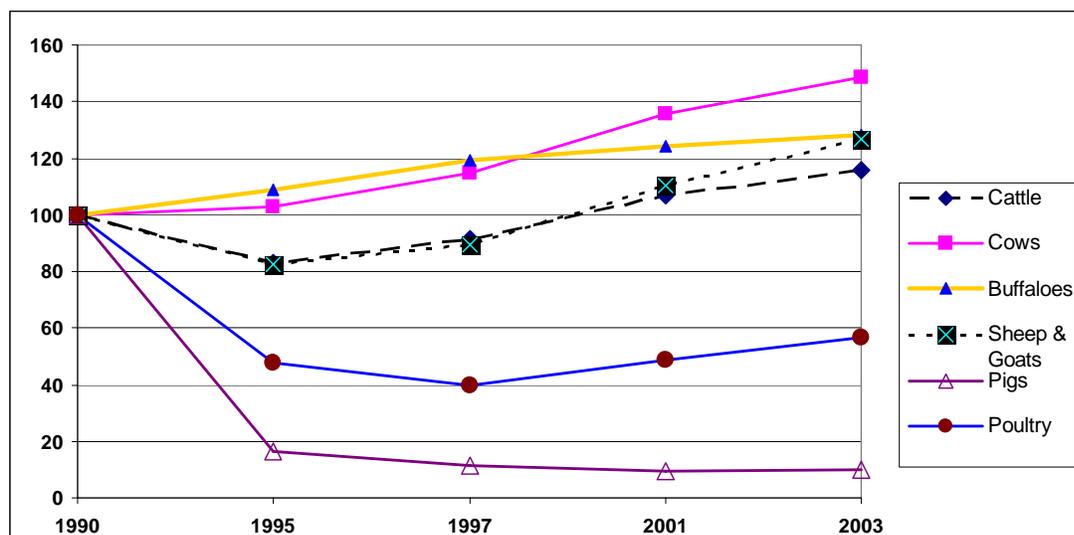
1.11 **The changes in agricultural production that have occurred since farm restructuring were due to changes in crop areas and yields, as well as increases in livestock numbers.** The charts below show the dramatic changes that have occurred in areas planted and yields since independence and the subsequent re-structuring of farms in the mid- to late-1990s. The greatest increases in area were for staples such as potatoes and wheat, as well as vegetables, with the largest increases coming after land privatization in 1997 (see **Figure 1.9**). Other crops that depend much more on markets such as grapes, forage, tea, tobacco and cotton experienced dramatic declines. The greatest advances in yields, meanwhile, occurred in fruits, for which an impressive doubling was generated since 1990. Azerbaijan should have a comparative advantage in fruit production under the new farm structures, with most of these gains also coming after 1997 (see **Figure 1.11**). For livestock, investment in larger herds was primarily responsible for the increases in production, since yield increases were much less common than with crops (see **Figures 1.10 and 1.12**). This is not surprising given the tremendous decrease in fodder production (see **Figure 1.7**).

**Figure 1.9: Crop Area Indices, 1990-2003 (1990=100)**



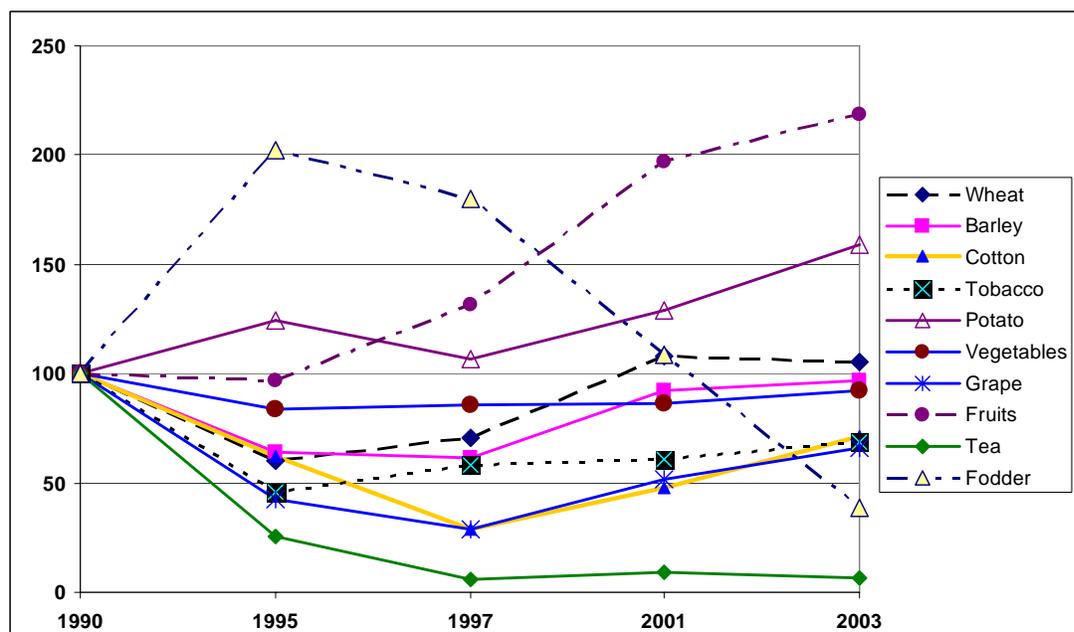
Source: State Statistical Committee of Azerbaijan (<http://www.azstat.org/statinfo/agriculture/en/index.shtml>); Note: melons have been included with vegetables for consistency with cross-country FAO figures below

Figure 1.10: Livestock Number Indices, 1990-2003 (1990=100)



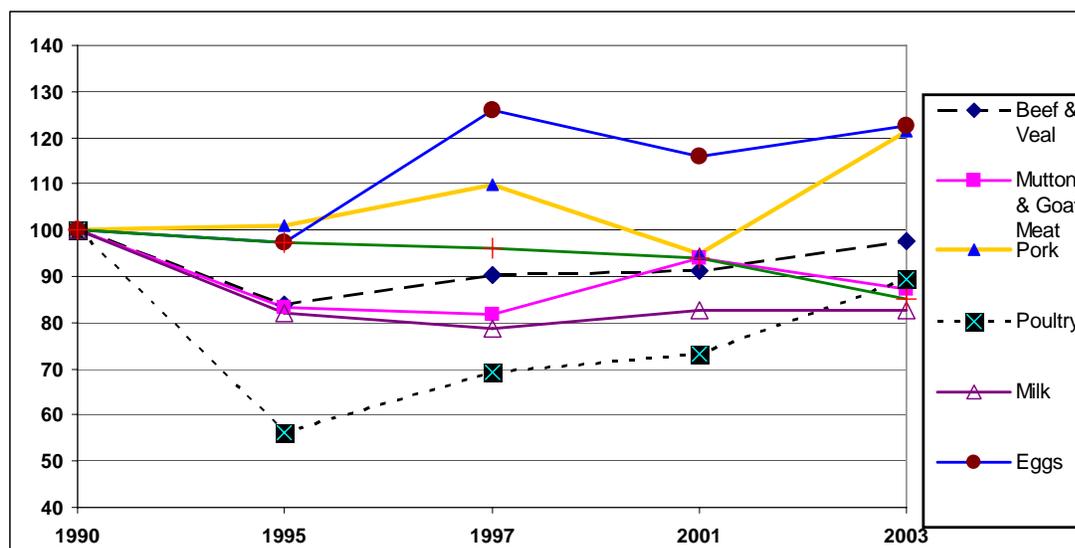
Source: State statistical Committee of Azerbaijan (<http://www.azstat.org/statinfo/agriculture/en/index.shtml>)

Figure 1.11: Crop Yield Indices, 1990-2003 (1990=100)



Source: State Statistical Committee of Azerbaijan (<http://www.azstat.org/statinfo/agriculture/en/index.shtml>); Note: melons have been included with vegetables for consistency with cross-country FAO figures below

Figure 1.12: Livestock Yield Indices, 1990-2003 (1990=100)



Source: State statistical Committee of Azerbaijan (<http://www.azstat.org/statinfo/agriculture/en/index.shtml>)

## B. FUTURE CHALLENGES

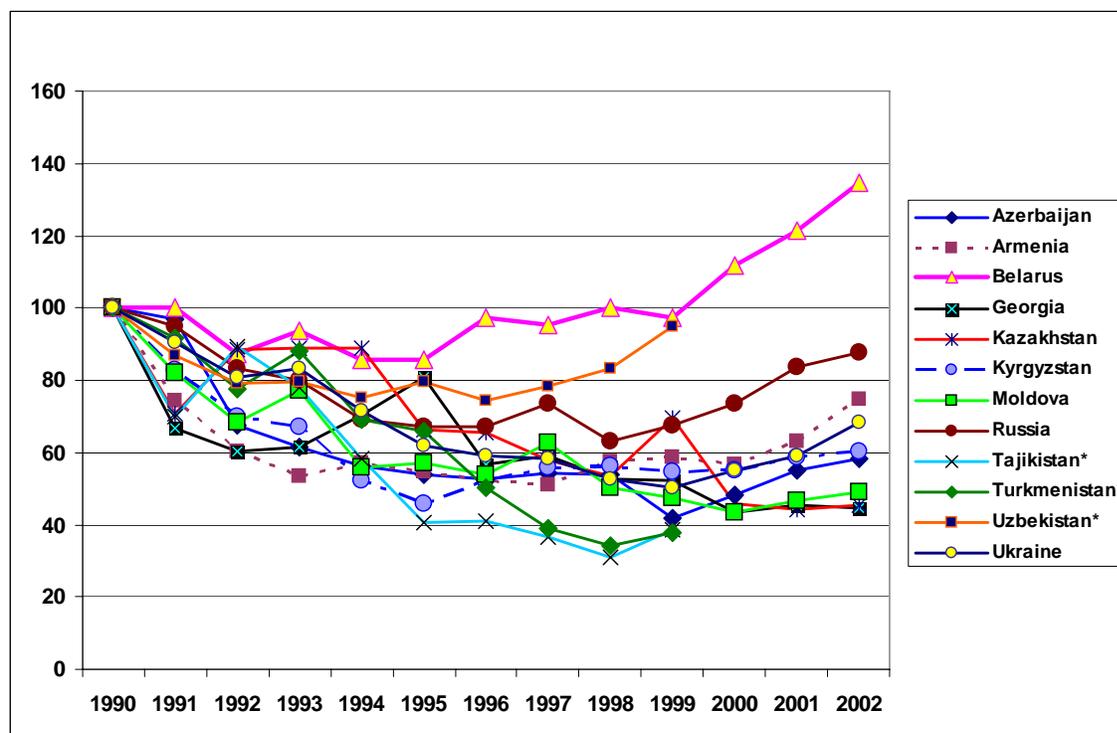
### Building on Reforms

1.12 **While Azerbaijan has made progress in reforming the agricultural sector, much remains to be done.** As we have seen, the essential activities of restructuring the agricultural sector have been carried out, and the benefits have begun to be seen in the form of increased agricultural GDP, and in some cases increased yields, area cropped and production of crops for which Azerbaijan should have a comparative advantage. However, if this progress is to continue and expand, more needs to be done for the sector. Efficient and rapid production growth needs to be sustained for continued poverty reduction, employment creation and sector growth. This will happen if growth is focused on those sectors where Azerbaijan enjoys a natural comparative advantage and on market- and export-oriented production of crops such as fruits, vegetables and dairy, and gradually shift away from crops such as wheat, potatoes and cotton. But as we have seen, markets have not done a good job of translating comparative advantage into opportunities, and this reduces incentives for farmers. As a result, growth in the agricultural sector has begun to slow, down to 5.6% in 2003. In order to create the right incentives for farmers and sustain growth, improvements in the organization of agricultural markets are required.

1.13 **Labor productivity is still low.** Although initial reforms were largely cosmetic, when Azerbaijan finally adopted a comprehensive reform agenda beginning in 1997, they moved ahead rapidly, spurring a significant recovery in agriculture. One measure of this is agricultural labor productivity (see **Figure 1.13**). As mentioned above, during the transition labor productivity in the Azerbaijani agricultural sector fell sharply as agricultural output fell and labor poured into the agricultural sector, and it remains significantly lower than it was in 1990 and one of the lowest in the CIS. However, as a result of the reforms carried out in the 1990s, by 2000 agricultural productivity began a slow but steady rise. For incomes to increase and poverty to be reduced in the agricultural sector, labor productivity growth must be accelerated and sustained. This will require increased competitiveness and more efficient markets in the agricultural sector, as well as non-farm rural employment, including in the agro-processing sector.

Increased incomes will create more demand for goods and services in the rural sector, which will generate a virtuous circle of growth and increasing incomes.

Figure 1.13: Agricultural Labor Productivity Indices for CIS, 1990-2002 (1990 = 100)



Source: Lerman, Zvi Csaba Csaki and Gershon Feder (2004), Agriculture in Transition, Land Policies and Evolving Farm Structures in Post-Soviet Countries, Lexington Books, USA- Updated by AMST. \* = no data available after 1999

## C. COMMODITIES WITH THE LARGEST POTENTIAL

### Azerbaijan Has a Greater Comparative Advantage in Fruit & Vegetable and Dairy Production

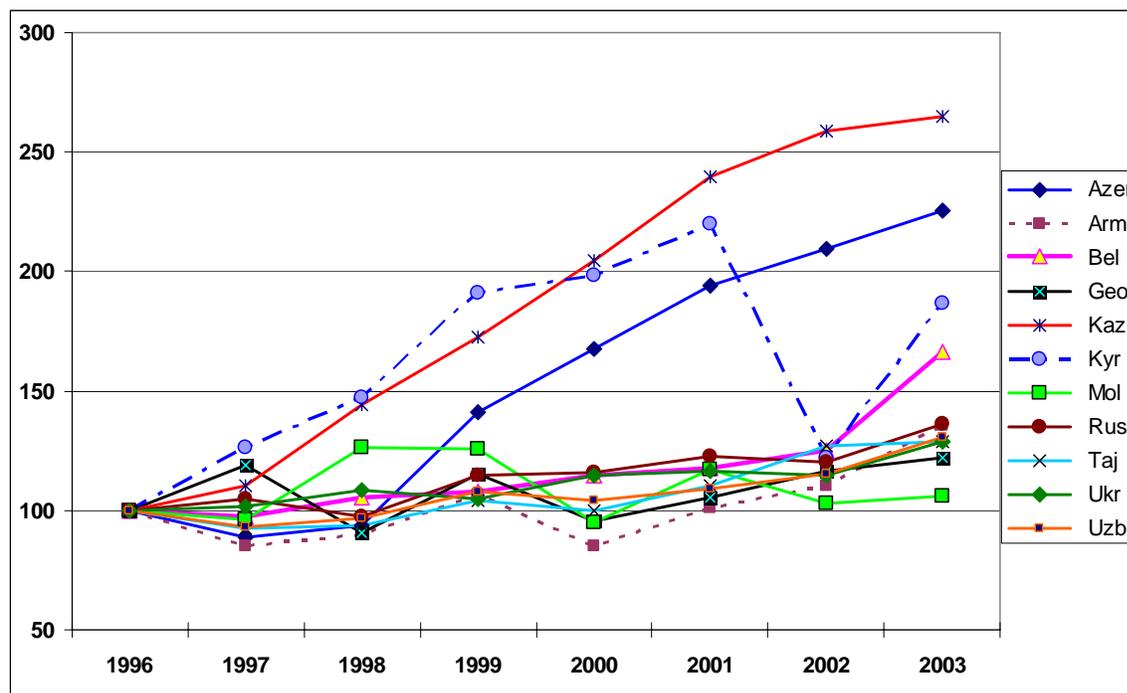
1.14 **Both fruits and vegetables and dairy have been important parts of Azerbaijan's agricultural output for decades.** In the former Soviet Union and parts of Europe, Azerbaijani fruits and vegetables -- both fresh and processed -- still benefit from positive consumer recognition. This dates back to Azerbaijan's position as one of the primary suppliers of fruits and vegetables to the USSR. Milk was produced on large collective farms and processed by factories in the main cities. However, as with other sub-sectors, the entire production and marketing system fell into a precipitous decline after the fall of the Soviet Union. Though there is a considerable body of experience in fruits and vegetables and dairy production among the farming population, in many cases their cultivation, harvest, and post harvest methods are not up-to-date.

1.15 **Azerbaijan is fortunate to have favorable natural conditions for the production of high-value agricultural products like fruits, vegetables and dairy.** Its suitable climate and soils, along with diverse terrains, provide favorable opportunities to grow a broad variety of products, from citrus to stone fruits. Fruits and vegetables (F&V) are produced in many regions. The bulk of the commercial supply used for both domestic and export marketing as well as for processing is grown in a roughly north-south band stretching from the northern border above Guba & Xacmaz down to the southernmost city of Astara.

There are also good natural conditions for cattle breeding and milk production (at least as favorable as in neighboring countries like Iran or Turkey), with the ability to produce any of the required feed (green grass, hay, corn silage, agricultural byproducts). And as we have seen, production of F&V and dairy in Azerbaijan has stabilized and started to increase. The rich flora of Azerbaijan could also enable it to expand into the lucrative medicinal and essential oil plant sector.

**1.16 The recovery of output in Azerbaijan's horticultural sector compares favorably to production in the region.** Other countries in the region, particularly the CIS, underwent a similar transition but Azerbaijan has been doing better than most in vegetable production, lagging only Kazakhstan in terms of output growth (see **Figure 1.14**). Production is now more than twice as high as in 1996.

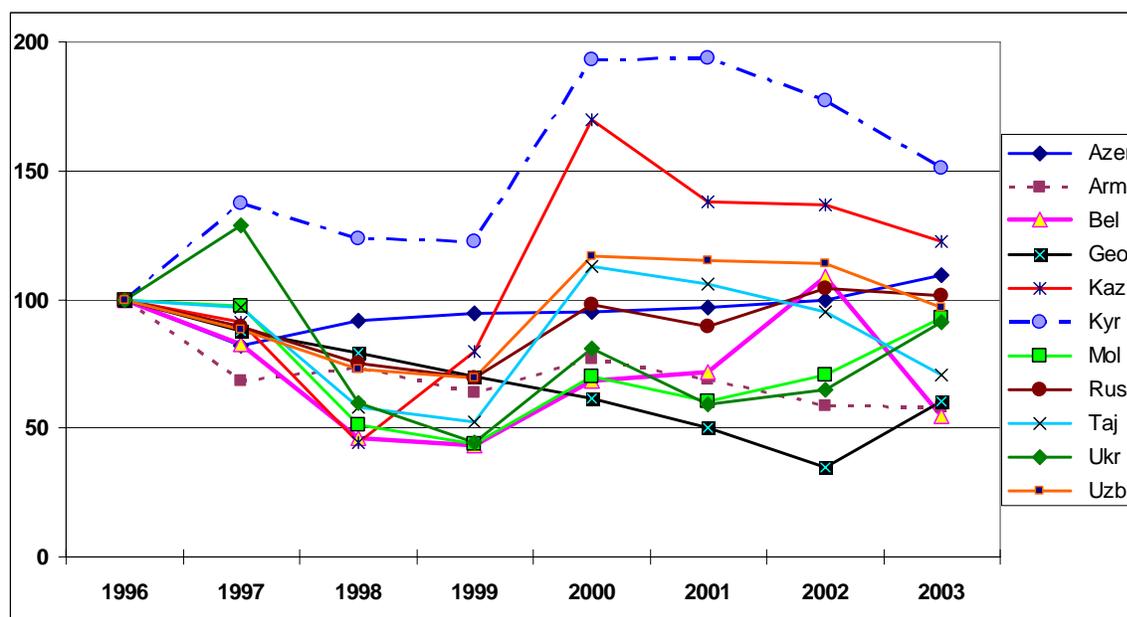
**Figure 1.14: Regional Vegetable Production Volume Indices, 1996-2003 (1996 = 100)**



Source: FAOSTAT.

**1.17 Despite a reduction in overall planted area, Azerbaijan's fruit producers have achieved growth in fruit production.** The experience of other countries in the region has been very mixed with production undergoing a significant decline in many of them (see **Figure 1.15**). Azerbaijan's production performance since privatization in 1997 compares well with other CIS countries, surpassing all but Kyrgyzstan and Kazakhstan (both of whose production has recently decreased).

Figure 1.15: Regional Fruit Production Volume Indices, 1996-2003 (1996 = 100)



Source: FAOSTAT.

1.18 **More than other agricultural commodities, F&V and dairy lend themselves to higher-value marketing opportunities, higher incomes, more employment and multiplier effects, and Azerbaijan has a comparative advantage in their production.** A recent World Bank rural development strategy notes that high-value products like F&V and dairy provide an opportunity for farmers in transition countries to compete for a share of lucrative export markets.<sup>18</sup> Horticultural and dairy products often require a considerable amount of rural labor to produce, harvest, and process. This provides a relatively stable source of employment and income. These products can also have a direct impact on food security, particularly in the more remote or poor areas. In contrast, bulk commodities such as wheat, cotton and tobacco are subject to the vagaries of stiff global competition and international pricing that is declining over time, and are often not useful for own-consumption. International trade in high-value agricultural products is growing at 7% annually, compared with only 2% for staple crops.<sup>19</sup> Further, household surveys show that on average farm households that produce fruits, vegetables or milk are considerably less likely to be poor than households that do not, whereas households that produce grain or cotton are as much or more likely to be poor.<sup>20</sup> What is more, cotton and tobacco cannot be consumed and do not enhance food security. Finally, as has already been seen, the DRCs show that Azerbaijan has a comparative advantage in the production of F&V and dairy, and should focus on them for efficient growth.

1.19 **Analysis shows that Azerbaijan should continue to have a robust comparative advantage in the production of these commodities.** This would indicate that there is a considerable potential for transforming the existing low productivity and low efficiency of the agricultural sector and, consequently, the agro-industrial sector that relies on it, by promoting the development of these sub-sectors. Sensitivity analysis in the Policy Framework Paper (PFP)<sup>21</sup> shows that F&V and dairy would remain competitive even under conditions of 20% lower world prices or a 20% appreciation of the Manat. And as Table 1.1

<sup>18</sup> *Reaching the Rural Poor: Strategy and Business Plan* (2003), World Bank internal report.

<sup>19</sup> *Ibid.*

<sup>20</sup> Sedik, D. (2002), *op. cit.*

<sup>21</sup> *Op. cit.*

demonstrated, agricultural wages continue to decline relative to the economy average, indicating that labor-intensive production can remain competitive. In contrast, the analysis indicates that Azerbaijan will have less of a comparative advantage in the production of the cereals wheat, barley, and maize, and the cash crop cotton, and could not compete with imports. Such commodities also require production and processing on a large economic scale that is not necessarily suited to Azerbaijan. These findings support the hypothesis that agricultural growth will be led by the production of crops and livestock products that are conducive to smallholder production. In response, **this study will use the fruit & vegetable and dairy sub-sectors to illustrate the opportunities and challenges facing the agricultural sector, and what can be done about them.**

### Demand for Fruits & Vegetables and Dairy Products Should Grow

1.20 **Domestic demand will grow faster for F&V and livestock products.** Domestic demand has begun to grow in recent years as purchasing power increases, particularly in urban areas, due primarily to the growth of the oil economy (see Table 1.3). As we have seen, over the past decade demand for fruits, vegetables and potatoes has surged more than for any other food category. In contrast, demand for milk and other livestock products plunged as incomes declined, and has only recently started to pick up again. In future, domestic demand for fruits, vegetables and potatoes will continue to grow, although rather slowly. As a result, it is likely that foreign demand holds the most potential opportunities for growth and profit in the F&V sectors. In contrast, the livestock sector would have a difficult time exporting due to the current poor state of collection and processing in the sector (see below), and competition from low-cost neighbors (such as Turkey and Russia). Fortunately, due to their higher income elasticities, demand for milk and dairy products in the domestic market is predicted to grow faster than any other category, with nearly a 200% increase from 2001 to 2010 (see Table 1.4). For dairy products, consumption is still much lower than the pre-independence level (295 kg/person/year in milk equivalent), but it is quickly recovering from its lowest level in 1995 (138 kg), and was already at 192 kg in 2002. This falls between EU and Near East figures, and is comparable to dairy consumption in other CIS countries.<sup>22</sup> As a result, although it lacks the export potential of F&V, the dairy sector should be able to grow on the basis of increasing domestic demand and substitution for imports.

**Table 1.4: Projected Domestic Food Demand for 2010, and Increase over 2001**

Food Items	Annual Per Capita Consumption (kg)	Total Consumption (tons)	Rate of Increase 2001 - 2010
Grain Products (wheat flour equivalent)	172.8	1,526,049	%8
Potato	58.8	519,280	%7
Vegetables (including melon and watermelon)	144.5	1,276,123	%7
Fruits (incl. grapes, excl. wine production)	74.4	657,049	%20
Sugar and Sugar products	28.8	254,341	%30
Meat and Meat Products (including animal fat and offal):			
Red Meat	21.5	189,873	%30
Poultry Meat	5.8	51,222	%29
Fish and fish products	5.8	51,222	%30

<sup>22</sup> EU 15: 240 kg in 1999 (max: Finland=500 kg; min: Spain=190 kg), Iran: 50 kg, Turkey: 150kg, Russian Federation: 170 kg, Kazakhstan: 150kg, Ukraine: 140 kg (FAO statistics).

Milk and Dairy Products (milk equivalent, no butter)	115.0	1,015,600	%198
Eggs (units)	7.4	65,352	%40
Butter	3.2	28,260	-%30
Vegetable oil	8.1	71,534	%40
Alcoholic Beverages	6.7	59,170	%15

Source: MAK Consultancy Group Estimations - Macro-economic Analysis and Forecasting Study Final Report, October 2002; PFP, op. cit.

1.21 **However, for now dairy consumption patterns are constrained by low purchasing power, which is discouraging investment.** The dairy product range is currently limited mainly to fresh milk, yoghurt (and other types of fermented products), and soft (feta style) cheese<sup>23</sup>. Most processors serve the average consumer and therefore operate in low-margin markets. The argument could be reversed and it could be argued that the demand for traditional products – in particular white cheese – is conditioned by the constraints faced by suppliers (poor bacteriological quality of milk<sup>24</sup> and poor refrigeration conditions). The production of soft cheese is also a way to absorb summer milk production peaks in the absence of other technological solutions. In any case, current consumption patterns, based on low-margin products, are certainly discouraging investment in the dairy sector.

1.22 **Fruits and vegetables appear to have a greater range of export market opportunities than dairy.** Consumers in rich countries are increasingly demanding fresh F&V year-round. For example, almost half of all US agricultural imports are now horticultural. These markets are often driven by immigrants. In part because of their higher value and relative scarcity in northern markets (especially in the case of exotics), this is a rapidly growing, high-value market. Azerbaijani farmers have already begun to tap this market to some extent with their production and export of tomatoes produced in greenhouses. There is also a growing market for a variety of processed fruit products such as juices. There are plenty of varieties available on the domestic market ranging from pomegranate and peach to persimmon and plum. The demand is such that several processors import off-season and also lower cost filler concentrates (e.g., white grape juice) to process and sell locally. Fruits are also exported both as fresh products (mostly apples) and processed products (mostly juices). As the demand for sweet “filler” juices such as white grape juice increases, there may be opportunities to resuscitate the moribund grape industry to replace the current imports.

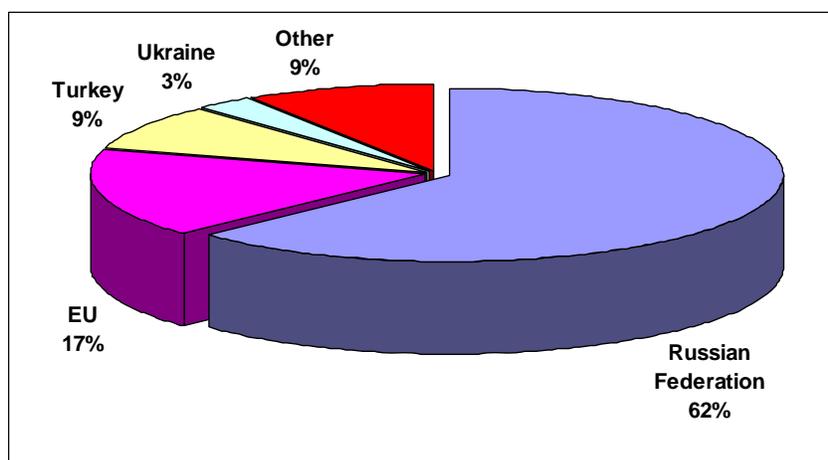
1.23 **In the short term, Azerbaijani firms will continue to have difficulty accessing high-value European and US markets.** The exception will continue to be for high-quality and upscale products, but these are relatively small niches (for example candied green walnuts, pomegranate juice and buffalo mozzarella). While these niche markets (in Europe and the US) can be valuable and even sizable—with one company shipping 40 containers in its second season—they should probably remain a secondary focus in the short term for average Azerbaijani producers for at least two reasons. First, Azerbaijan has many market opportunities that are closer to home and where their products are recognized and may have a reputational advantage. Second, beyond the niche areas, the US and European markets will typically require higher standards and marketing capacity that will be costly and time-consuming for Azerbaijani processors to achieve. There are of course exceptions, and over time Azerbaijani producers could increasingly shift their focus to these markets. Azerbaijan could begin to target these markets by pursuing a limited strategic focus in three areas: i) bulk processing of juices and tomato paste for foreign packers; ii) the niche and ethnic markets as mentioned above; and iii) in the development of certified organic products.

<sup>23</sup> Consultant’s estimate is: fresh milk (mostly raw): 17%, yoghurts and other fermented products: 22%, white cheese: 47% (% refer to milk equivalent).

<sup>24</sup> Bacteriologic count is less important for white cheese preserved in brine than for e.g. liquid milk or FDPs.

1.24 **Azerbaijani firms are making headway in regional markets.** The traditional external markets for Azerbaijani products collapsed after independence and went through a period of turbulence during most of the 1990s. Now Azerbaijani firms are again making headway in regional markets—particularly those in Russia which accounts for over 60% of Azerbaijan’s exports<sup>25</sup> (see **Figure 1.16**)—where there are considerable advantages and opportunities (as well as the risks for dependence and new competition<sup>26</sup>). There are certain cultural and linguistic affinities developed over more than 70 years of Soviet rule. Azerbaijani products have a brand image in the former Soviet and Eastern Bloc countries since the country was a primary supplier of F&V products to the former Soviet Union. There are networks of Azerbaijani nationals active in some of these markets, particularly Russia, where Azeris dominate a number of Moscow’s fresh F&V markets, including terminal markets. Other potentially valuable regional markets for Azerbaijani F&V products include the Balkans, Black Sea countries, other CIS nations, Turkey, Iran, and soon Iraq. There is probably less scope for dairy exports to these countries due to their own competitive domestic production.

**Figure 1.16: Exports of Agricultural Products by Destination Country, 2003 (share of total)**



Source: UN Statistical Division Commodity Trade Database

<sup>25</sup> The largest share of these exports is for vegetable oils and oilseeds, with fruit exports coming in second.

<sup>26</sup> A recent report notes that: “Russia’s food processing sector continues to grow at a strong pace, with total output in 2002 increasing by nearly 14 percent to an estimated \$25.9 billion. Growing consumer demand for new and better quality food products, a healthy economy and further investment from both domestic and foreign sources is stimulating the continued rapid expansion in the local food processing sector.” Source: United States Department of Agriculture, Foreign Agricultural Service - Russian Federation, February 10, 2004.

## 2. THE SECTOR IS NOT REACHING ITS POTENTIAL DUE TO MISSING OR INEFFICIENT MARKETS

2.1 **Although Azerbaijan has good potential in the F&V and dairy sub-sectors, it will not reach its potential unless it improves the organization of its markets.** As already demonstrated, Azerbaijan should have a natural comparative advantage in F&V and dairy production, but as with many other agricultural products it is not fully exploiting its comparative advantages. The reason for this is missing or inefficient markets. The latest World Bank global rural development strategy notes that, “strengthening farmer-to-market linkages is a crucial objective in promoting agriculture.”<sup>27</sup> Well-functioning markets are important because farmers need a place to sell their products and need good prices if they are to be able to afford the investments necessary to increase productivity (machinery, irrigation, land acquisition, etc.). Unfortunately, the prices received by farmers in Azerbaijan demonstrate that market distortions exist to their disadvantage, thereby sending the wrong signals and reducing their incentive to invest in production of high-value products like F&V and dairy. The current state of agricultural markets is instead resulting in the cultivation of crops like wheat and potatoes which are useful for subsistence, but which have low margins and in which Azerbaijan does not have a strong comparative advantage. The main cause of low prices is disorganized and underdeveloped agricultural markets. If Azerbaijan’s currency appreciates due to “Dutch disease” effects of oil exports, improving the efficiency of markets and increasing emphasis on higher-value agricultural products will be essential to maintaining export competitiveness. Increased efficiency of markets also has the potential to benefit consumers as well as producers by reducing prices in retail markets.

### **The Sector Has Been Unable to Make the Most of Its Comparative Advantages**

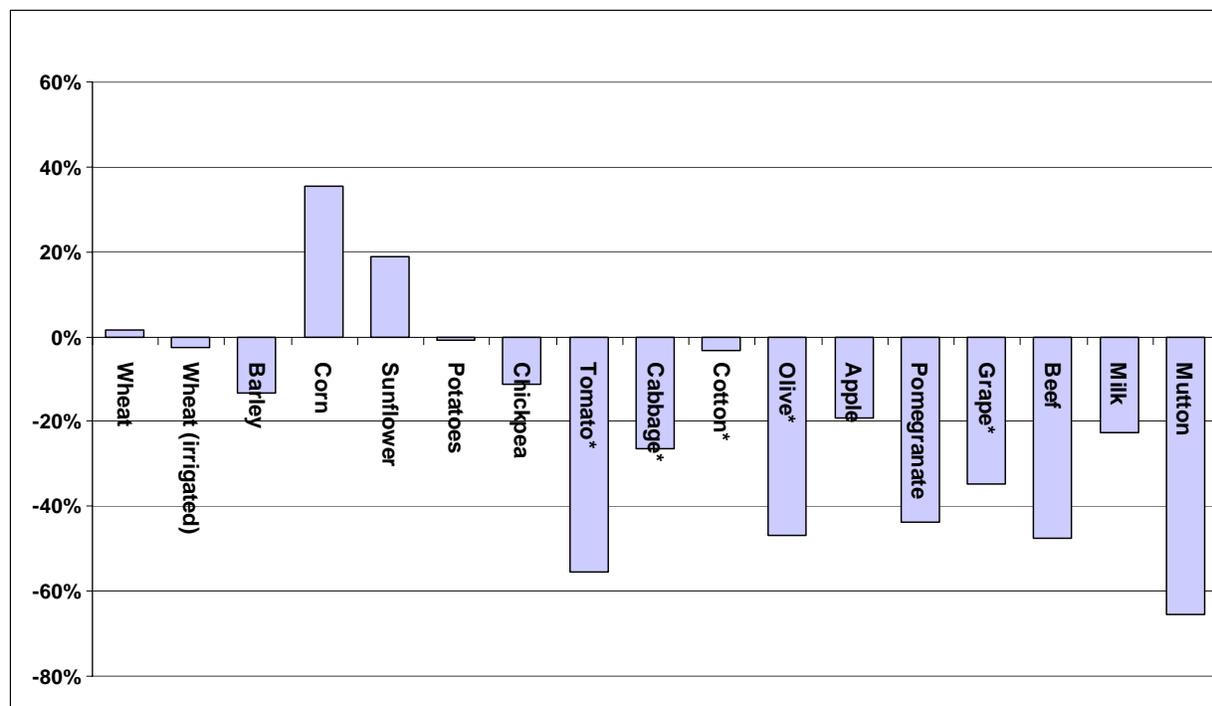
2.2 **Prices received by farmers collapsed and remain low because markets have not developed.** Although there have been some improvements as a result of the reforms enacted over the past decade, the supply response and investment in agricultural production has been disappointing. As a result, net exports of agricultural products have been shrinking. A primary reason is that due to market inefficiencies, domestic prices do not provide producers with enough incentive. For the majority of agricultural products, farmgate prices are lower than, or at best close to, international prices. These results are reflected in **Figure 2.1** for agricultural outputs, which compares the prices received by Azerbaijani farmers to international prices, after accounting for transportation, handling and other costs. On average, Azerbaijani farmers receive around 80% of the international price for crops, and as low as 60% for grapes and pomegranates.<sup>28</sup> This indicates that the result of government policies and market failures is a reduction of farmgate prices to the disadvantage of producers. The figures for livestock outputs are even more discouraging, at 50% for beef, 80% for milk and 30% for mutton. These low farmgate prices barely cover the cost of harvesting and certainly not the cost of farm and equipment maintenance, much less new investment. In addition, by combining this analysis with the analyses of

<sup>27</sup> *Reaching the Rural Poor: Strategy and Business Plan* (2003), World Bank internal report.

<sup>28</sup> This analysis and the price analyses further along the marketing chain that follow are based on Nominal Protection Coefficients (NPCs). These are standard measures of domestic market distortions relative to world markets, and are defined as the degree of protection given to a good by tariffs and other restrictions on imports. In this case they are equal to the ratio of the domestic price actually received by farmers and the border parity price, after accounting for transaction costs. These figures are from the Policy Framework Paper, and a detailed description of the methodology and data sources can be found there.

subsequent links in the value chain that follow, it allows for a more rigorous evaluation of prices than is often employed because world prices are used as benchmarks.

**Figure 2.1: How Much Azerbaijani Farmers Are Receiving for Outputs Relative to World Prices, %**



Source: calculated from the Nominal Protection Coefficients for farm outputs in the PFP, op. cit. The calculations account for transportation and other transaction costs. See PFP and annexes for details on how the calculations were carried out. \* = Only for irrigated crop.

**2.3 Prices are lowest for those crops in which Azerbaijan should have the greatest comparative advantage.** For example, tomato, cabbage, chickpea, grape, apple, pomegranate, and olives are all crops in which Azerbaijan should have a comparative advantage, and yet producers receive very low farmgate prices for all of them. The same holds for the livestock products (beef, milk and mutton). In fact, agricultural producers receive low prices compared to international prices in all markets except for wheat, corn, sunflowers, potatoes and cotton, which helps to explain why farmers continue to grow them. The exception is sunflowers, where Azerbaijan has a comparative advantage and farmers receive slightly more than parity prices, which helps to explain why Azerbaijan has been so successful in exporting sunflowers and sunflower oil to Russia and other countries (see Figure 1.16).

**2.4 In the face of these low prices, the area cropped to fruits has not recovered from its decline after independence, and investment in agriculture has never recovered.** This is particularly true for fruits like grapes and apples that were primarily grown for processing and export and have less importance to farmers for food security (see Figure 1.9). The total area cultivated to grapes has suffered the greatest decline, plummeting from a 1980s average of 244,000 hectares to less 100,000 in the mid-1990s and to a low of only 9,000 hectares in 2002. In general, as we have already seen (see Table 1.1) capital investment in agriculture has dropped to less than 1% of the total and shows no signs of recovering.

## Development of Markets is Still at a Nascent Stage

**2.5 Although farms were privatized, necessary market structures and institutions that would support the radical shift to privatization did not exist until recently and are still at a nascent stage.** As a result, most farmers find it difficult to market their products. While local enterprises are slowly developing to provide marketing and other value-adding services, these face a number of hurdles related to both fractured market systems as well as an array of bureaucratic disincentives. The market and bureaucratic constraints have stifled enterprise development and consequently the productive output of farmers, and have resulted in the growth of a large informal sector. The existence of the informal sector has some advantages: it contributes to low consumer prices and ensures a certain level of income to the smallest producers (who may have difficulty joining more formal markets). On the other hand, its prevalence maintains the sector in a state of underdevelopment. It is a serious handicap to the development of hygienic and quality standards, to the evolution of supply towards higher-margin products, and to the development of competitive farming. It creates market distortions related to the contrasting levels of compliance with regulations<sup>29</sup> between informal and formal market operators, which translate into very different levels of costs.

**2.6 Market channels exist only in a very rudimentary form, and value chains are flimsy.** Most appear and subside in an ad hoc and informal manner or for brief seasonal business, even for retail markets (see Box 2.1). There are no clearly established channels in any category, including those for processors, supermarkets, and export where these would most likely first develop. Retail is fragmented and despite the presence of several supermarkets, their market power is still quite limited. There is an emerging presence of traders that informally channel products from farmers to wholesale markets, retailers, and export. Because of their market contacts, information, and ability to manage the logistics of moving fresh farm products, their intermediary power is growing. They may be the most profitable links in the value chain. They do however run some risks since there is very little useful storage and, if they export, their risks elevate sharply. Their informality also poses a considerable risk to producers since they appear and disappear from the market and thus cannot easily be held accountable; non-payment is reportedly common.

### **Box 2.1: Dairy marketing channels in Azerbaijan**

The most striking features of existing marketing channels are: (i) the extreme weakness of the local industry and collection systems, and (ii) the predominance of informal markets. Azerbaijani dairy products find their way to local consumers through three main types of channels:

- i. Direct sales from farmers to consumers, at the farm, by door-to-door delivery or at local markets. Products mainly include raw milk, yoghurts, white cheese, curds and butter.
- ii. Sales through milk merchants/traders. Traders typically collect milk and dairy products at the farm and have a network of retail buyers in cities (mainly small shops that do not require hygiene certificates). However, they also sell door-to-door.
- iii. Sales through milk processors, sometimes directly but mainly through collection centers (CCs). In turn, processors mainly sell to small city shops or/and supermarkets.

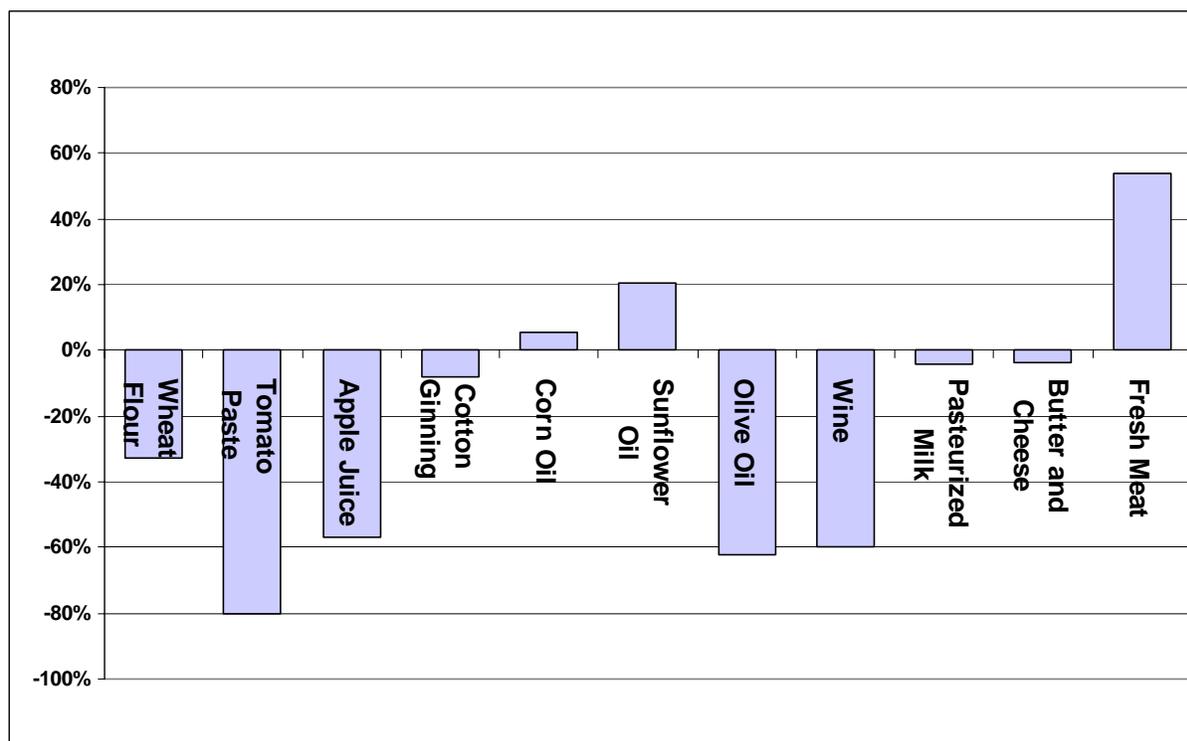
The two first channels can be described as informal in the sense that most operators involved in these channels do not comply with legislation (on taxes, VAT, hygienic standards). By contrast, “registered” processors have to follow stricter standards. They are more easily controlled and their own clients (retailers) have higher requirements.

Source: Azerbaijan Agricultural Markets Study Team (AMST)

<sup>29</sup> Mainly taxes and hygiene standards.

**2.7 Domestic value-added processing remains under-developed.** Although there was a significant privatization of industrial food production in Azerbaijan beginning in 1995, there has been little sign of recovery in the sector. The domestic processing of vegetable products is minimal, focused around tomatoes and preserved or pickled products. Upscale items are increasingly imported to satisfy a niche of affluent consumers who want a particular quality. In dairy, less than 10% of the products sold on the Azerbaijani market are processed by the domestic industry, and much of this is by processing units that could be described as artisanal. Modern supermarkets springing up around Baku are stocked primarily with imported items. In other words, Azerbaijani processors are having difficulty competing in their own domestic market, much less in high-value export markets. This is primarily due to low quality products and poor marketing, which reduce competitiveness and the prices received (see next paragraph). In addition, inefficient processing—especially with regard to process flow management and layouts, low capacity utilization, and outdated technology—results in high operating costs for processors. The combination of low prices received and inefficiency means that processors can only afford to pay low prices to farmers. These are reflected in **Figure 2.2**, which illustrates that the prices paid by Azerbaijani processors for their inputs are in nearly all cases quite low compared to international prices. One of the worst examples is tomato paste. Farmers receive very low prices for their tomatoes, while processors get their inputs for tomato paste very cheaply. An exception is meat. While farmers receive low prices for meat, processors pay high prices for their meat supplies. This indicates high transaction costs between the farmer and processor (for example, from veterinary inspections). As one might expect, since prices received by farmers for corn and sunflowers are high, processors have to pay slightly high prices.

**Figure 2.2: How Much Azerbaijani Agricultural Processors Are Paying for Inputs Relative to World Prices, %**



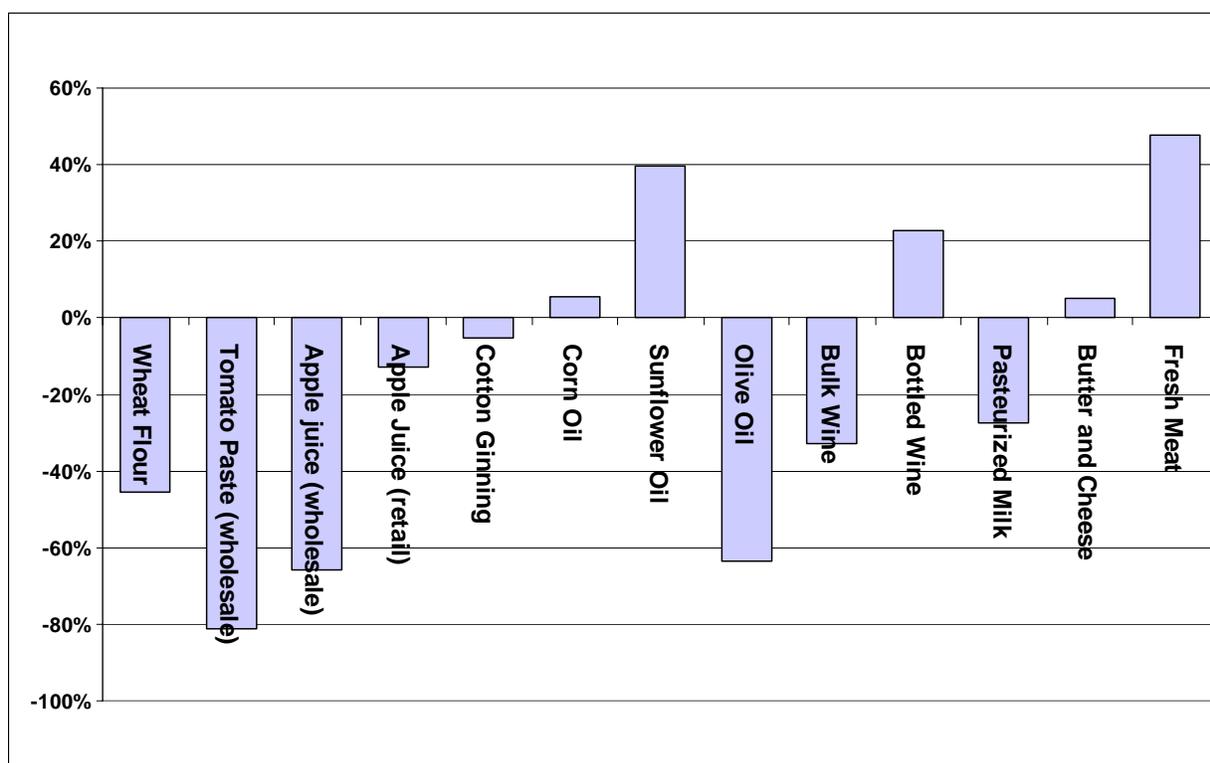
Source: calculated from the Nominal Protection Coefficients for processing inputs in the PFP, op. cit. The calculations account for transportation and other transaction costs. See PFP and annexes for details on how the calculations were carried out.

**2.8 Like producers, Azerbaijan’s agricultural processors also face low prices due to collapsed markets.** In general, processors have very few market contacts as evidenced by dependence on one or

two buyers and considerable inventories of finished product. Some are still characterized by a Soviet mindset that is supply- rather than demand-oriented. A number of the firms visited for this study were simply waiting in the hope that Government or some unknown client would place a large order, without having any real marketing strategy. However, as we saw in the previous paragraph, processors often have the luxury of passing some of the low prices they receive on to their suppliers, while farmers do not.

**Figure 2.3** provides the prices for the next link in the marketing chain, those received by agricultural processors relative to international prices. It shows that processors also receive low prices as a result of undeveloped markets. This includes markets such as wheat flour, tomato paste, apple juice, olive oil, wine, and milk. This helps to explain in part why processors cannot afford to pay more to producers. Notable exceptions are corn oil and sunflower oil. The high prices relative to parity prices received for these products are why processors can afford to pay more to farmers for the raw inputs. This is an indication that if prices can be improved for processors through increased market opportunities and decreased transaction costs, then some of these higher prices will be passed on to producers. However, the case of sunflowers also demonstrates that processors do not necessarily pass along the full value of higher prices—in this case 20% is being absorbed by processors due market and processing inefficiencies. The fact that processors receive relatively low prices for wholesale or bulk apple juice, wine and milk, and relatively high prices for retail, demonstrates the benefits of value-added processing. The output price of meat is relatively high, which indicates that processors are able to pass along most of the high price of their inputs to consumers.

**Figure 2.3: How Much Azerbaijani Agricultural Processors Are Receiving for Outputs Relative to World Prices, %<sup>30</sup>**



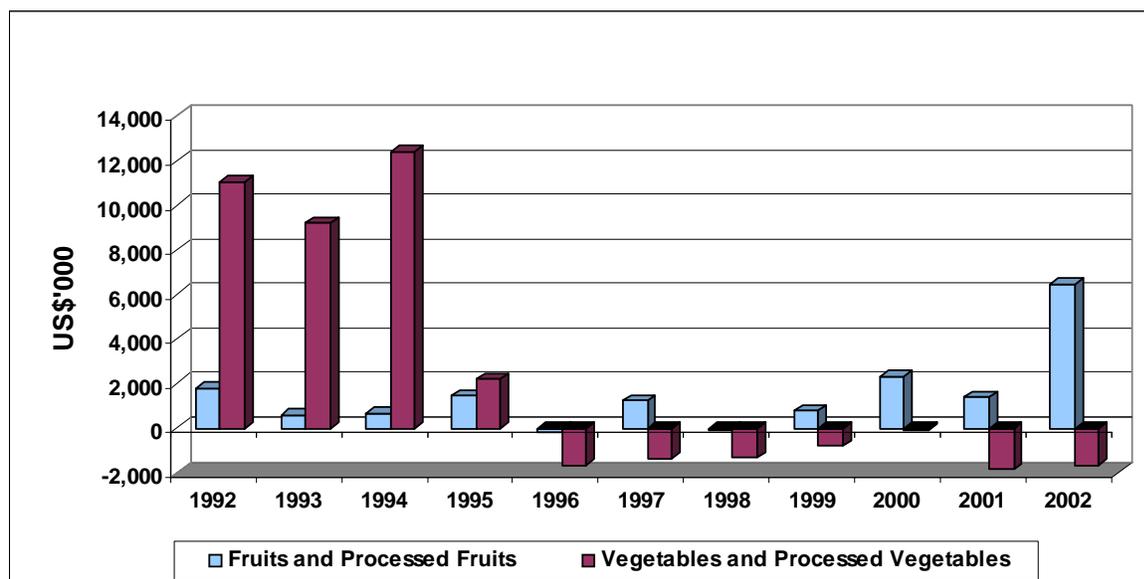
Source: calculated from the Nominal Protection Coefficients for processing outputs in the PFP, op. cit. The calculations account for transportation and other transaction costs. See PFP and annexes for details on how the calculations were carried out.

<sup>30</sup> Note: Calculated as NPCo = -Nominal Protection Coefficient for outputs for processors.

2.9 **There is no evidence of any clustering benefits, and technical and business capacity are lacking.** New providers of inputs and services are just beginning to emerge, although for most newly privatized farmers neither cash nor credit is available. Many of the emerging input industries<sup>31</sup> are one-of-a-kind and therefore exercise some monopoly power. As a result, their prices are high and the quality of their products is noticeably lower than that of competing imports. There is no evidence of any clustering benefits beyond the availability of such material inputs.<sup>32</sup> Consistent vertical and horizontal linkages are still uncommon for production, processing, or marketing. Instead, the sector is typically characterized by loose transactional relations without any meaningful cooperation for common benefits.

2.10 **Azerbaijani exports of F&V and dairy experienced a dramatic decline in the 1990s both in overall terms and as a percentage of production.** Figure 2.4 clearly demonstrates the near total collapse of Azerbaijani vegetable exports by the end of the 1990s. The majority of vegetable exports in the past were processed in canning factories that have mostly fallen into disrepair. Fruit products suffered a similar fate, although not to the same extent, and have since rebounded somewhat. Some key factors have worked to the disadvantage of exporters. Market information is very thin and only a few well-connected traders would typically make the attempt to export. In any case, accessing export markets is a considerable gamble since most transactions are on a consignment basis rather than a cash or contract basis. Stories abound of sales that fail to materialize, payments never made, and fruit left to rot. Persistent corruption means that bribes to road and border officials add considerably to the cost of transport. Reports of border inefficiency that can delay trucks by several days, as perishable products decay, can dramatically affect the viability of export.

Figure 2.4: Fruits and Vegetables Net Exports, 1992-2002 (US\$ '000)



Source: FAOSTAT

2.11 **Imports of fruits, vegetables and dairy also show a divergent path.** The rapid decline of the processing sector during the uncertain first half of the 1990s resulted in the importation of many

<sup>31</sup> For example, small-size, reusable, plastic field crates are now available for harvests. One paperboard manufacturer is providing packing boxes. A recently opened glass factory produces the smaller size jars required in the marketplace.

<sup>32</sup> P. Dusenbury, S. Rosenfeld, J. Traxler (2003) "Options for Developing a Fruit and Vegetable Processing Industry Cluster in Azerbaijan", unpublished internal World Bank report.

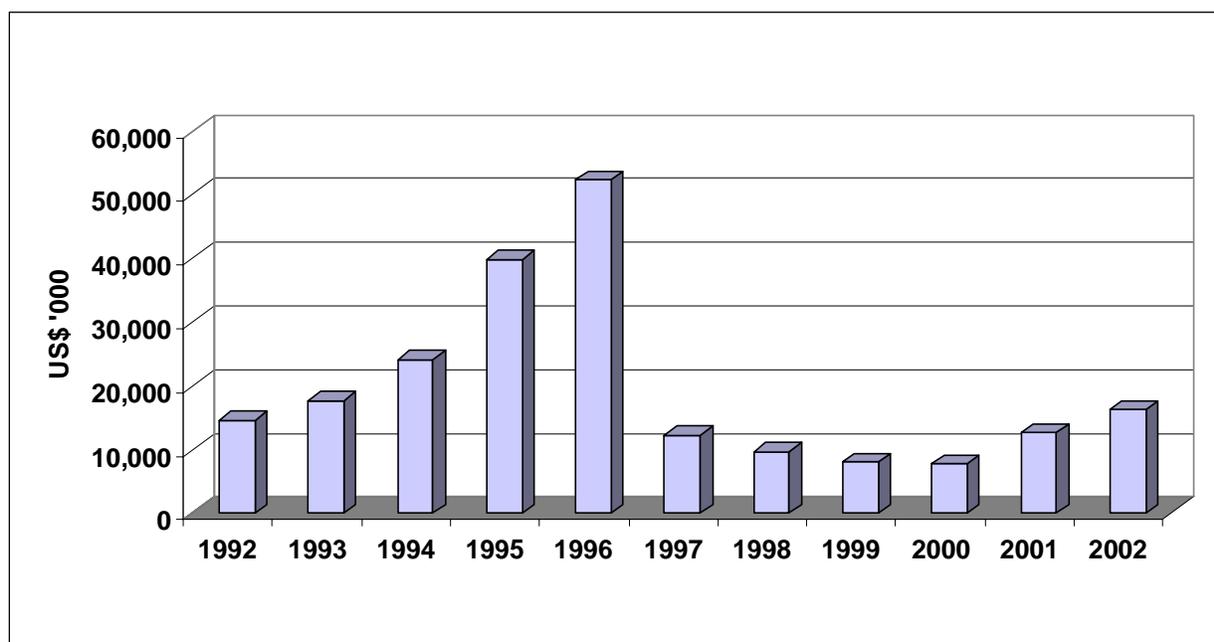
processed products. However, **Table 2.1** illustrates how domestic producers have recovered their market share for processed fruit products that was lost to foreign suppliers. Fruit imports that do occur are mainly seasonal or for varieties that do not grow locally. In contrast, imports of processed vegetables continue to rise, especially close-to-the-border exchanges from Iran and Turkey. Powdered milk imports are also significant. Other dairy imports are less controversial, for example yellow cheese which is not produced locally. Another noteworthy feature of local consumption patterns is the preference of Azerbaijani consumers for full fat milk products. Most dairy products are produced with non-skimmed milk, which partly explains why there is a deficit of butter in the country that needs to be covered by imports. This situation will not change significantly in the short term. **Figure 2.5** illustrates Azerbaijan's dependence on milk imports over time. It also illustrates the tremendous opportunity for import substitution in dairy—over US\$16 million worth in 2002.

**Table 2.1: Imported Processed Fruit & Vegetable Products ('000 mt)**

	1996	1997	1998	1999	2000	2001	2002
<b>Processed vegetables</b>	2.1	3.0	4.6	1.0	0.4	5.5	6.5
<b>Tomato paste</b>	1.2	0.8	3.4	1.6	1.1	0.9	1.2
<b>Fruit Jam &amp; puree</b>	2.4	0.5	0.5	1.6	0.3	0.2	0.2
<b>Fruit Juices</b>	9.5	1.4	2.4	1.7	1.5	1.3	2.0

Source: FAOSTAT

**Figure 2.5: Milk and Milk Products Net Imports, 1992-2002 (US\$ '000)**

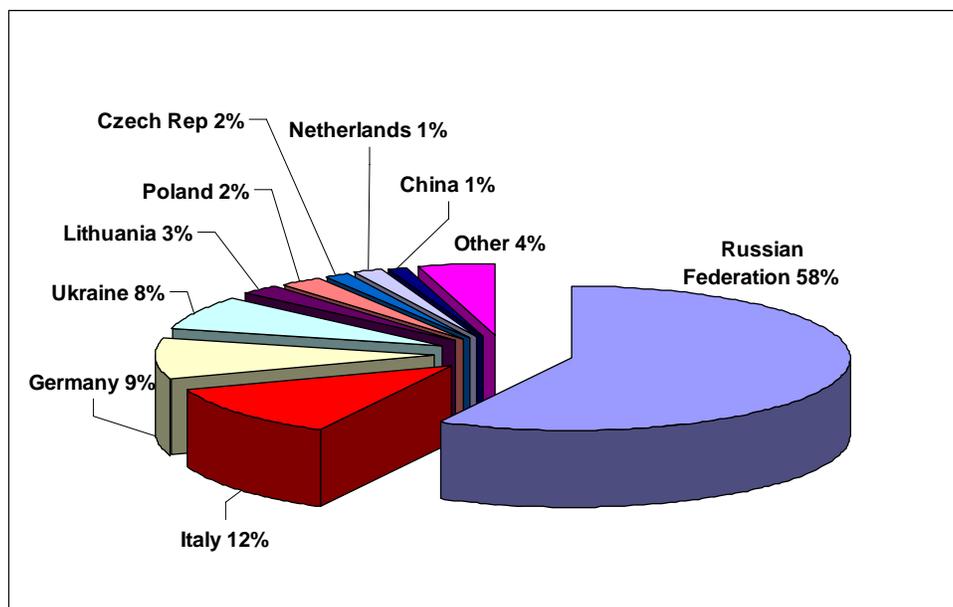


Source: FAOSTAT

2.12 With a few notable exceptions, **Azerbaijani agricultural firms have not been very successful in the higher-value European and U.S. markets.** **Figure 2.6** illustrates the situation for fruit exports,

which are highly dependent, like exports overall, on the Russian market. This lack of diversification is risky, as well as resulting in lower prices received compared to what would be possible in the higher-value markets. There are certainly opportunities in these higher-value markets, however these are primarily for processed products since much of the fresh produce cannot currently meet quality standards. Some firms have already entered these markets but only with highly specialized ethnic products that have little or no competition (for example candied green walnuts and pomegranate juice). The firms with well-established foreign contacts are doing better, most likely due to their access to foreign markets and a more sophisticated knowledge of product demand.

**Figure 2.6: Azerbaijan Fruit Exports by Destination Country, 2003 (% of total value)**



Source: UN Statistical Division Commodity Trade Database

## CONSTRAINTS ON THE DEVELOPMENT OF EFFICIENT AGRICULTURAL MARKETS

**2.13 Constraints including disorganized markets, inefficient processing, high transaction costs, and a poor business environment have combined to depress prices received by agricultural producers.** In some cases government policies—or the lack of effective policies and their implementation—also contribute to reduced producer prices. Normally, Azerbaijan’s re-emerging comparative advantages should drive agricultural growth. But because of the problems with agricultural markets these comparative advantages are not transmitted to producers (and in some cases processors) in the form of higher prices. As a result, incentives for investment and production in the agricultural sector are reduced and Azerbaijan is unable to realize its comparative advantages.

**2.14 Constraints on the development of Azerbaijan’s agricultural sector include the following:**

- **Disorganized supply chains:** vertical coordination (VC) in the supply chain is essential for improving markets and developing the sector, but at present little of this is taking place. VC is typically driven by private investment in agro-processing, especially foreign direct investment (FDI). But the poor business environment and high transaction costs discourage such investment.

- **Poor business environment:** the business environment in Azerbaijan is characterized by a poor investment climate, corruption, poor management of the import/export regime, inadequate contract law and enforcement and an undeveloped judicial system. This discourages the private investment that is so crucial to promoting VC, and reduces the impact of public investments. It also leads to outdated processing technology that reduces competitiveness by increasing costs and decreasing quality.
- **High transaction costs for market organization and trade:** high transaction costs make it more difficult for agro-enterprises to develop VC. The causes of high transaction costs include the absence of producer organizations and professional associations, and a lack of appropriate grades, standards and packaging.
- **Poor public services and institutional capacity:** the general lack of public services, such as agricultural extension services, appropriate research and market information systems, further increases transaction costs for investors if they have to then provide these services themselves. Business advisory services are also needed because the inadequacy of business and marketing skills among both producers and agro-enterprises reduces their ability to take advantage of market opportunities. Low institutional capacity hinders the ability of Government to respond to the needs of the sector with appropriate policies, investments and services.
- **Inadequate public investment:** the lack of investment in electricity and gas supply imposes higher production costs on processors and producers. In some places, poor transportation and communications infrastructure are also constraints. These have the effect of further reducing investment. The lack of public marketing infrastructure such as wholesale markets increases transaction costs and also reduces market opportunities for producers.

## Disorganized Supply Chains

2.15 **Processors are typically unorganized and have little control over their inputs from farmers.** One study<sup>33</sup> notes that there are 97 registered fruit and vegetable processors in Azerbaijan. Only 27 of these can be considered operational, although most are barely so. The average reported rate of capacity utilization in operational plants is a very low 21%. In dairy only one company, Milk Pro, operates on an industrial scale with two factories processing about 17.5 mt of milk per day. There are 2-3 smaller competitors, and the rest of the milk processing is artisanal (1-2 mt/day). In parallel with the decline in the dairy processing industry there has also been a reduction in the number of milk collection centers (CCs) with cooling tanks. There are estimated to be around 30 operating CCs in the country.<sup>34</sup> The lack of CCs is a major constraint on development of the dairy sector in a country where most of the production comes from very small farms (1-5 cows), making it difficult for processors to coordinate supply. By comparison in Morocco, which produces a similar volume of milk (1 million mt), there are over 800 CCs. In F&V, part of the problem is due to domestic processors' predilection for paying extraordinarily low prices for their raw materials, as well as the mistrust of farmers, which makes contracting difficult. As a result, processors are essentially the buyer of last resort, taking mostly the unsold or poor quality products. Often only the poorest small farmers—particularly those that do not have ready access to other markets—sell their crops to processors. This is no way to reach the quality levels required in today's competitive marketplace, and helps to explain the low prices received by both farmers and processors (i.e., output NPCs < 0).

---

<sup>33</sup> PFP, op. cit.

<sup>34</sup> In order for good milk quality to be maintained such CC need to be able to reduce the milk temperature to 4° C within two hours of acceptance, whereas generally the best that most CC manage at present is 4-6° C in winter, 8-10° C in spring and 10-12° C in summer.

**2.16 The current situation is largely due to the absence of coordination in agricultural supply chains.** Recent research by the World Bank indicates that vertical coordination (VC)<sup>35</sup> has been one of the most important forces in driving the development of the agricultural sector in ECA transition economies. The benefits normally derived from vertical linkages between processors and farmers (technical support, inputs, stable markets, and in certain cases financial support) would be most welcome in Azerbaijan, where public agricultural services and the rural credit system are in a very poor state. However, for the moment, because of the weakness of the local processing industry, vertical linkages are almost non-existent. Even internal vertical integration is uncommon. Very few processors own or control their own upstream production of raw materials.<sup>36</sup> As a result, downstream enterprises, both processors and retailers, face an uncertain flow of products with marked seasonal swings in availability. Horizontal coordination is also very limited. None of the companies interviewed for this study conduct any joint research, sourcing, marketing or transportation. There is no joint lobbying as an industry and very little interest in developing a trade association.

**2.17 Most feel that they can do better on their own, primarily because they are distrustful of others.** Both domestic processors and farmers have experience of failed attempts at VC. Many such attempts, when described, sound more like the one-sided enforced trust that was typical of kolkhozes and sovkhozes. Lack of trust is now rampant and most—though not all—are reluctant to enter into such arrangements. Given the market power of the different actors, the most likely candidates to initiate VC and manage contract farming are the processors. However, with so many plants practically moribund, organizational zeal for contract farming is limited. For example, the only dairy processing plant that has taken the strategic decision to invest in local milk collection is Milk-Pro, even though VC is critical to the development of the dairy industry.<sup>37</sup> Increased vertical linkages would encourage the best farmers<sup>38</sup> to specialize and improve their operations. Given the weakness of the domestic processing industry, it is important to attract the FDI that has been so essential to development of VC and the agricultural sector in other transition economies. But this is unlikely to happen without an improvement in the business environment.

### **Poor Business Environment**

**2.18 Azerbaijan is known to have a poor business environment.** The general problems with Azerbaijan's business environment have been widely reported elsewhere. A recent report notes that Azerbaijan remains a challenging environment for private investment, with four fundamental problems facing all businesses: weaknesses in the legal and regulatory system; pervasive administrative barriers to

---

<sup>35</sup> "Vertical coordination may occur at various stages in a supply chain. Two common examples are between a processor and a farm from which the processor purchases produce, or between a farm and an input supplying company. Vertical coordination can take various forms, which can be thought of as institutional arrangements varying between the two extremes of spot market exchanges and full ownership integration. Within this interval, there is a large variety of different forms of coordination and an equally vast literature trying to classify these various forms, and to explain them." Swinnen, J. (2004), *The Dynamics of Vertical Coordination in ECA Agrifood Chains: Implications for Policy and Bank Operations*, report, The World Bank.

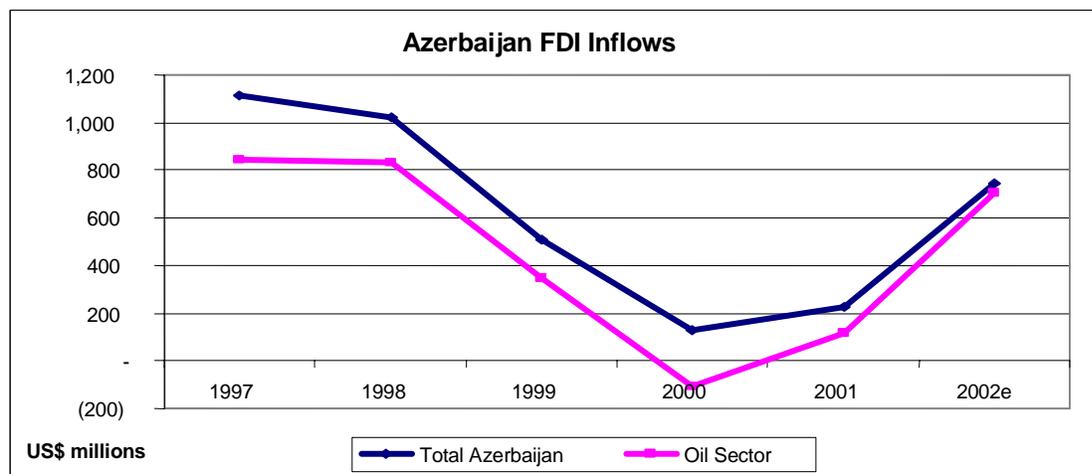
<sup>36</sup> For example, MiriPak controls about 3%, SAF less than 5%, and MassalaKonserv about 1 day's worth of output, or 170 tons

<sup>37</sup> Contractual arrangements between Milk-Pro and its suppliers are not the norm but the company actively supports the development of its larger suppliers (e.g., provision of milk tanks on a rental basis), and it has already invested in and runs collection centers where relations between smaller producers and the company are gradually getting more structured (milk paid according to quality, stability of supply, etc.).

<sup>38</sup> "Best farmers" does not refer to large farmers. The vast majority of farmers in Azerbaijan are small. "Best farmers" refer to the most dynamic farmers among small farmers.

investment; weaknesses in infrastructure provision; and corruption.<sup>39</sup> In particular, Azerbaijan is perceived as one of the world's most corrupt countries.<sup>40</sup> This study will not go into a detailed analysis of the economy-wide business environment issues that have been covered by others, but rather focus on those issues pertinent to agricultural markets.

**Figure 2.7: Foreign Direct Investment Flows into Azerbaijan (US\$ millions)**



Source: Azerbaijan - Joining the race for non-oil investment - A diagnostic review of the investment environment. Foreign Investment Advisory Service, 2002, Washington, D.C.

**2.19 The poor business environment discourages investment, and this is particularly damaging to the agricultural sector.** As noted above, vertical coordination is a crucial mechanism for the development of transition country agricultural sectors, and VC is driven by private investment, especially FDI. But even under ideal circumstances, the agricultural sector is often perceived as high-risk by investors. The poor business environment in Azerbaijan increases the perceived risk, and further drives investors away from sectors like agriculture and towards those sectors that are considered “safe”. Overall, capital investments in agriculture fell from approximately 15 percent at the time of independence to less than one percent in 2000.<sup>41</sup> FDI, long dominated by the oil sector, has become increasingly focused on that single area of the economy (see Figure 2.7). According to a Foreign Investment Advisory Service (FIAS) report, the country's poor business environment is contributing to this considerable imbalance (see Box 2.2 and Annex A).<sup>42</sup> The lack of private investment not only constrains the development of VC, it also reduces the ability of processors to update their technology. This makes them less competitive on cost, which reduces the prices they can afford to pay suppliers, and also on quality, which is a major determinant of output prices in today's market. The lack of modern processing technology (such as Tetrapak) negatively affects the quality of products, and reduces access to lucrative

<sup>39</sup> Foreign Investment Advisory Service. 2002. Azerbaijan - Joining the race for non-oil investment - A diagnostic review of the investment environment. FIAS: Washington, D.C.

<sup>40</sup> According to Transparency International, Azerbaijan ranks 140<sup>th</sup> out of 146 countries, scoring only 1.9 on a 10-point scale, the lowest of all CIS countries (*Transparency International Corruption Perceptions Index 2004*; [www.transparency.org](http://www.transparency.org)). The International Country Risk Guide, Heritage Foundation rankings, and others (for example, K. Fock (2003), “Policy Note on Azerbaijan's Agrifood System”, World Bank internal report) concur that Azerbaijan ranks below most other developing transition economies.

<sup>41</sup> State Statistical Committee of the Republic of Azerbaijan (2001b), v. 1, pp. 43-47 has cited in Azerbaijan Rural Poverty Assessment page 19.

<sup>42</sup> FIAS, op. cit.

export markets. Firms that have access to such technology, such as MilkPro for juice, have been more successful in increasing exports.

**Box 2.2: Foreign Investment Advisory Service Study for Azerbaijan**

**Background:** Attracting non-oil sector Foreign Direct Investment (FDI) into Azerbaijan is considered key for achieving broad-based growth. So far the country's high level of economic growth has been driven primarily by FDI oil sector inflows, whose benefits are currently distributed unevenly, employment opportunities impact only a small percentage of the population, and most of the population does not see the benefits of the oil wealth. Given its macro-economic stability, educated labor force, geography, and historical strengths in non-oil sectors such as agriculture, Azerbaijan can attract FDI into the non-oil sector if it improves its investment climate. In 2001, at the request of Azerbaijan's Ministry of Economic Development, the Foreign Investment Advisory Service (FIAS), a joint facility of the World Bank and the International Finance Corporation, conducted a diagnostic review of the non-oil foreign investment environment in Azerbaijan.

**Objective:** The purpose of the review was to: (i) identify for the Government of Azerbaijan (GoA) the factors that determine foreign investors' decisions to invest in the country or not; and (ii) help the GoA develop appropriate policies to improve the investment environment to attract new investors as well as help existing investors remain in the country.

**Findings:** Azerbaijan's key strengths as an investment destination are its natural resource base, educated workforce, economic stability, profit repatriation and safety and sanitary regulations. On the other hand, the barriers foreign investors face are often equally formidable for domestic private enterprises and include: weaknesses in the legal framework and enforcement mechanisms; excess red tape and difficult bureaucracies in carrying out routine administrative and regulatory requirements, especially in the areas of customs and tax administration; slow progress in structural reforms and privatization; and governance issues such as illegal rent extraction, corruption, and political interference in business dealings. Investors indicate that such conditions introduce uncertainty and costs for investors, make business dealings and day-to-day operations very difficult, and introduce an uncompetitive playing field whereby market entry and operations are adversely impacted.

**Conclusion and Recommendations:** Though some progress has been made, the study concludes that GoA needs to stimulate competitive conditions and productivity by implementing the basic structural underpinnings of a market economy, including: creating an effective competition policy and anti-monopoly regulations; eliminating tariff and non-tariff barriers; reducing administrative impediments and corruption; improving the legislative and regulatory framework; and developing efficient financial markets. The GOA must also strengthen public-private sector dialogue.

Source: *Azerbaijan: Joining the Race for Non-oil Investment - A Diagnostic Review of the Environment for FDI*, FIAS, May 2002

**2.20 Poor management of the import/export regime results in the importation of below-market-priced agricultural goods that compete with domestic production and depress prices, further reducing the incentive to invest.** The importation of food aid and subsidized agricultural products creates unfair competition for local producers and processors. For example, milk powder is currently imported into Azerbaijan from Ukraine and Russia (some say at subsidized prices), and under a US Department of Agriculture (USDA) monetization program. The total imports of milk products account for about 11% of domestic consumption.<sup>43</sup> Although this may seem relatively insignificant, due to the low share of domestic production processed (about 10%) and even lower share processed industrially (3-4%), imports are three times Azerbaijan's industrial milk processing output. This represents serious competition for domestic producers. What is more, although the USDA milk is less than 10% of total powdered milk imports, it is donated to charities and sold at 20-30% below market prices. If the local market remains as open as it has been to milk powder imports, the temptation for emerging processors to turn to recombined milk instead of fresh local milk will intensify (especially if the manat appreciates). In past years, many processors used milk powder as a partial substitute for local milk. Some companies, in

<sup>43</sup> These estimations are by the AMST based on interviews and official data.

particular ADC, have even made the choice to focus production on recombined milk. Since Azerbaijan does not produce milk powder, all of this is coming from imports.<sup>44</sup> Thus, the negative effects of milk powder imports include:

- (i) A reduction of producer prices;
- (ii) The exposure of dairy industries to the risk of large fluctuations in raw material prices. In fact, prices increased markedly in 2004 and companies like ADC are now facing serious difficulties.<sup>45</sup>
- (iii) Most importantly, it creates a strong disincentive for the industry to invest in collection systems and hampers vertical linkages in the dairy chain.

**2.21 Smuggling of foodstuffs is also depresses domestic prices and reduces incentives to invest.** The representative of a major multi-national food company interviewed for this study mentioned that his company was looking for a location to establish a new processing facility that would produce food products for the entire region, and explored the possibility of situating the facility in Azerbaijan. However, they decided against it because analysis showed that significant quantities of foodstuffs were being smuggled across the border without the payment of import tariffs or VAT. As a legitimate business, they would have to pay VAT and other taxes in Azerbaijan, and therefore would be unable to compete with the cheaper contraband. Instead, they decided to establish the facility in Uzbekistan, where borders are more tightly controlled.

**2.22 Cross-border marketing bears the stamp of heavy (unofficial) manipulation.** A trader can readily pay off border guards to prevent other competitors from passing with the same goods. Such small-scale payments are valid for at least a few days and serve to hinder competition. On a larger scale, some firms are reportedly able to have an effective monopoly on their goods by unofficially setting up barriers to the importation of competitive products through bribery and corruption (for example, milk powder and seed potatoes). Importers can also provide payoffs to avoid tariffs and taxes. This places domestic producers (including those with foreign ownership) who pay taxes at a disadvantage, and discourages investment, which reduces the scope for vertical coordination.

**2.23 High transaction costs at the border also depress returns for exporters, and reduce the prices they can pay to producers.** Difficulties at border crossings are one of the biggest sources of unofficial taxation. These difficulties are caused not only by customs, but also by sanitary, phytosanitary, certificate of origin and other requirements that result in multiple hurdles to overcome when attempting to export (see **Annex B**). Many of these requirements are unique to agriculture, and each represents an opportunity for corruption. As a result, trade in agriculture is impacted more negatively by these problems than other sectors. The perishable nature of many agricultural products further increases the vulnerability of traders to pressure from border agents. In interviews with entrepreneurs for this study, difficulties at border crossings received the highest number of complaints, and traders claimed that such “taxation” can add 30% or more to transportation costs. This further helps to explain some of the difference between border parity and producer prices.

**2.24 The ineffectiveness of contract law increases the risks and costs of market coordination.** The credibility of enforcement is essential for successful vertical coordination, including contract

---

<sup>44</sup> This was financially rewarding even with the 15% import duties and the 18% VAT charged on imported dairy products (for imports from CIS countries, VAT is charged in the country of origin and the 18% VAT charge does not apply).

<sup>45</sup> ADC products have virtually disappeared from supermarket shelves.

farming. This is facilitated by fast and reliable judicial resolution of contract disputes. Currently, contracts are essentially worthless to many farmers and firms because of the difficulty in enforcing judgments in Azerbaijan. Attracting private investment to the non-oil sector by improving the legal framework is also one of the objectives of Azerbaijan's PRSC Policy Framework Matrix, and improving contract enforcement by strengthening the judiciary is a recommendation of INOTIS.

**2.25 There is a lack of access to credit for domestic agribusinesses.** Both investment capital and operating capital are lacking in the agro-processing sector, and many businesses need help understanding the nature of borrowing (business plan, repayment consequences, etc.). While some firms in the sector have been able to raise private investment capital (not often through the formal banking sector), most seem to have insufficient operating capital. Firms struggle to operate efficiently and lose earning opportunities for lack of working funds to purchase raw material.<sup>46</sup> This tends to be an economy-wide complaint, and this study will not go into a general discussion on constraints in the financial sector, which are covered by other efforts (for example, the World Bank-financed ADCP project, the Financial Sector Technical Assistance Project, and the new Azerbaijan Financial Services Development Project). However, there are some issues related specifically to agriculture. As mentioned above, the agricultural sector is considered high risk, which makes commercial banks less keen to loan money to it. Also, most agricultural operations are seasonal and therefore must spread fixed costs and depreciation over a relatively short period. Lines of credit are reportedly unavailable without considerable difficulty according to the firms surveyed. This was also frequently reported in two independent analyses of agroprocessors that were recently conducted.<sup>47</sup> Because of the dependence of the sector on private-investment-driven vertical coordination, the lack of access to credit is especially detrimental.

**2.26 In part due to credit constraints, there is a lack of investment in collection and storage infrastructure, and this is retarding the development of the sector.** There is a shortage of both the hardware (infrastructure) and software (knowledge) to extend the storage life of the diverse array of F&V products, whose quality decline can be quite marked after 3 months. As a result, processors do not have a steady, year-round supply of inputs, and farmers are forced to sell the majority of their output at harvest time, reducing the prices they receive. For the dairy sector as well, one of the most striking features of existing marketing channels is the extreme weakness of collection systems. Both of these features greatly reduce the market opportunities for small farmers, reduce the prices they receive, and decrease the scope for vertical coordination in supply chains.

**2.27 Little has been done to improve the overall business environment for agriculture or the agribusiness industry to date.** To encourage growth in the agricultural sector, one of the primary responsibilities of government is to adopt policies, and legal and regulatory frameworks that facilitate the development of private enterprises and producer organizations, and improve the investment climate for farmers and other private sector entrepreneurs.<sup>48</sup> While Government has taken measures to address corporate governance issues such as requiring international accounting standards for the oil sector and all large joint stock companies, little has been done to improve the overall business environment for agriculture or the agribusiness industry. As a result, in addition to the disincentives to investment and VC mentioned above, the bad business environment in agriculture also reduces the competitiveness of existing firms (especially smaller ones), limits exports, creates monopolies around some imports, impedes

---

<sup>46</sup> One study notes that a midsize fruit-vegetable plant that is processing, at full capacity, approximately 20 million units a year (total national capacity is 370 million) would require about US\$3.8 million of annual operating capital (US\$2.8 million of which is for the estimated 53 thousand tons of raw material). This includes amortization costs and credit interest as per the PFP (op. cit.)

<sup>47</sup> Turkish consultants' report for Azerbaijan Rural Policy Unit; and P. Dusenbury, S. Rosenfeld, J. Traxler (2003) "Options for Developing a Fruit and Vegetable Processing Industry Cluster in Azerbaijan", unpublished internal World Bank report.

<sup>48</sup> *Reaching the Rural Poor: Strategy and Business Plan* (2003), World Bank internal report.

the use of contracts, and discourages entrepreneurs from formalizing their businesses and seeking credit to expand.

### High Transaction Costs to Market Organization and Trade

**2.28 Producer organizations could help to lower market transaction costs, and encourage investment and vertical coordination.** Producer organizations (POs) facilitate the integration of farmers and processors into vertical supply chains by decreasing the transaction costs of dealing with many small producers, thereby allowing them to benefit from market opportunities that they might not otherwise be able to access. Specifically, agricultural POs can play many useful roles such as: (a) pooled input purchases, production, processing and marketing of goods and services; (b) managing of production factors like transport or storage; (c) acquiring and transmitting training, technical assistance, and market information; and (d) providing a network to develop capacities, contacts, and potential clustering benefits. POs could be formed by either farmers or processors. It should be emphasized, however, that these POs should be considered as “service” organizations or cooperatives, and are nothing like the “production” cooperatives common under the Soviet system (see **Box 2.3**).

#### **Box 2.3: Service Cooperatives and Production Cooperatives**

Members of a production cooperative have a much different relationship to the cooperative than do the members of a Western-style agricultural service cooperative. In the case of the agricultural service cooperatives, each member is an independent farm business that pools its resources with other farm businesses in order to obtain economies of scale in various segments of business, such as marketing and processing of agricultural products. Each business has the right to purchase the services of the cooperative and pays according to the volume of the services provided.

By sharp contrast, the members of a production cooperative are workers who work for the cooperative, which grows crops and engages in other agricultural business. The production cooperative is a type of corporate farm. It is a single business rather than a consortium of independent businesses. The members do not purchase the services of the cooperative, but instead the cooperative purchases the labor of the members through employment contracts. The relationship between the member and the production cooperative is essentially an employee-employer relationship.

Source: from Mitchell, R., "Review of Draft Production Cooperative Law of Moldova (Sept. 2001)," Rural Development Institute, January 3, 2002.

**2.29 Professional associations could help fill the gap left by the lack of public institutions and improve coordination in the sector.** Public institutions to directly support farmers and agro-enterprises are sorely lacking in the agricultural sector. Meanwhile, MOA has not yet fully adapted to the needs of emerging sectors like dairy and F&V in a competitive, market economy. In such an environment, professional associations (PAs) such as business or trade associations for exporters, domestic traders, processors, and producers can make important contributions to agribusiness development by: (a) providing a common voice for members in discussions with Government on policy; (b) delivering technical, informational and other services to their members; (d) cooperating on marketing programs, including the use of mandated marketing or “checkoff” programs; and (e) setting commercial rules and standards.<sup>49</sup>

**2.30 However, neither producer organizations nor professional associations have sufficiently evolved in Azerbaijan.** There is no evidence of any associative structures currently operating in the fruit and vegetable areas. Even processors do not have any regular channels of communication open to each other. This is perhaps in response to the difficulties experienced with associative structures from the Soviet era and an expressed desire to be free of those systems. But many farmers are not even aware of

<sup>49</sup> Sedik, D., et al., op. cit.

the potential advantages of organizing themselves for joint marketing purposes, or the successful western models. Those associations that do exist frequently lack the legitimacy of registration that would make them viable legal entities subject to the formal conduct of business and accountability to their members, and that would enable them to access credit. The registration process is problematic, and there is speculation that Government is not keen to develop rural civil society organizations as these could take on a political character. This is evidenced by the fact that it is much easier to register a company than a community organization. The registration process for associations is time-consuming and untransparent. For example, the Association of Dairy Processors of Azerbaijan, which was originally formed with the help of a USAID-funded Land O' Lakes PAPA Project, reports that they have been trying to legally register their organization since 2001, but their applications have yet to be accepted by registration bodies (see Box 2.4).<sup>50</sup> Poultry and veterinary associations have recently been able to register relatively quickly, which is a positive sign. But this was done under the Law on Public Unions, and was reportedly not a transparent process.

**Box 2.4: Dairy Professional Associations in Azerbaijan**

The **Association of Dairy Processors of Azerbaijan (ADPA)** was established with assistance from the organization Land O' Lakes (LOL). The Association has over 50 members operating dairies of various sizes from less than one ton per day to over five tons. Although the Association is still new and relatively inexperienced it does have the potential to act as a dairy lobby in any future discussions with Government, financial institutions or foreign investors. LOL also assisted the establishment of the **Association of Buffalo Breeders of Azerbaijan**, created in 2001 and currently with a membership of around 200 as well as the **Guba Livestock Producers' Association**, presently with 52 members. Two other milk producer associations have also been established, one in Zakatala and the other in Ismaily. In addition to marketing, producer associations could help their members in two areas that emerged as high priorities from discussions with local professionals, and which Government has done little about: feed and genetic improvements. Unfortunately the viability and effectiveness of these associations is doubtful, as Government has refused to grant them legal status.

Source: David Neubert. 2003. Evaluation of The Participatory Agriculture Project (PAPA) Program In Azerbaijan. Prepared for USAID Azerbaijan

**2.31 The inability to form legal associations and poor experience with similar such models in the past keep both processors and farmers at a disadvantage.** Without POs, the limited of suppliers makes it difficult for them to organize vertically coordinated supply chains. As a result, most agro-enterprises are unable to program the necessary quantity, quality, and delivery timing of produce from individual farmers in order to facilitate optimal operation of their processing and packing lines. The absence of functional POs also severely limits the ability of farmers to capture economies of scale and, as a consequence, to be competitive in the production, storage, packaging, and transport of their products. The absence of PAs severely reduces the ability of agricultural entities to engage with Government on policy and development programs.

**2.32 The current grades, standards and packaging are inadequate for the demands of high-value agricultural trade.**

*“The real 21<sup>st</sup> century trade issues are standards and rules in areas such as safety, health or consumer protection”*—Pascal Lamy, former EU Trade Commissioner, Financial Times, 9/9/2004

<sup>50</sup> According to one report “Azerbaijan has no history of associations or democratic institutions and...consideration needs to be given to the fact that the GOA does not support the idea of association development...”.

Most of the current legislative framework and regulations defining standards in Azerbaijan are inherited from the Soviet era, with minor modifications, and the basic grading systems that were previously in use were abandoned during the sector's contraction in the 1990s. Although there can be safety issues, domestically there is not much consumer demand for higher hygienic standards yet. There are also potential negative impacts from regulations imposed with insufficient economic purpose, including higher costs of doing business and an increased regulatory burden on Government. Therefore, introducing stricter mandatory hygienic standards through legislation does not seem to be a priority for the moment.<sup>51</sup> This is particularly true for products such as milk that have little export potential. However, inadequate use of grades and standards, including those for packaging, does prevent access to higher value markets,<sup>52</sup> including both export markets and domestic supermarkets, and greatly limits storability, transport and the ability to contract.<sup>53</sup> The results are low prices, high transaction costs, reduced incentives for private investment and constraints on vertical coordination.

### **2.33 Improvements in product quality through grades and standards could offer many benefits.**

Good grading and hygiene standards improve storability and shelf life, with the same sizes and types of products better fitting into packaging, and the absence of defective fruit or vegetables or contaminated milk preventing widespread spoilage. Buyers increasingly pay premiums when produce is properly graded or milk is of a high quality.<sup>54</sup> Benefits for farmers can also be considerable in terms of increasing storability and transportability, and decreasing costs. In addition, ever more countries are adopting strict international sanitary and phytosanitary (SPS) measures, and safety standards such as maximum residue levels for agrochemicals are increasingly being applied. The inability to meet and certify these basic safety standards will constitute a barrier to entry for exporters. Private international firms are also adopting ever-stricter standards for quality features and even for processes, such as environmentally friendly, pesticide-free, and organic, and will often pay more for products that meet these standards.

**2.34 The Azerbaijani private sector—especially farmers—has difficulty accessing information about standards in higher-value markets and lacks the necessary skills to implement many standards** that potential clients may demand. The lack of consistency and clarity in grades and standards permits buyers, both in the domestic and international markets, to take unfair advantage of sellers whose reduced information and lack of recourse make them vulnerable. The lack of any system of arbitration exacerbates this problem. To most farmers it is unclear how agricultural products are graded, thereby diminishing their ability to meet the market's demand. The laboratory capabilities to ensure the high level of standards necessary in today's marketplace are also not readily available in Azerbaijan. In addition to international sanitary and phytosanitary standards (SPS) such as those of the Codex Alimentarius and the International Plant Protection Convention (IPPC), there are a number of important private standards that the food industry must eventually prepare for if they are targeting high-value production. These include: Good Agricultural Practices (GAP) for the farm sector (especially EUREPGAP) and Good Manufacturing Practices (GMP) in the processing industries.

---

<sup>51</sup> As mentioned in Chapter 1, one of the main market distortions is related to the contrasting level of compliance with regulations between informal and formal market operators, including hygiene standards. Instead of tackling this distortion by imposing more discipline in the informal sector—which would probably not be acceptable from a political and social point of view—an approach aimed at compensating these distortions through incentives for the formal sector might prove wiser. These market distortions will continue until the balance between the formal and the informal sector is reversed. Only then could the enforcement of regulations be improved.

<sup>52</sup> Jaffee, S. et al. (2005), *Food Safety and Agricultural Health Standards: Challenges and Opportunities for Developing Country Exports*, Report No. 31207, the World Bank.

<sup>53</sup> For example, mixing of F&V products at different intervals of ripeness or with significant damage, causes accelerated deterioration of the lot, and inadequate grading mixes together large and small sizes that exacerbates crushing and bruising of products.

<sup>54</sup> For example, MilkPro pays its suppliers on a sliding scale depending on the fat and bacteria content of milk.

2.35 **At this time, almost none of the farmers in Azerbaijan have adequate packing materials to protect their products during transport, and losses can be quite high.** For example, the wooden crates (or simply the trunk of an old car) currently used to transport fruits & vegetables have considerable hygiene and weight disadvantages. This may appear to be a small technical matter but the FAO estimates that post harvest losses can be as high as 50 percent.<sup>55</sup> Improved packaging also tends to raise the perceived value and salability of produce (for example, shrink-wrapped retail packaging or waxed & sturdy boxes), and reduces transportation costs, making for a profitable investment. Farmers that can transport their goods can often find outlets in local or urban markets or can choose to sell to more than one agro-processor, thereby earning higher prices.

### **Poor Public Services and Institutional Capacity**

2.36 **A major constraint on development of the sector so far has been the weakness of the institutions that should normally be in charge of making policy,** in particular the Ministry of Agriculture (MOA). MOA at present plays only a minor role in regulating and supporting agricultural producers. So far, little has been done regarding improving policies and regulations for the agricultural sector. The recommendations made in this report to improve the organization of markets, or any alternative recommendations, would first need to be discussed and validated by local policy-makers, representatives of the local industry and representatives of the farming community. MOA should normally take the lead on these activities, but in its current state it is unlikely that it would have the capacity. MOA also lacks the capacity to deal with complex agricultural trade issues, such as the question of milk imports mentioned below.

2.37 **There has been a lack of policy coordination in the rural sector.** This lack of coordination—not just between donors, but also between donors and Government and especially between branches of Government themselves—could create problems for the design and implementation of an agricultural marketing strategy or other rural development activities. For example, there were until recently three agencies that worked on rural and agricultural policies: the Rural Policy Unit under the Cabinet of Ministers, MOA, and the Ministry of Economic Development (MED). Due to a lack of coordination, the recent Regional Development Strategy<sup>56</sup> developed by MED did not benefit from all of the previous work done by the Rural Policy Unit.<sup>57</sup> Further, MED has requested the assistance of GTZ in formulating rural policy, despite the fact that a Rural Policy Unit had been established with the same mandate under the Cabinet of Ministers since 2000. However, there has been progress in this area recently. The Bank and GTZ are now trying to coordinate their efforts to avoid overlap. And the Rural Policy Unit, along with the rest of The Agency, has been consolidated under MOA.

---

<sup>55</sup> FAO Special Action Programme for the Prevention of Food Losses  
<http://www.fao.org/ag/ags/Agssi/cht/AGSI.HTM>

<sup>56</sup> *State Program on Social-Economic Development of Regions of Azerbaijan Republic for the Years of 2004-2008*, Ministry of Economic Development of Azerbaijan, 2004.

<sup>57</sup> In some ways the MED program is laudable, as it raises the profile of rural development in Government and makes some good recommendations, such as improving rural infrastructure and the business environment. However, it also creates confusion due to the existence of competing rural development strategies, and further marginalizes MOA. The actions recommended by the MED program are generally quite vague (for example, “Develop and implement a system of measures in order to...”), and could benefit from closer consultation with technical specialists in MOA. In other cases MED seems unaware of existing activities (for example, it recommends to “support creation of an agro-technical service network”, when in fact this has already begun under the ADCP project, though the activities do need to be scaled-up). Some of MED’s recommendations are also troubling as they seem to imply central planning and state intervention (for example, they have determined that olive production should be developed in the Absheron Region; they recommend support to Government seed production and livestock breeding; and they call for state financial assistance to agricultural enterprises).

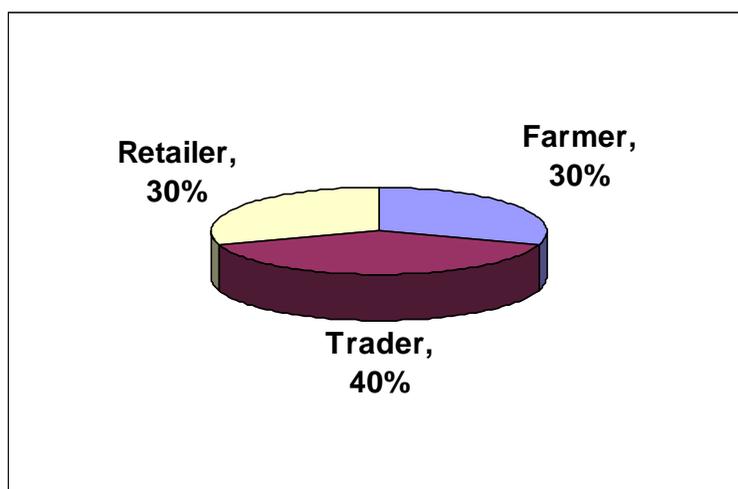
**2.38 Although Government has begun to provide agricultural extension and business advisory services, more needs to be done.** Increasing farmer income without increasing prices to domestic consumers requires improvements in efficiency and productivity. But many of today's new small farmers are unfamiliar with modern dairy techniques, cultivation methods, soil analysis, and appropriate application of agrochemicals. Training is necessary not only in harvest and post-harvest methods, but also in basic cultivation methods. Currently however, MOA's extension service is almost non-existent in the field and many of the Ministry's regional arms were abolished in the restructuring of the agricultural sector. The lack of good extension services is a critical shortcoming for the sector, especially its smallholders. Farmers and firms are essentially left to their own devices and most do not have the capacity or funding to contract such services. Most rely on trial and error or outdated methods that may have been relevant on large-scale, mechanized farms, but no longer. Government has begun pilots to improve field services under the ADCP project, but the availability is still limited compared to the needs of the sector. In many transition countries, the vacuum left by the absence of government services has been filled by private (often foreign-owned) processors within systems of vertical coordination. However, due to the poor business environment and lack of investment, this is not happening in Azerbaijan.

**2.39 Management and marketing skills need improvement at both the farm and enterprise levels.** Interviews indicate that few enterprises use such basic tools as cost based accounting, cash flow management, or production flow process planning. To increase output prices, farmers and processors need to explore new market options such as exports. Unfortunately, there currently appears to be very little planning and few advance arrangements for the marketing of products. Sales and marketing is basically a "hope and see" proposition. There are very few examples of market assessments and similarly few marketing plans that seek market opportunities or systematically invest in developing a client base. All firms also face enormous inefficiencies in scheduling the flow of local raw materials. While the lack of vertical contracting arrangements is a major reason for this, there is also a lack of capacity to implement such arrangements. There is a very limited pool of people with the management skills necessary for efficient operation of processing facilities. Further, the inability to prepare business plans reduces access to credit for investment. Business advisory services are sorely needed to address these deficiencies.

**2.40 Agricultural research does not respond to the needs of the sector.** Fifteen commodity-specific research institutes operate under MOA. There is little evidence that these understand or have adapted to the novel needs that have resulted from privatization and restructuring, especially those of the new small farmers. Instead these institutes still operate in a top-down manner. Research to address the emerging needs of agro-processing firms is also non-existent and the laboratory capabilities to ensure the high level of standards necessary in today's marketplace are not readily available.

**2.41 The absence of good market information that limits price discovery and opportunities is a significant constraint on market functions.** Low prices received by farmers and a lack of market opportunities result in part because farmers are isolated from necessary, up-to-date information. Those with information, typically established middlemen, are therefore able to extract sizable rents, especially for F&V. This was confirmed during discussions in the field (see **Figure 2.8**). The farmers that receive the best pricing in the markets often have unique products like kumquat, kiwi, or persimmon to sell. Such opportunities are of course limited by the relatively small size of such markets. A further constraint is the lack of information on appropriate grades, standards, and packaging (see above).

Figure 2.8: Estimated Price Differentials for Apples in Guba, Azerbaijan (share of total value)



Source: based on interviews with market participants, AMST

2.42 **Smaller farmers and entrepreneurs feel the absence of adequate market information more keenly than established entrepreneurs.** Small traders typically limit their operations to fresh produce with brief windows of opportunity and feel the absence of adequate market information even more keenly than larger or established entrepreneurs. Their narrow capacity combines with a fragmented market structure that limits the development of clearly established market channels in which they could more safely operate. Similarly, the smaller and poorer producers are often unable to enter the field of higher value products due to the market unknowns, higher costs of inputs, and insecure market options. This is why many prefer to focus on lower value, but more durable staple crops.

2.43 **Some price information systems exist, but these are rudimentary and lack the most critical factor of success: timeliness of the data.** The outdated price information currently provided has limited value to a farmer. Donor funded efforts like an Agricultural Commodity Market Report may have some use for processors or traders who analyze long-term trends, but the dissemination of such reports on only a monthly basis reduces their usefulness to farmers.

### Inadequate Public Investment

2.44 **In many cases poor infrastructure, and especially access to energy, is a constraint.** Access to energy appears to be a significant bottleneck for both firms and some farmers.<sup>58</sup> Although nearly all of the villages are connected to the electricity network or grid, power outages and interruptions are very frequent. This forces businesses to shut down at inopportune moments, causing considerable losses in both partly processed products and operational efficiencies. Unsteady electricity also causes repeated damage to electric-powered equipment used in many processing plants. Those that can afford it are forced to invest in costly diesel generators. In a recent survey of businesses (see Annex A), they reported lack of electricity as the greatest obstacle to development and growth of the private sector in Azerbaijan.<sup>59</sup> Increased access to reliable electricity is virtually a prerequisite for growth in the agro-processing sector. Gas is an even greater problem. Gas is an important input for many types of agro-processing, but many businesses either do not have access or receive a very erratic supply that does not permit them to depend

<sup>58</sup> Lehis, E. and X. Wu, op. cit.

<sup>59</sup> *Joining the race for non-oil investment: A diagnostic review of the environment for FDI*. February 2002. FIAS: Washington, DC

on this energy source. Government is beginning to address some of these constraints at the local level through the new World Bank-financed AZRIP project.

2.45 Although less of a problem than energy, **significant numbers of respondents also complained about the state of telecommunications, transportation and ports as obstacles to development of their businesses.** Communication is less than ideal with only about one in four households having a fixed line telephone. However, cellular phone access is increasing rapidly and rural coverage is fairly good. Transportation is mostly by truck and there is ample availability at reasonable cost. While rural roads are far from ideal, most are surfaced for year-round access (although most were constructed during the Soviet era and there are questions about maintenance and replacement). This was confirmed in a January 2001 World Bank-commissioned Sector Note on Rural Infrastructure Services in Azerbaijan. A survey for the report notes that trucks are available and can access 97% of the villages covered in the survey year round. Freight service by rail, although common in the Soviet era, is no longer feasible due to high costs and lengthy delays that are reportedly the result of decaying infrastructure, banditry, and border controls. Significantly however, proper refrigerated transportation and storage that is necessary for milk, fruits and other agricultural products is virtually non-existent.

2.46 **The lack of wholesale markets is impeding the development of the domestic fresh fruit & vegetable market.** The likely nexus of public marketing channels, wholesale markets in Azerbaijan exist at fixed sites but are undeveloped and inconsistent in their supply and even their participants. They typically perform only the function of agglomerating supply. They are characterized by poor organization and a lack of infrastructure, including shelter, electricity, stalls, cold storage and loading docks.<sup>60</sup> Other services for cleaning, grading, or even price discovery are simply not publicly available. This absence of organization, product quality, and consistency encourages major retailers to limit their fresh produce sales and to source many products abroad. Similarly, some processors import raw materials (for example, juice concentrate) that are more consistent in quality and availability, and often less expensive. There is recognition of the potential value of improved wholesale markets among market participants, but their development has not yet begun.

---

<sup>60</sup> Despite rumors of cold storage and several fruitless searches, no public availability was found in any of the four regions visited. One urban market participant boasted a typical window mount air-conditioner in a small (3x4 meter) room as the only cold storage available in the entire market.

### 3. IMPROVING THE ORGANIZATION AND EFFICIENCY OF AGRICULTURAL MARKETS

3.1 **There is much that can be done to improve agricultural markets in Azerbaijan, and Government has an important though limited role to play.** The constraints highlighted in Chapter 2 indicate leverage points that can be used to improve agricultural markets. To some extent, the approaches taken will depend on the sub-sector and market in question. For example, strategies to improve the dairy sub-sector should focus on the domestic market because there is much more potential there than in foreign markets, and should aim to substitute for imports. In contrast, fruits and vegetables have potential in both domestic and foreign markets, although the actions necessary differ depending on the target market. The required actions also vary in the degree to which they will be practical and effective in the long or short term. It is essential that Government take the lead in implementing these recommendations. However, it must be emphasized that Government's approach should be "bottom-up" rather than "top-down", and market-driven. In other words, it should be based on the needs and demands of the stakeholders in the agricultural sector, and decisions should be made in an inclusive and participatory manner, including engagement with professional associations and other sector representatives to the extent possible. It should also seek to avoid actions that distort prices or those that should be carried out by the private sector.

3.2 **To improve the organization and efficiency of agricultural markets in Azerbaijan, the priority is to increase vertical coordination.** VC is important as a way to overcome market failures or missing markets. Vertical coordination is essential for developing export markets and for supplying modern domestic supermarkets, which experience has shown quickly come to dominate food markets as countries develop (see **Box 3.1**). VC is also important for the development of certain domestic sectors like dairy. The fact that VC is almost non-existent in Azerbaijan is likely a major reason for the inability of the agricultural sector to reach its potential. Farmers cannot be expected to expand production that may never be sold; they need some assurance of sales at a reasonable price. They also need access to inputs to increase yields and quality. Processors cannot be expected to invest in new facilities or promote their products if they are not assured of the required supply of inputs. VC helps provide a measure of stability and assurance to farmers while simultaneously improving the necessary flow of raw materials to the participating processors or exporters. VC in the form of contract farming could also facilitate the expansion of the sector with contra-seasonal or extended season production of vegetables that typically require investment in new seeds and some infrastructure (for example, hoop greenhouses). Many processors interviewed for this study expressed at least some interest in contract farming, although most admit that they have made few efforts and are currently content to buy from those suppliers that show up.<sup>61</sup> **In order to encourage vertical coordination, the following measures should be taken:**

- **Improve the business environment and encourage private investment:** VC will only take place with increased private investment, and this requires an improved business environment. Recommended actions include improving the import/export regime, reducing corruption, improving contract law and enforcement, increasing access to rural finance, encouraging FDI, promoting efficient land markets, implementing a system of warehouse receipts, and providing matching grants or co-financing to encourage strategic investments.

---

<sup>61</sup> Azersun, a new processor with Turkish funding and large government military contracts, is interested in expanding their sourcing mechanisms. So far they have added 4 agronomists on staff to develop their supply with local farmers. Their advantage in this case is their processing of varieties that are not popular in the marketplace and therefore are less subject to side-selling by farmers.

- **Reduce transaction costs for market coordination and trade:** This will make it easier for processors, retailers and other private investors to establish vertical links with farmers as well as buyers, including in export markets. Recommended actions include promoting the development of producer organizations and professional associations, improving standards and grading systems and certification, and developing improved packaging.
- **Enhance public services and institutional capacity:** This will help producers and processors to improve production quality and identify new market opportunities, and will also help to lower the costs of developing vertically coordinated supply chains. Recommended actions include investing in extension and business advisory services, making agricultural research more demand-driven, and improving the quality and availability of market information. Government should also enhance its own capacity to make appropriate policies for the sector.
- **Provide targeted public investment:** A pre-condition for investment in agro-processing and development of VC is reliable and cost-effective rural infrastructure. It is recommended that Government support the private sector through investment in improved energy and communications infrastructure, public wholesale markets and storage facilities, and laboratory testing facilities. Government should also create incentives for investment in milk collection systems, and consider promoting renewable energy technologies.

### Box 3.1: Supermarkets and the Opportunities and Challenges They Bring

Supermarkets are an important part of the changing agri-food marketing systems all around the world. As a result of market reforms, privatization and removal of obstacles for foreign direct investment in transition countries, the retail sector has started to be restructured and new procurement strategies are beginning to reshape production and harvest practices for agricultural products. In many emerging markets, supermarkets have driven structural changes, including: centralized procurement via the use of distribution centers; regionalization by extending the product sources beyond countries' domestic sources; shifting from traditional wholesale markets to specialized wholesalers and from spot markets to preferred supplier systems; and establishment of quality and food safety standards.

In Central and Eastern European Countries (CEE) the path of change in the retail sector followed three stages: i) pre-transition period, where in most of the countries the State played an important role in the retail sector, combined in some countries with a significant parallel retail sector that was private, informal, and small-scale; ii) the early transition period where the prior system was changed, often via privatization without fundamental change in the distribution and format of the retail stores; and iii) "globalization period" that started in some CEE countries in the second half of the 1990s and is going strong today. In this stage, supermarkets emerged with a large number of formats and brought radical changes in procurement systems. The modern retail sector that is comprised of hypermarkets, supermarkets, and discount stores now has a market share of more than 55 % of the retail sector in Czech Republic, slightly below 50 % in Hungary and Slovakia and above 40 % in Poland and Croatia. Growth of supermarkets is inevitable in Azerbaijan as well.

Supermarkets' new procurement arrangements benefit producers by bringing a reliable buyer accompanied by generally better prices, technical support, business development services and sometimes financial services. Other benefits include better quality and a wider variety of foods and other products for households, and the creation of off-farm employment in the supply chain. However, there are significant costs to meeting supermarkets' higher quality and safety standards which are hard for small farmers to achieve. Furthermore, supermarkets tend to prefer dealing with larger farmers in order to decrease transaction costs. Some big chains even prefer to use foreign supply, which negatively impacts on domestic producers. This appears to be the case in Azerbaijan

In order to maximize gains from these new market developments, policies of governments and donors should particularly focus on capacity building through extension, R&D programs, and investing in rural infrastructure. POs also play a very important role in this process by providing services such as extension to upgrade quality and safety standards, establish connections with buyers and access to market information, and providing business and financial services to their members. Such POs should be strengthened through government and donor support.

Sources: Dries, Liesbeth, Thomas Reardon, Johan F.M. Swinnen "The Rapid Rise of Supermarkets in Central and Eastern Europe: Implications for the Agri-food Sector and Rural Development" *Development Policy Review* 2004. Reardon, Thomas and Johan F.M. Swinnen "Agrifood Sector Liberalization and the Rise of Supermarkets in Former State-Controlled Economies: Comparison with other developing countries" *Development Policy Review* 2004. Rubin, Deborah (September 2004) "Supermarkets: Smallholder Participation in the Global Food Value Chain" *POVNET Agriculture Task team Consultation, OECD*.

## The Importance of Vertical Coordination

**3.3 Recent research by The World Bank has demonstrated the crucial role that vertical coordination plays in the development of the agricultural sector in transition countries.**<sup>62</sup> A major problem in the agricultural sector and rural areas across transition economies is the breakdown of the relationships of farms with input suppliers and output markets. The simultaneous privatization and restructuring of the farms and up- and downstream companies in the agri-food chain has caused major disruptions. The result is that, as in Azerbaijan, many farms and rural households face serious constraints in accessing essential inputs (feed, fertilizer, seeds, capital, etc.) and in selling their products, while processors have difficulty guaranteeing the on-time supply of high-quality inputs. However, unlike in Azerbaijan, in most other transition countries (especially in CEE) private contractual initiatives have

<sup>62</sup> Swinnen, J. (2004), *The Dynamics of Vertical Coordination in ECA Agrifood Chains: Implications for Policy and Bank Operations*, report, The World Bank.

emerged to overcome disruptions of supply and poor public institutions for governing exchange. Traders, food processing companies and supermarkets in these countries, often as part of their own restructuring, are contracting with farmers to provide basic inputs in return for guaranteed and quality supplies of agricultural outputs. Vertical coordination (VC) in transition countries is now more widespread in both scope and complexity than in western economies.

**3.4 Successful vertical contracting has taken many forms,** but has typically included conditions on product deliveries and payments and farm assistance programs for suppliers. For example, cross-sector surveys in Poland, Georgia, Moldova, Russia and Ukraine show that, since 1999, supplier support measures including prompt payments, transportation and credits have spread to a larger number of farms. Often, foreign direct investment (FDI) drives successful contracting and supplier assistance programs. However, as mentioned in Chapter 1, both VC and FDI are almost non-existent in Azerbaijan.

**3.5 Companies employing VC work with surprisingly large numbers of suppliers and of surprisingly small size.** Empirical studies show that while companies might prefer to work with large suppliers in theory, in reality VC does not exclude small farmers from supply chains, and all major companies contract with small farmers (including farmers of the size found in Azerbaijan today). Foreign agri-business companies are also no more likely to cut off small farmers than local firms. In fact, they often offer a wider range of contract support measures than domestic companies. What helps to guarantee the equity and efficiency of VC benefits is competition between companies for suppliers. As a corollary, VC has not been successful where governments have been heavily and actively involved in the management of the process.

**3.6 Successful private contract enforcement with vertical contracting has important positive effects on farm yield, the quality of farm output and farm investment.** VC also has important positive effects on the processing companies that initiate it. Direct impacts include increased output and productivity of the processing companies, and improved quality of outputs. For example, the 1999 surveys show that 60% of the processors said that the quality of farm production they received improved, while farmers participating in assistance programs increased yields by 10%. After starting VC companies usually enlarge the activity because they benefit from having a more reliable supply base. VC also results in important horizontal spillover effects, as firms compete for suppliers and have to offer similar contractual arrangements. This is often the case where VC is initiated by FDI, which eventually leads to copying by domestic firms. That is why private investment in the development of the processing sector, and in particular private FDI, is so important to the creation of vertically coordinated supply chains.

**3.7 Increased private investment by processors—including FDI—is necessary for the development of vertical coordination in Azerbaijan.** Ultimately, the chicken and egg debate of what comes first, processing ability or raw material supply, must be resolved by processors (or retailers in the case of supermarkets) because they have greater access to capital, information and markets. Currently, most processors do not have clear or consistent marketing relationships and demand for their products is therefore very volatile. Hence, the volume of farm produce they use and the timing of their use appears to local farmers to often be inconsistent. Farmers cannot be expected to gear up for production that may never be sold. The only rational solution is to increase vertical coordination by first helping processors develop the end market relationships and demand, then use these to both drive the steady increase in production of necessary agricultural products, and improve the efficiency and quality of processing. It would not be rational to simply stimulate excess production at the farm level in order to improve the economics of processing. Processors must take the lead, and risk contracting out to their requirements with a guarantee to purchase.

**3.8 Vertical coordination could be particularly effective in the Azerbaijan dairy sector, and horticultural export markets.** The benefits normally derived from vertical linkages between dairy

plants and dairy farms (technical support, stable markets, and in certain cases financial support) would be most welcome in Azerbaijan, since public agricultural services and rural credit infrastructure are in a very poor state. However, for the moment, **because of the weakness of the local milk processing industry, vertical linkages are almost non-existent.** The only processor that has taken the strategic decision to invest in local milk collection is Milk-Pro.<sup>63</sup> This sort of VC has been instrumental to the development of the dairy sector in other transition economies, including Poland and Romania (see Box 3.2). The promotion of investment in collection centers – be they operated by dairy plants or independently – would encourage farms to consistently deliver larger quantities of milk of the best quality. This would eventually lead the best farmers<sup>64</sup> to specialize and improve their operations. VC could also be instrumental to the development of F&V export markets, where quality standards are higher and supply chains longer and more complex (though perhaps less necessary for the domestic fresh market).

**Box 3.2: Case Study—Contracting with small farmers in the Romanian dairy sector**

In Romania over 95% of all farms have 1-2 cows. Only 20-25% of the milk produced is being delivered for processing. Most of the milk is used on the farm or sold directly on street markets. The milk processing industry is generally very fragmented; there are around 550 dairies of which 250 have a capacity of less than 1000 tons/year. The six largest dairy companies in the country account for around 25% of the total intake in the dairy processing sector. Three of these are foreign owned (Friesland, Hochland and Danone). In a recent study on the dynamics of vertical coordination (VC) in the Romanian dairy sector, two local dairies (Raraul and Promilch) and two foreign owned dairies (Friesland and Danone) were interviewed.

Foreign direct investment in the supply chain is an engine of change. The foreign companies implement strict quality standards all along the dairy chain, and force local companies to adopt them as well. This creates competition for suppliers. As a result, all companies contract with both small and large farms. For example, Friesland contracts with 40,000 farms and Raraul with 80,000 farms that have only 1-2 cows.

Furthermore, all interviewed dairies offer assistance programs to farmers. Improving milk quality and securing the milk supply base are the major reasons behind offering these assistance programs. For example, extension services provided support to farmers in making feeding plans for their herds, increasing their milk quality, cleaning practices and full business plan development. Each of the dairies except Raraul provides pre-financed inputs and medium-term investment credits, however they offer these services only to the larger farms.

The majority shareholder of Promilch, a farmer association, employs staff to provide extension services to its 2,000 members. The staff visit farmers individually and organize meetings, trainings and on-farm demonstrations. They also provide small loans to small-scale farmers who want to invest in animals, stables and/or equipment. Farmers do not have to provide any collateral in addition to the milk delivered.

Impacts of the contractual arrangements on farm level are difficult to indicate, but evidence suggests that when a farmer takes the advice or is granted small loans for investments, his milk production and productivity will increase. On the company level one benefit is to obtain a more reliable supplier base. For example, when Friesland came into the market and introduced on-time payments, they succeeded in taking in 20-30% more milk within a period of 3 months. The dairy sector as a whole in Romania is benefiting from more competition and higher quality standards, and so are consumers.

Source: Van Berkum, S., 2004, “Dynamics in vertical coordination in the Romanian dairy sector”, Report for the World Bank Study on “Dynamics of Vertical Coordination in ECA Agrifood Chains: Implications for Policy and Bank Operations”, The World Bank, Washington, DC

<sup>63</sup> Contractual arrangements between Milk-Pro and its suppliers are not typical but the company actively supports the development of its larger suppliers (e.g. provision of milk tanks on a rental basis) and it has already invested and runs about 30 collection centers, where relations between producers and the company are gradually getting more structured (milk paid according to quality, stability of supply, etc.).

<sup>64</sup> “Best farmers” does not refer to large farmers. The vast majority of dairy farmers in Azerbaijan are small. “Best farmers” refers to the most dynamic among small farmers.

## **Improve the Business Environment and Encourage Private Investment**

**3.9 Increased private investment is needed to develop vertical coordination in Azerbaijan, and this requires an improved business environment.** As mentioned in Chapter 2, analysis and recommendations for improving the overall business environment in Azerbaijan can be found in a number of other sources. For example, the joint World Bank/International Finance Corporation FIAS report examined the investment climate for the Azerbaijan economy in general (see **Box 2.2**).<sup>65</sup> The recommendations apply to both foreign and domestic investment, and many of them are very appropriate for the agricultural sector, and re-enforce the messages of this study. Improving the overall business environment will also increase investment in the agricultural sector. The recommendations provided here focus on those issues that are particularly important for encouraging private investment and VC in the agricultural sector.

**3.10 Discourage the importation of subsidized agricultural products or below-market-priced food aid, and combat smuggling of foodstuffs into the country.** This is clearly an issue that affects primarily the agricultural sector. All of the activities mentioned unfairly compete against domestic producers, lower the prices they receive, and reduce their incentive to invest, so they should be restricted. For example, if the Azerbaijani Government is interested in supporting the dairy sector, it should seriously consider managing better the imports of milk powder. This will be a difficult decision to make and to implement as it will face serious resistance for the following reasons:

- (i) Although milk markets are highly protected in most developed economies and the world milk powder market is mostly a surplus market, trading partners like Russia, in particular in the context of WTO negotiations, are likely to oppose this move;
- (ii) Significant quantities of milk powder are imported under a US monetization program aimed at helping vulnerable populations;
- (iii) It is reported that milk powder imports are now controlled by a single company, Crystal, which makes large profits from its monopoly position;
- (iv) It could be argued that importation of milk powder contributes to lower consumer prices of dairy products, in particular in urban areas where recombined milk is sold.

**3.11 Arguments for limiting imports of milk powder should be seriously considered nevertheless.** Because many developed and some developing countries subsidize their domestic dairy producers, a number of countries, including Morocco (starting in the 1970's), have successfully resorted to limits on imports to boost the development of their domestic dairy sector. However, it is important that such limits not be complete so that domestic industries such as ice cream makers and other food processing industries that legitimately require milk powder as an input are able to get sufficient supplies (as opposed to operations that reconstitute powdered milk to market as liquid milk, such as the ADC company), that the limits still allow for competition, and that they be phased out over time. The issue of the USDA monetization program is trickier because the sale of the milk is used to fund the work of local NGOs—namely, for the vaccination of children. The goal is to continue to support such worthwhile social activities while not undermining the position of domestic producers and processors. This could be done by improving the management of the food aid so that it is monetized properly. The milk could be auctioned in Azerbaijan with a minimum price set at the import parity price. The NGOs that are currently receiving the food aid do not have the time or the capacity for this, and neither does Government. Instead, the process could be managed by a dairy professional association, which will use some of the (now increased) revenue to support the building of its organization, and ensure that the rest goes to the social NGOs. A central commodity exchange could be used to sell the milk powder or other food aid, and

---

<sup>65</sup> Foreign Investment Advisory Service. 2002. Azerbaijan - Joining the race for non-oil investment - A diagnostic review of the investment environment. FIAS: Washington, D.C.

the transactions officially registered. The World Bank and other donor organizations would be ready to help with technical advice.

**3.12 Simplify the bureaucratic requirements for import and export, and decrease the potential for unofficial barriers to trade and transport.** Since the export market will be critical for the growth of the agricultural sector (especially F&V), and imports of production inputs will increase access to these inputs for farmers, the free flow of these goods across borders is essential. Currently, the steps required to export food products are prohibitive. As outlined in **Annex B**, they demonstrate that the process is laden with tedious bureaucratic hurdles that appear to maximize the opportunity for bribery while effectively reducing export incentives for farmers and small to medium enterprises. In addition to the corruption at border crossings mentioned in previously, most traders/exporters report that border inefficiency can delay trucks by several days and risk spoilage of perishable products, greatly increasing transport costs. What is more, as mentioned in Chapter 2, unofficial hurdles are often placed in the path of would-be importers/exporters by those with an interest in protecting their markets. It is recommended that Government follow the recommendations provided in the Trade and Transport Facilitation (see **Box 3.3**) and FIAS studies, and in particular: (1) simplify import and export procedures and reduce opportunities for corruption by implementing a “single window” approach to customs, with an ultimate goal of reducing the number of steps for exporters to one;<sup>66</sup> and (2) increase transparency and accountability by introducing measures such as an anonymous telephone hotline to report irregularities and harassment, as was done in Georgia recently.

---

<sup>66</sup> The single window approach to service delivery aims to increase efficiency and improve service by consolidating government services related to a particular activity within a single agency.

### Box 3.3: Trade and Transport Facilitation

**Background:** The Trade and Transport Facilitation Policy Note for Azerbaijan (2003) was prepared in response to the Government of Azerbaijan's ongoing efforts to increase the competitiveness of the country's non-oil sectors through an improved business environment and better corporate governance. It estimates the impact of existing impediments that directly affect international transport and movement of consignments. The note also reviews the legal, institutional, procedural, infrastructure and industry impediments and provides a set of short-term (less than a year) and mid-term (less than three years) recommendations to improve the trade facilitation environment.

**Findings:** Trade and transit have been identified as significant potential engines of economic growth for Azerbaijan. The country is highly dependent on trade, with total trade value representing the equivalent of about 64% of GDP for Azerbaijan in 2000. Although Azerbaijan's trade regime is considered reasonably open, it has failed to increase trade volumes. Access to foreign markets is seriously impacted by high logistics costs including official and unofficial facilitation costs, the costs of accessing the requisite information, and high transport costs due to low volumes of international trade or the small size of the domestic market. In addition, Azerbaijan's Small and Medium Enterprises (SMEs) are affected by remaining weaknesses in its legal system, the administrative capacity of its border agencies and related corruption, bureaucratic clearance procedures and control, poor infrastructure, and a recent and small private transport and trade industry in need of training and support.

The impacts of barriers to trade are both direct and indirect. They increase the costs of inputs for domestic production. They limit the ability of Azerbaijan to become a natural center for transit cargo and value-added shipments for the Caucasus and Central Asia. The unofficial payments along the corridor also encourage smuggling and under-declaration based on personal arrangements, creating unfair competition for firms operating within the legal framework.

**Recommendations:** The following are the Note's priority recommendations:

- Reduce logistics costs to contribute to increasing competitiveness of SMEs locally and internationally;
- Create a level playing field for all companies in Azerbaijan and increase revenue collection; and
- Attract additional transit traffic and maximize the economic impact of transit activities, in partnership with Georgia and Central Asian countries.

Source: *Trade and Transport Facilitation: Azerbaijan Policy Note*, November 2003, The World Bank

**3.13 Improve contract law and enforcement.** This is a major issue that affects all sectors of the economy, and pervades the legal system, but is particularly important for the development of vertical contracting relationships. Addressing it involves both short-term and long-term approaches. In the long term, the goal is to reform the judiciary and contract law. The FIAS study provides specific recommendations on this, and it is also one of the main objectives in the current Poverty Reduction Support Credit (PRSC) Policy Framework Matrix.<sup>67</sup> However, this process could take years. Therefore, in the short term alternatives should be explored for resolving agricultural contracting disputes, such as the use of out-of-court procedures, including mediation. This could even be managed by professional or inter-professional (in the case, for example, of a processor versus a farmer) associations.

**3.14 Encourage foreign direct investment (FDI) where appropriate.** FDI has proven to be a critical engine for vertical coordination in other CEE and CIS countries. However, Azerbaijan's small domestic market, with limited purchasing power, is a disincentive to foreign investors. As a result, measures specifically targeted to attract FDI in the agro-processing sector may have little impact at this stage. What is required is a substantial improvement in the business environment. If Azerbaijan is to lure foreign investors away from larger, more attractive markets, then its investment climate must be even better than that of other countries. That is a challenge given Azerbaijan's current unfavorable environment, and will require a concerted effort by Government. One thing that should be done

<sup>67</sup> Proposed Azerbaijan Poverty Reduction Support Credit, Program Document, February 14, 2005, internal World Bank document.

specifically with respect to FDI is to improve the FDI legislation. The FIAS study points out that the 1992 FDI Law established an incomplete and in some cases outdated legal regime for FDI. Because FDI is so crucial to VC in the agricultural sector, Government should make it a priority to follow the FIAS recommendations in this regard, conduct a review of the laws governing FDI, and make changes according to international best practice.

**3.15 Improve implementation and enforcement of the Law on Collateral.** Improving implementation of the Law on Collateral so commercial banks can re-possess land for unpaid debts will reduce the risk of lending to farmers. This will increase their incentive to provide credit to agricultural enterprises. However, it is also necessary to educate both parties on their rights under this law in order to safeguard against abuse, and possibly to provide legal assistance to poor farmers (see below too).

**3.16 Increase access to financing to encourage private investment.** As already noted, access to credit and issues related to the financial sector are broader than the scope of this study, and have been covered elsewhere. But access to credit is particularly difficult in rural areas. In a recent World Bank survey of rural inhabitants, 93% of respondents of respondents reported that the lack of credit was an important obstacle to modernizing their farming practices or to starting a small business for processing agricultural produce.<sup>68</sup> There are some things that Government could do specifically to help improve access to credit in rural areas, and facilitate investment in agriculture. This should not, however, include subsidizing credit.

**3.17 Facilitate borrowing knowledge acquisition.** A prerequisite to effectively using borrowed funds is an understanding of the nature of such transactions. The government, in coordination with financial institutions, can provide education and training about loan terms, collateral, and other requirements such as a business plan. Many farmers do not understand the basic aspects of these financial transactions. Widely publishing the different available rates would be helpful in reducing the inconsistency of different lenders (including donor backed) who are now offering radically different rates. For example, interviews noted offers of interest rates with differences of as much as three times. This unnecessarily confuses farmers and reinforces a commonly held belief that they are probably not getting a good deal. A system of checks and balances should also be set up to reduce the role of corruption in qualifying for a loan. One mechanism that is used to good effect in many developed countries is the establishment of an anonymous telephone line direct to a financial controller who is independent and empowered to investigate and prosecute.

**3.18 Invest in the establishment of permanent financial institutions in rural areas to increase access to credit.** The recent survey of rural inhabitants also showed that of those who did get a loan, 85% were from non-commercial sources such as friends, relatives and non-commercial private lenders.<sup>69</sup> Improving on this will require assessing existing pilot credit projects and expanding the successful ones (for example, under ADCP2<sup>70</sup>), testing the proposal to provide financing via the ubiquitous postal centers in rural areas, and improving training for loan officers, most of whom have an urban enterprise bias. **Facilitating the availability of credit will encourage investment, which will increase competition for supplies and spur the development of vertical coordination, increasing support to farmers and demand for their products.**

**3.19 Implement a system of warehouse receipts to provide farmers and others with needed working capital, as well as to offer more choices on when and how to market crops.** Warehouse

---

<sup>68</sup> Azerbaijan Rural Investment Project Social Assessment, the World Bank, 2004.

<sup>69</sup> Ibid.

<sup>70</sup> The second phase of the World Bank-financed Agricultural Development and Credit Project, which has started preparation. The first phase included a pilot rural finance component. **See Box 3.10.**

receipts are an important financial instrument for a marketing system that can help meet farmers' and other sector participants' universal needs for credit.<sup>71</sup> Long used in the West, warehouse receipts can serve as negotiable instruments to verify the ownership of specific amounts and qualities of a commodity stored in a public warehouse. They are used in the marketing of a wide variety of agricultural commodities, including wheat, corn, sugar, cocoa, coffee and more. These receipts can be an important component for rural development. However, their value is not limited to the rural sector. Traders, merchandisers, exporters, processors and commodity exchanges can also greatly benefit from warehouse receipt programs. See **Box 3.4** for more details and examples.

#### **Box 3.4: Warehouse Receipts**

Warehouse receipts are documents stating the ownership of a specific amount of commodity or good with specific characteristics stored in a specific warehouse for a specific fee. When backed by regulations that enable their use as collateral, warehouse receipts can play an essential role in agricultural markets. They can be traded, sold or used for delivery against a derivative instrument, such as a futures contract. Although they have been used recently for perishable F&V crops in climate-controlled storage, they are more commonly used with bulk commodities like wheat and corn. The overall efficiency of agribusiness markets is enhanced when producers convert crops into a readily tradable device. **A warehouse receipt system can:**

- allow farmers to extend the sales period of their perishable products well beyond harvesting season;
- increase availability of credit to agricultural sector by creating a secure collateral for banks;
- help create cash and forward markets by forming the basis for trading commodities;
- provide a way to reduce role of government in agricultural commercialization;
- be combined with price hedging instruments to lower the risk of future price fluctuations or exchange risk.

Although widely used in developed countries, warehouse receipts systems are limited in transition countries due to lack of incentives for the private storage facilities; lack of appropriate legal and institutional environment; and limited familiarity of the country's commercial and financial sectors. **Essential preconditions include:**

- **Viable Storage Industry:** There should be sufficient, reliable private storage capacity and no government guaranteed purchases. Government intervention can crowd out private participation.
- **Appropriate Legal Environment:** Warehouse receipts must be functionally equivalent to the stored commodity. The rights, liabilities and duties of each party (farmer, bank, and warehouse-owner) should be clearly defined.
- **Performance Guarantees:** It should be guaranteed that the goods stored exist in the quantities and qualities specified by the receipt.
- **Inspection and Licensing:** Governments should develop systems of warehouse licensing and inspection of facilities so that they meet financial and physical standards.

Experiences from other countries:

- Turkey is planning to enable agricultural marketing cooperatives and the Turkish Grain Board to set up licensed warehouses in 2005 to store cotton, raisin, olive, olive oil, sunflower, hazelnut, dried apricot and grains and issue warehouse receipts. The activities include: establishing information and communication technology systems to enable information transfer between warehouses, laboratories and commodity exchanges; purchase of laboratory equipment to assess quality; warehouse modernization; and training.
- In Mexico a sugar industry organization used warehouse receipts to provide domestic sugar mills with seasonal credit from a US Firm, Prudential Securities.

Sources: Lacroix, Richard and Panos Varangis "Using Warehouse Receipts in Developing and Transition Economies" The World Bank (<http://www.worldbank.org/fandd/english/0996/articles/0140996.htm>). Onumah, Gideon E. "Improving Access to Rural Finance through Regulated Warehouse Receipts Systems in Africa" Paving The Way Forward for Rural Finance An International Conference on Best Practices Case Study ([http://www.basis.wisc.edu/live/rfc/cs\\_09d.pdf](http://www.basis.wisc.edu/live/rfc/cs_09d.pdf)). World Bank (September 1996) "How Warehouse Receipts Help Commodity Trading and Financing" DEC Notes Development Trends, No.21.

**3.20 Provide matching grants, co-financing and other incentives to encourage strategic investments that have a public good aspect.** One approach that has been used to some success in other countries is for Government to make, for example, the repayment of the final 20% of a loan once the

<sup>71</sup> From a presentation by Si Matthies, Grain Services, Inc.

borrower has repaid the balance. This will not only spur investment by the private sector directly, but will also encourage vertical coordination by lowering transaction costs. These incentives could also be offered to foreign investors, but Government should first establish a dialogue with foreign companies to find out what they are looking for, and what they need to encourage their investment in Azerbaijan. This could also be done by an industry-organized professional associations or a chamber of commerce. Care must be taken, however, to ensure that the benefits of these incentives are not captured primarily by elites. In addition, credit should not be subsidized through below-market interest rates. Some examples of potential investments to include in such a program include:

- Creating a series of incentives to facilitate investments in milk collection systems should also be envisaged. Incentives for investment could take various forms that would need to be assessed, including exemption of duties for imported equipment (cooling tanks, refrigerated trucks, testing equipment), investment grants, etc. In fact, this is an obvious area where MED's new Entrepreneurship fund could be used, as well as for the storage facilities mentioned below. Beneficiaries would be private operators, including processors or POs, wishing, on the basis of sound business plans<sup>72</sup>, to invest in milk collection. **See below** for more information.
- Financing at least part of agricultural storage facilities, including cold storage, that would be open to the public. These could feature a combination of private operation (including by POs/PAs) with public oversight to ensure transparent rules, rates, and equitable access. In addition to improving prices received by farmers and reducing losses due to spoilage, this will also decrease the transaction costs for downstream enterprises wishing to establish vertically coordinated supply chains. Quality public storage will also facilitate the establishment of a warehouse receipts program.

**3.21 Milk collection systems are critical to the development of the dairy sector.** Milk collection points have proven to be instrumental in encouraging vertical coordination and development in the dairy sector in other countries. These collection points benefit both producers and processors of milk. According to FAO projections, demand for milk in transition countries will double by 2030, and as we have seen, Azerbaijan is no exception.<sup>73</sup> The vast majority of milk produced in these countries comes from small-scale farmers. Marketing of milk is difficult for small-scale producers who are scattered in rural areas, as well as for processors who would like to buy from them. Moving small quantities of a perishable commodity necessitates good hygienic practices and streamlined collection and transportation. Simply reducing post-harvest losses, which are huge, will help countries like Azerbaijan to meet milk demand and decrease poverty levels by increasing income and generating additional jobs in rural areas. Milk collection centers facilitate timely sale of standard quality milk, and vertical coordination, by establishing linkages between local farmers and processors. Establishment of producer organizations can also facilitate improved milk collection, transportation, processing and marketing. The utilization of public funds to support collection centers would be justified from a social and political point of view, given its direct impact on improved market access for a large number of dairy farmers. **See Box 3.5** for more details and international examples.

---

<sup>72</sup> In the case of a grant scheme, a disbursement mechanism would need to be devised to select beneficiaries.

<sup>73</sup> FAO (2002), Proceedings of the China-FAO Regional Workshop on Small Scale Milk Collection and Processing in Developing Countries 5-17 May 2002.

### Box 3.5: Investing in Milk Collection Centers

There are good examples of dairy marketing projects, which mainly rely on POs. In Thailand, milk collection is made either by dairy cooperatives or private dairy plants. Several milk collection centers offer additional services such as sale of food concentrates and drugs as well as training. A successful model from India shows that an integrated approach using POs and PAs could enhance production, procurement, processing and marketing of milk. The system now has 9 million members with a daily milk throughput of 30 million liters. It is built on a three-tier system that consists of:

- i. *village level dairy POs*: farmer-controlled, receive milk twice a day, pay the farmers regularly and provide inputs (sale of cattle feed, promotion of fodder seed, artificial insemination and veterinary services);
- ii. *regional milk producers' associations*: at the district level, own dairy plants and transport equipment for milk collection, carry out pasteurization, packaging and conversion to other products, distribution and marketing in urban centers, and provide production inputs and technical services to their member POs;
- iii. *state federations for interstate sales and coordination*: do the aggregate planning of input services, milk marketing and pricing policy. Federations may also own and operate some larger dairy plants.

In many transition countries informal markets still play a very significant role. For example according to one study, informal milk sales comprise over half of the traded milk in these countries. This situation reflects the widespread consumer reluctance to pay for value adding activities, which are perceived as high cost. Experience has shown that the following conditions should be met for viable investments in this area:

- Market demand should be assessed. Key questions: Do local consumers want pasteurized milk and can they afford it? Are there opportunities to export? What safety and quality standards must be met?
- Private sector should be helped with supply chain infrastructure which includes transportation and communication systems, food testing and certification facilities, and in some cases cold chain infrastructure.
- Establish an appropriate balance between public and private involvement in the supply of services. Public involvement should be restricted to limited-term co-financing arrangements that encourage private sector investment. Too much government interference can be a constraint to building organizational capacity.
- Technical assistance should be provided to farmers on animal health, milk hygiene and feeding policy.

Sources: The World Bank (1998) "India: The Dairy Revolution The Impact of Dairy Development in India and the World Bank's Contribution" OED Publication. The World Bank (February 2004), Agriculture Investment Source Book. Staal, "Market Opportunities for Milk Producer Organizations", Discussion Paper.

## Reduce Transaction Costs for Market Organization and Trade

**3.22 Government should facilitate the development of vertical coordination by reducing the transaction costs for market organization and trade.** Vertical coordination is more challenging for processors and retailers in an environment like Azerbaijan's that is dominated by many small producers. To reduce the risks and costs of engaging in VC, Government can encourage the formation of producer organizations and professional (or inter-professional) associations, and enhance grades, standards and packaging.

**3.23 It is important to support the development of new producer organizations since these have enormous benefits, particularly for smallholders.** They can improve the cost of and access to inputs and new technology, provide credit for their members, and facilitate produce marketing, which also reduces the burden on downstream enterprises like processors who might otherwise have to supply these. They can develop appropriate and timely volumes of produce and facilitate collection points and transportation, which encourages vertical coordination. They can manage common storage facilities for their members. They can encourage standards through basic laboratory services or even grading for

supermarkets or for export. They can also facilitate farm-level productivity through soil testing<sup>74</sup> and farm management training.

**3.24 The development of professional associations and producer organizations will also help increase marketing and promotion capacity.** Currently, there are effectively no well-organized efforts to develop markets. Access to new markets is difficult and many farmers and processors are inexperienced in the basics of marketing after decades of a planned economy. The sector lacks a credible trade promotion organization to coordinate efforts including training. Facilitating and encouraging the development of POs would be one of the most important methods of improving the marketing capacity of smallholders. Access to new export markets is likely to be a more complicated goal since this is typically the purview of a developed private sector, however it can be addressed through the creation of trade promotion organizations run by professional associations (see **Box 3.6**).

#### **Box 3.6: Development of Trade Promotion Organizations**

Although there are many types of export promotion activities, some of which involve more direct involvement and even partnership with individual enterprises, the Trade Promotion Organizations (TPOs) referred to here are facilitative agencies whose sole function is to promote and stimulate trade primarily by providing information, linkages, technical advice, marketing and policy advocacy. They are run by the private sector, usually by industry-based professional associations, sometimes with support from government, especially at start-up. Support can include technical assistance, as well as assistance with the legal and institutional foundations necessary for establishment of “check-off” programs whereby an industry taxes its own sales in order to fund such activities. There are some specific steps that initially should be followed to establish a TPO. Implementation has 2 major phases:

- i. The first phase involves the analysis and establishment of the TPO and then the training of its staff. Since both of these must first and foremost be market-driven (conscious of the nature of foreign demand) and must clearly reflect the requirements of private enterprises, external advice is very helpful in the early execution phase for many transition countries where professional support is limited in these areas of market development. Formation of a TPO should result from public-private consultations that convene a working committee with all relevant stakeholders including leaders in the business community, successful exporters, marketing professionals and high-level government representatives. The committee's work will be greatly improved by the inclusion of international trade promotion experts. These experts can serve as advisers who can help the committee take smart initial decisions concerning the TPOs goals and priority functions, initial assessments and service criteria, as well as its structure, staffing and institutional setting.
- ii. In the second phase of staff recruitment and training, external advisers can be most useful in helping them to develop market profiles and marketing plans, assessment tools, trade information and export support services, and promotional activities abroad.

Source: AMST

**3.25 In order to thrive, associations will need training in business practices and organizational processes as well as capital, and Government can play an important role in this.** POs and PAs can be successful and sustainable when run as businesses since they can provide their members with benefits on the basis of fee-based services. But technical assistance is also required to identify, design and implement the associations' services.<sup>75</sup> Also, both management and elected board members should be trained in participatory and governance methods. Much of this can be initially delivered through donors and private providers. Government can facilitate this process and encourage laws that improve transparency and regulate accounting practices. Government should also simplify the process and requirements for legally registering PAs, expedite their registration, and clearly establish the enforcement of the associations'

<sup>74</sup> Basic labs for these tests already exist, although they will likely need upgrading in the future as the sector and demand for these services grow.

<sup>75</sup> Fock, K. (2003), “Policy Note on Azerbaijan’s Agrifood System”, World Bank internal report.

responsibilities to members. Further, Government should work to establish and cultivate a collaborative relationship between PAs and government agencies, and encourage the formation of mixed public/private committees for policy dialogue on the important issues facing the sector. Most of this support would be in the form of technical assistance and training, but Government could also provide matching grants for investments by POs (such as those being done under the AZRIP project), vouchers to pay for services like extension, and competitive grants to PAs for the establishment of, for example, trade promotion programs.

**3.26 Use producer organizations and professional associations to reduce mistrust of contract farming.** In order to ensure that contracts are respected and not used as a means of exploitation, it is necessary to inform all of the stakeholder participants (both farmers and processors/traders/retailers) on the rules and methods of recourse. This can be greatly facilitated by producer organizations and professional associations that can serve to improve and expand such understanding. A model for development of contract farming popular in other countries involves having professional associations involved, at least initially, to help ensure an equitable process and to provide the following: field organization, cultivation technology, extension, sample contracts, mediation services, and even the sourcing of inputs such as certified seeds or equipment.

**3.27 The development of Water User Associations (WUAs) can serve as a model.** Although Government is reportedly reluctant to encourage the formation of POs and PAs because of the potential for such organizations to develop political power, it has apparently supported Water Users Associations (WUAs)<sup>76</sup> and even some Credit Cooperatives. WUAs are among the few associations to have been established as legal entities and to be formally registered with the Ministry of Justice (see **Box 3.7**). They can therefore open separate bank accounts, elect a Board of Directors, and function as an enterprise. These models could serve as starting points for the creation of product- or function-specific farmer and trade organizations, but to be sustainable they must be independent of undue government influence.

---

<sup>76</sup> Stimulated by the World Bank-financed Farm Privatization project that established six WUAs, the Government encouraged the formation of hundreds of WUAs that now include about a half million farmers. The Bank-financed Irrigation Distribution System & Management Improvement Project (IDSMIP) has helped to create a legal framework for WUAs and is working to increase their capacity (see **Box 3.6**).

**Box 3.7: Water User Associations and the IDSMIP Project**

Irrigation is a critical input for agricultural production in Azerbaijan, with almost all agricultural land facing arid or semi-arid conditions with average annual rainfall of 200-300 mm. The World Bank and other donors are supporting the Government of Azerbaijan (GOA) with sectoral institutional development and rehabilitation of irrigation and drainage infrastructure. One of the ongoing Bank-funded projects is the Irrigation Distribution System and Management Improvement Project (IDSMIP). The development objective of IDSMIP, which has been under implementation since early 2004, is to improve the effectiveness and financial viability of irrigation water distribution and management on 56,000 ha, through provision of support to Water Users Associations (WUA) and the State Amelioration and Irrigation Committee (SAIC).

GOA has recognized the importance of establishing and strengthening WUAs as the organizations that would eventually take over responsibility for operation and maintenance (O&M) of on-farm irrigation and drainage systems. More than 550 WUAs have been established in 44 raions, with 387,000 members and a total command area of 644,000 ha (45 percent of the developed irrigation area). The general level of knowledge of the members about WUAs is limited and, in most communities, WUAs are led by people who are not accountable to WUA members. Even though WUAs have already shown themselves to be quite effective in collecting water fees, they have been less effective in informing general membership about the purpose or use of the fees, which will become increasingly important as fees are raised over time. WUAs until now have thus mainly been seen as organizations to distribute water and collect irrigation service fees, rather than genuine farmer-led organizations with the mandate of managing irrigation and drainage infrastructure. In response the World Bank financed Irrigation Distribution System and Management Improvement Project (IDSMIP) is assisting Government in building capacity to provide the necessary training and support to WUAs to improve their service delivery and be more accountable to members. This has first of all required that the Law on Amelioration and Irrigation be amended to create a specific legal framework for the establishment and sustainable operation of WUAs that is clear and robust.

3.28 **Improve standards and grades.** Improving the quality of Azerbaijan's agricultural output is key to accessing higher-value markets (including domestic supermarkets) and receiving better prices, especially for products like F&V. Adequate standards and grading systems and certification (as well as improved packaging) are necessary to improve quality. Furthermore, the absence of adequate standards and their enforcement, particularly sanitary and phytosanitary standards (SPS) and pesticide residue limits, can create substantial risks. First is the risk of import bans on Azerbaijani produce if more than one exporter is in violation. Second, such occurrences could harm Azerbaijan's reputation in the market (see Box 3.8). In this case reputation is a high exclusion cost good and the government is the most likely agent to secure it. In order to be effective and sustainable, improvements in standards for food and agriculture should be made with consideration of changes to the overall standards framework in Azerbaijan. However, the costs, benefits and risks involved vary by product, and should be analyzed before taking action. For example, livestock products are much higher risk than F&V. The benefits should be assessed based on potential markets, and the costs should include both those to enterprises to meet the new standards, and those to Government to monitor them. In particular, from the beginning care should be taken to avoid standards becoming new rent-seeking opportunities for government agencies.

### Box 3.8: International Experiences with Food and Agricultural Product Standards

**India's Fish and Fishery Products- Regulatory Changes:** In 1997, EU banned all fish and fishery products from India due to noncompliance with hygienic standards. The Indian government improved hygiene by requiring measures such as pre-processing operations to be integrated into processing facilities and imposing strict limits on approved output according to plants' capacities for water, ice making and effluent treatment. The government implemented programs to support improvements in hygienic controls in fish processing. These include subsidy programs for upgrading processing facilities, training managers and workers through the supply chain. Fish exporters also acted collectively to establish infrastructure that will link pre-processing units to common water, ice and effluent facilities. The facilities also include modern laboratories that will perform the full range of microbial and chemical tests required by exporters. These measures led the EU to lift the ban on exports.

**Peruvian Asparagus Exports-Success Through Standards:** When Spanish health authorities asserted that consumption of canned Peruvian asparagus caused 2 botulism disease cases, the public scare in European markets created large market losses for Peruvian asparagus exporters in 1997. Seeing even one careless exporter could disrupt the markets, government and the industry decided to take action to bring Peruvian agricultural standards in line with international norms. In 1998, the Peruvian Commission for Export Promotion convinced the asparagus industry to implement the Codex code of practice on food hygiene. Government specialists worked with the sector companies to ensure proper implementation. In 2001, national fresh asparagus norms were published. They provided a quality and performance baseline for the industry that allowed many firms and farms to generate skills and experience needed to be certified under stringent international standards.

**Thailand's Shrimp Industry:** A sample analysis of Thailand's canned shrimp by Greenpeace revealed that products contained a banned antibiotic. The product recalls from retail distribution channels caused confusion among companies within the supply chain. Similar findings by EU authorities necessitated destroying of these products causing monetary losses, eroded client confidence and constant inspections by EU. To resolve the issue, farmers switched to a more disease resistant shrimp strain and adopted probiotic farming. Shrimp exporters adjusted their procurement practices by using product-quality segmentation in supplying different markets. The Thai government substantially tightened controls over the import of the banned antibiotic. The Department of Fisheries (DOF) formed a special committee to carry out periodic inspection of shrimp to ensure they are free from contaminants before sale. DOF also urged shrimp farmers to adopt a code of conduct to ensure product safety. Extension activities have been intensified to educate farmers on the use of chemicals and adverse consequences of using banned chemicals.

Source: *Food Safety and Agricultural Health Standards: Challenges and Opportunities for Developing Country Exports*, World Bank Report No. 31207, January 10, 2005.

3.29 **Government must define a new role in standards that is distinct from the Soviet era**, when government standards did not distinguish private quality or commercial standards from public safety standards. The government's primary role should be to establish, manage, and enforce safety standards. However, for now the use of improved grades and standards should be promoted primarily through positive, market-based incentives rather than government regulations. For example, Government could stimulate the adoption of higher standards through standards for its own considerable volume of food procurement. However, the issue of standards is very complex and requires its own specific study by experts in the field. In addition, standards should be addressed within the broader context of agricultural competitiveness, rather than in isolation.<sup>77</sup> If Government does decide to proceed with investment in upgrading the standards system after an initial assessment of the costs, benefits and risks, **Box 3.9** provides general guidelines for an approach. In addition, **Annex C provides a detailed Terms of Reference for a Standards Study and development of an Action Plan**. Some ideas for activities that show potential in the case of Azerbaijan follow.

<sup>77</sup> Jaffee, S. et al. (2005), *Food Safety and Agricultural Health Standards: Challenges and Opportunities for Developing Country Exports*, Report No. 31207, the World Bank.

**Box 3.9: Steps to Ensure a Coherent and Efficient Approach to Standards and Grades**

At the macro level, global experience shows that the government can take six steps to ensure a coherent and efficient approach to grades and standards:

- 1) Select what products or subsectors to address first by analyzing the costs, benefits and risks of each.
  - a) conduct an analysis of market access and rejections in international markets
  - b) ask private companies which markets they would like to enter but cannot
- 2) Identify the relevant stakeholders for each.
- 3) Determine the specific sectoral and national needs.
- 4) Determine the institutional home of key grades and standards functions that will be responsible for four aspects:
  - a) development, updating and assessment
  - b) diffusion and promulgation
  - c) coordination with international standards
  - d) enforcement
- 5) Ensure the basic criteria for institutional success:
  - a) a clear funded mandate
  - b) combined public and private sector support
  - c) management ability
- 6) Adapt an international model and sequence implementation.

Source: AMST

3.30 **Process standards like HACCP or organic, in particular, hold promise of immediate public benefits and should be part of Government's sectoral development strategy.** Process standards will be increasingly useful to meet necessary food safety standards in processing plants and export markets alike (see Box 3.10). The benefits can be considerable in terms of premiums paid in export markets. Process Standards are simply those that refer to an entire cultivation, packaging, or manufacturing process rather than only the characteristics of the final output or product. Traditional public safety standards measure the final output or product, but there is an increasing tendency toward the higher efficiency of working with improved processes to ensure safety and quality. One of the best-known approaches is Hazard Analysis at Critical Control Points (HACCP). It incorporates a systematic analysis for potential food safety risks and the identification of appropriate control and monitoring systems to minimize such risks. Other popular process standards are those known as cause-related or ethical. These include: organic; socio-economic, such as Fair trade; eco-friendly, such as Rainforest Alliance or dolphin-safe tuna; labor or social, for example Social Accountability International's SA8000; and the Ethical Trading Initiative.

### Box 3.10: Process Standards vs. Product Standards

Process Standards are simply those that refer to an entire cultivation, packaging, or manufacturing process rather than only the characteristics of the final output or product. Traditional public safety standards measure the final output or product, but there is an increasing tendency toward the higher efficiency of working with improved processes to ensure safety and quality. One of the best known approaches is Hazard Analysis at Critical Control Points (HACCP). It incorporates a systematic analysis for potential food safety risks and the identification of appropriate control and monitoring systems to minimize such risks.

Other popular process standards are those known as cause-related or ethical. These include:

- Organic
- Socio-economic, such as Fair trade
- Eco-friendly, such as Rainforest Alliance or dolphin-safe tuna
- Labor or social, for example Social Accountability International's SA8000
- The Ethical Trading Initiative

Source: AMST

**3.31 Improve access to grades & standards information.** Information flow and dissemination are critical in a market system, and grades and standards are an important medium to transmit market requirements. Currently, grades & standards information in Azerbaijan is haphazard and insufficient to enable farmers and firms to access higher value markets. There is also little assistance available to producers and processors so that they can adopt modern standards. Leading Azerbaijani exporters like Milk-Pro and SAF will comply with the higher export standards on a voluntary basis. However, for many small producers and processors, the inability to meet these standards will increasingly constitute a barrier to entry for agricultural exports. Government can help by promoting the establishment of voluntary certification services, and by providing information and training on the requirements to farmers and processors, and relevant government agencies. These capacity building and awareness activities can include: a conference on the role and functions of standards; ongoing decentralized workshops for smaller groups of interested participants throughout the country's key fruit and vegetable areas; working groups to assess the relevant standards for specific priority subsectors and evaluate the costs and benefits of updating these; and training of the trainers since most farmer training is conducted by agricultural extension offices. Simple learning tools such as posters, color charts, pamphlets, and reference samples could dramatically improve this situation with minimal effort. Beyond this, market evaluations to identify potential clients and their needs will then serve to specifically determine what further education and training will be necessary in order to respond to realistic demand (see also section on information). This process could be facilitated through improved vertical coordination by allowing processors and retailers to communicate their requirements directly to farmers, including through training and provision of incentives to meet their requirements.

**3.32 Improve the infrastructure and services necessary for testing and enforcement of standards.** None of the public markets assessed for this study had reasonable access to simple laboratory tests (a public safety issue) and only the most sophisticated processing plants possess adequate equipment and skills to monitor their production. The internationally recognized third party standards certification often required for trade is also not available in Azerbaijan. In many developed economies the processing industries, through professional associations, are given some responsibility in establishing quality and safety control and monitoring systems. This is another reason why Government should promote the development of such associations, but in the interim Government has a clear role to play. Given the underdeveloped state of the sector, Government can facilitate investments in a limited number of high-quality certification laboratories that meet international standards (for example, ISO 17025 or EC 2002/657). Based on market demand for laboratory services in Azerbaijan, a laboratory needs assessment is recommended to take inventory of the current capabilities and deficits of the existing laboratories, particularly in the following areas:

- Equipment and reference samples
- Staff training
- Training internships and exchanges with other laboratories
- Information management and dissemination system
- International accreditation for at least one laboratory

**3.33 Government should foster the increased production and use of improved packing and storage technologies to significantly reduce storage losses and transport costs.** Government could promote the use of improved packing materials by encouraging investment in their importation and production through, for example, reducing taxes and tariffs and funding research to develop materials and demonstrate their economic viability. Government can facilitate access to packaging and storage technologies by fostering such programs within local institutions like schools and universities, and encouraging private sector exchanges such as trade shows. Formal linkages can be readily established with competent institutions of higher learning in this specific area. They exist in Europe, the U.S., New Zealand and even Oman. Existing organizations such as the International Society for Horticultural Science (ISHS) Commission on Quality and Postharvest Horticulture and the Asian Association of Agricultural Engineering (AAAE) can also support this work. With professional guidance, high-technology packaging and storage solutions can be achieved with relatively low investments in infrastructure. Therefore, the solutions can be viable for farmer or trader associations in rural areas.

**3.34 Use standards as strategic tools to facilitate market penetration.** High-value sales of produce bearing desirable certification to standards like field traceability or organic can help to establish both additional value and an improved reputation for Azerbaijani producers. For example, production of organic fruits and vegetables could be an area of opportunity. Over the past decade, the availability of chemical inputs in Azerbaijan has been very low. As a result, many producers are already using few, if any, agrochemicals, thereby facilitating conversion to organics and certification. Azerbaijan's relatively low production cost structures (especially labor) combined with reasonable proximity and existing trade with countries that have large organic markets like Germany may offer distinct competitive advantages. With the support of Government, some of Azerbaijan's producers could adopt modern production technologies that focus on organic methods, especially for F&V. This support could include local capacity building and certification. Government could also adopt more forward-looking policies to encourage environmentally friendly approaches to land use, water use, and the application of agrochemical inputs.

### **Enhance Public Services and Institutional Capacity**

**3.35 Government extension services need to be improved, especially at the local level, as well as agricultural educations.** Improving extension services is a valuable support that reduces the required expenditure and effort of the contractor (processor) and facilitates the farmer's participation in vertically coordinated supply chains. It will also increase their access to technology. Government should scale up successful extension models that have been piloted by the World Bank-financed ADCP (see **Box 3.11**) and other donor-sponsored projects (for example under the ADCP2 now under preparation). They should also endeavor to make these services sustainable by either integrating them into permanent government structures or supporting their development as private services through the provision of vouchers to producer organizations to pay for them. Improving the agricultural education system will increase the capacity to deliver these important services.

**Box 3.11: Agricultural Development and Credit Project (ADCP)**

ADCP is the first phase of a lending program, with effectiveness from December 1999 to September 2005 (preparation of a second phase, follow-on project has begun). ADCP is designed to assist Government to : (i) register private rights to rural farm land and test mechanisms for a unified real estate registration system encompassing urban and rural land and buildings; (ii) create a self-sustaining rural financial system based on development of credit unions and village borrowers' groups; (iii) establish rural information and advisory services; (iv) strengthen research and veterinary services; and (v) create the capacity to analyze and respond to the impact of developments in the oil sector on the competitiveness of agriculture.

Under the *Real Estate Registration component*, ten regional cadastral offices have been established and the authority to conduct and complete all types of land transactions has been transferred to the regions. The major benefit is that the landowners no longer have to travel to Baku to get access to their land records. This has resulted in significantly reduced costs and time in conducting transactions. The component includes also establishment of a unified cadastre and registration system on a pilot basis.

The *Information and Advisory services component* is designed to compare the effectiveness of public and private models for delivery of extension services, and includes business advisory services. Advisory Centers are now fully operating and have already achieved impressive results on the physical outreach. Advisory services were provided to some 44% of the population in the five target regions. Beneficiaries have been adopting many of the improvements recommended by advisory services and already demonstrate improved management and increased yield. . The advisory centers are intended to become self-financing and the development of paid services has begun. Good progress has also been made in the start-up of private veterinary services and implementation of a competitive grant system in agricultural research.

Under the *Rural Finance component* twenty-six credit unions and over 870 groups of jointly liable borrowers have been established and some US\$9.7 million have been disbursed in the form of short-term credits to 18.000 clients. The focus now is on sustainability aspects of the newly created credit unions.

Under the *Rural Policy component* a special unit has been established to undertake analytical studies and contribute directly to the formation of government policy responses to the impact of the build-up in oil revenues on the competitiveness of the rural economy. A comprehensive Rural Strategy Document with Investment and Financing Plan has been developed. It sets out a set of policies for the ag. sector that are grounded in strengthening the role of the private sector as the leading force, with the public sector providing an adequate environment for private sector development.

Source: Agricultural Development and Credit Project, The World Bank.

**3.36 Improve business and marketing skills through rural business development services.** These can serve as an effective nexus for delivering business and marketing training, new technology, and information services. Considering farms as businesses helps to better understand the value of business development offices strategically placed in rural areas. Like the need to improve extension services discussed above, Government can continue supporting farmer training pilots (for example, under the Bank-financed ADCP, or USAID projects) because some are apparently doing well, and scale up the successful models through increased investment and broader geographic coverage. Of course, this will require rigorous external monitoring and evaluation of the pilots' results.

**3.37 Facilitate and encourage the development of vertical coordination, producer organizations and professional associations to improve services to the agricultural sector in the near term.** Effective public extension services take time to build. As discussed in other sections, in the current service vacuum there is a considerable need for similar services to be provided either by processor-driven VC or local civil institutions like POs and PAs.

**3.38 Agricultural research should be reformed to become more demand-driven.** The ongoing research orientation that was better suited to Soviet style large farms should be replaced with more agile and responsive approaches. This especially includes farmer-oriented research that is applicable to today's

new small farmers. One possibility for achieving this is through competitive grant schemes that are open to private researchers or firms. However, investments in this approach should be directly linked to active dissemination programs via more effective extension services that would consequently have even more credibility and impact. In a similar vein, one researcher<sup>78</sup> suggested funding a program of applied research to determine the ideal storage conditions for Azerbaijani products, much as was done by Karlsruhe for European products in the mid 20th century and by the University of California at Davis for California produce.

**3.39 Increase the quality and public availability of market information.** Market information services are well known for their ability to reduce price distortions and improve marketing. But in order to be useful, such information should be provided on not just prices, but also volumes, levels of demand, trends, and locations. This would help farmers to make rational decisions and to improve their incomes, as well as moderate food costs for both rural and urban households. Market information will be particularly useful for those farmers and entrepreneurs that do not participate in vertically coordinate supply chains, such as those that sell F&V directly in bazaars. To be useful, market information should be no more than 24-48 hours old. For F&V and milk, this will be considerably more difficult than for commodities like wheat due to the geographic differences in market prices and the lack of commonly understood grades and standards, but these challenges can be overcome. Fostering equal access to information for smaller farmers and entrepreneurs will require the integration of information services with business advisory and extension services. Information on external market opportunities and standards should also be provided. A number of good practice experiences have been documented around the world.<sup>79</sup> An action plan for implementing a Market Information System (MIS) is provided in **Box 3.12**.

---

<sup>78</sup> Unpublished Interview Notes for Azerbaijan Rural Community Investment Project field work by R. Lacroix April 2003.

<sup>79</sup> For example, the Indonesian Market Information Service has operated successfully for nearly 3 decades.

### Box 3.12: Action Plan for Implementation of a Market Information System

A good Market Information System (MIS) emphasizes an entrepreneur-oriented approach that takes into account the essential G&S requirements of different markets by adding quality classifications and even their price differentials. There is evidence that many donor-funded services have proven unsustainable and short, consultant-supported projects appear even less likely to succeed. The FAO recommends full-time technical assistance for at least one year to establish a functional MIS.

Best practices in other countries involve careful early analysis to understand why farmers need information, how they can benefit from its use, and what are the sources of market information already available. The next step in establishing an MIS is to assess the capabilities of the country in terms of both technical capacity and the capacity/willingness to finance recurrent operating costs. With government and donor resources ever more scarce it is worth considering the involvement of the private sector. It is therefore important to assess the required institutional structure to support an MIS.

A good initial assessment is likely the most important factor in the success or failure of the MIS. It is critical that MIS planners have a thorough understanding of their country's formal and informal marketing system and product flows along the supply chain from the grower through various intermediaries to the market and between markets. This understanding should be supported by detailed surveys to determine the actual needs and information requirements of market participants. Such surveys can cover growers, wholesalers, retailers, brokers and traders, exporters, extension services, government departments, and even consumers.

The use of information by farmers and traders needs to be regularly monitored to ensure that the needed type of information, in the right format, is disseminated through appropriate channels since needs can alter in response to trends and seasons. Dissemination must go beyond a web page so that farmers and traders have easier access. Low-cost mass media must be used such as newspapers, radios, public service TV and cellular phones. Many services report difficulties in funding adequate dissemination and in transition economies nearly all of the MIS are public services. Many options exist; for example, one China MIS receives income from the toll calls required to access the information. Ideally, the government can provide training for farmer or trade associations on why prices change, how to interpret prices provided by an information service, and how to calculate costs between farmer and markets. In some cases they can train such groups to help in the collection, processing and analysis of data.

There are of course a number of details that require planning as part of any project to establish a MIS such as the design of content and its timeliness, content itself, training of the data collectors, monitoring and supervision.

Source: AMST

**3.40 Increase the capacity of policy-makers.** All efforts should be made to reinforce the capacity of the Ministry of Agriculture to develop policies, including sub-sector policies, and implement them. This could be achieved through the allotment of adequate budget resources, capacity development and training of staff, exposure to approaches in other countries, and mobilization of external expertise and advice.

**3.41 Increase the capacity of MOA to engage in policy dialogue with stakeholders and support the sector.** Based on existing institutions, however weak they are, **policy dialogue forums could be established immediately** at low cost through workshops leading toward the establishment of more formal and permanent discussion forums (milk board, fruit commission, etc). These would involve MOA representatives and recognized representatives of the sector, and would have an advisory and consultative role. Established professional and inter-professional associations would greatly facilitate this process.

**3.42 Increase the capacity of Government to deal with agricultural trade issues.** In view of the weakness of the institutions in charge of sectoral agricultural policies (in particular MOA), it is important to provide support to Government to develop arguments, clarify its position and defend it in, for example, the context of WTO negotiations. WTO negotiations in the case of agricultural trade are quite complex and technical, and it is important and appropriate that MOA have the capacity and be involved, as this capacity is unlikely to be found elsewhere in government. For example, it will be critical for Government to develop capacity in sanitary and phytosanitary standards (see standards section above) in order to

derive the most advantage possible for its producers from implementation of the Uruguay Round Agreement on Sanitary and Phytosanitary Measures (URASPS).<sup>80</sup> Another area where increased capacity would be needed is in developing restrictions on the import of milk powder (see trade regime section above). Government would need advice to find the best way to implement the measure in order to limit its potentially negative impact on industries that objectively need milk powder for their operations, while at the same time not violating its WTO commitments.

### **Provide Targeted Public Investment**

3.43 **Make strategic investments in public goods.** Reliable and cost-effective infrastructure in rural areas is a pre-condition for investment in agro-processing, and should be a priority for improvement, especially energy. A recent study has found evidence of a positive relationship between income levels and the condition of basic infrastructure in rural areas.<sup>81</sup> In addition, as discussed in Chapter 2, many businesses in Azerbaijan complain about the unavailability and unreliability of electricity and gas supplies. According to our interviews with agri-businesses, the problems are even more pronounced in rural areas. When businesses have to, for example, purchase their own generators or bribe officials for electricity, it increases their costs of doing business in Azerbaijan and decreases their incentive to invest. It also makes existing companies less competitive. In addition, it is important to expand the rural coverage of the communications infrastructure to improve access to information that is vital for market development. The provision of such public goods is a clear responsibility of Government. There is an opportunity to address some of these issues on the local level now with the new World Bank-financed Azerbaijan Rural Investment Project (AZRIP), and in the future these efforts could be scaled up to other regions (see **Box 3.13**). However, Government should go further and, before considering other forms of support to agricultural enterprises (such as the direct financial support envisaged in the *State Program on Social-Economic Development of Regions*), make improvement of rural infrastructure on a national level a priority.

---

<sup>80</sup> *World Trade Organization and Agriculture in Azerbaijan*, S. Zorya and A. Amiraslanov.

<sup>81</sup> Lehis, E. and X. Wu, op. cit.

**Box 3.13: Azerbaijan Rural Investment Project (AZRIP)**

The disintegration of the state and collective farms once responsible for operating agricultural supply chains and maintaining infrastructure in rural areas, coupled with inadequate resource allocation, led to a rapid decline in Azerbaijan's rural services and infrastructure. This resulted in a decrease in the living standards of the 4 million people (50% percent of the population) in rural areas. To address these issues, the Azerbaijan Rural Investment Project was designed (total cost US\$21.10 of which US\$15 million is World Bank IDA financed). It provides funding and capacity building for investments in local economic and social infrastructure. Specifically, the project targets rural communities in three economic zones, the lowlands of Shirvan, Mugan-Salyan and Nakchivan, and its main objective is to help households in these areas complete micro-project investments to improve their living standards and increase the use of infrastructure services.

The project has three components. Component A – Infrastructure - funds grants for approximately 350-450 rural infrastructure micro-projects. It includes the identification, design and construction or rehabilitation of rural infrastructure, based on the priority needs identified by communities. Potential investments include basic economic (for example, rehabilitation of secondary roads, water systems, electricity transformers) and social (for example, schools and health clinics) infrastructure. Component B -- Capacity Enhancement - funds training and technical assistance for project implementation to help create the required capacity of involved local stakeholders. Component C -- Project Management - funds the administrative and operational project implementation and management costs.

The project aims to create benefits at three levels: (i) individuals in rural communities will have access to improved infrastructure and new economic opportunities, raising living standards and promoting economic development; (ii) community organizations will be empowered to identify, design, operate and maintain investments based on their needs and priorities. Ultimately this will increase the sustainability of investments and foster a grass-roots culture of self-help; and (iii) local and central government will have increased exposure to decentralized decision-making and mechanisms that encourage transparency and accountability. The project is expected demonstrate a model for stimulating rural investment that the Government of Azerbaijan could expand to other regions in the future.

Source: World Bank

**3.44 Public investments should be based on the needs and demands of the private sector.**

Developing infrastructure to improve the efficiency of agricultural markets—such as wholesale markets, milk collection points, public storage, and basic grading facilities—should first begin with surveys of current and potential market participants in order to help Government to plan both the location and the necessary services that would be required. Any approach should be planned so as to minimize disruption to existing markets. Working with the private sector will help ensure that any initiatives respond to realistic market demands, and also leverage private investment in the establishment of vertically coordinated markets. These investments may initially require providing financial incentives, such as co-financing part of the cost to the private sector (see section on encouraging private investment above). But the operation and management of the facilities should be done either by private parties, including POs and PAs, or in a government-private partnership (including in many cases with local government).

**3.45 There are several other specific areas where direct public investments could provide powerful impetus to the further development of a competitive agriculture sector by reducing transaction costs and improving markets:**

- Investing in the establishment of modern wholesale markets. This will also encourage the development of uncoordinated domestic supply of F&V, for example. **See below** for more information.
- The financing, or co-financing, of internationally accredited laboratories perhaps in conjunction with a university research center or other private partnership, to assist with the implementation and verification of improved sanitary and phytosanitary standards (see section on grades &

standards above). Other laboratory facilities could be used to verify the quality of private seed production.

- Promoting and providing favorable financing for modern renewable energy technologies. New advancements in small to mid-scale setups for hydro, wind, and solar energy for example can significantly improve enterprise competitiveness in rural areas with very low recurring costs. Capital investment costs would also be lower than extending or improving the grid in many remote areas. Such energy sources can also provide countless social and community benefits especially considering the overwhelming absence of heating systems and consistent electricity in rural homes. **See below** for more information.

### 3.46 **Invest in wholesale markets to improve marketing links between farmers and consumers.**

The link between the farmer and the retailer is the wholesale trading system, which enables selling by farmers in small quantities and purchasing by traders, wholesalers and retailers in bulk. Wholesaling not only facilitates establishing a single price for a commodity but also performs storage and warehousing functions, and allows economies of scale to be obtained in the transportation of produce. In most countries, if designed and managed well wholesale markets can play a vital role in channeling a wide variety of produce to consumers. Especially in countries where the farm structure and marketing system remain fragmented and associations and farmers' groups are largely underdeveloped, such as in Azerbaijan, wholesale markets are still needed to provide farmers with effective and profitable marketing outlets for their produce. In addition, wholesale markets if adequately located, sized and managed, are basic instruments for promoting competition and improving public health and food quality control. This in turn lowers and stabilizes consumer prices and reduces post-harvest losses as well as urban congestion and pollution. Wholesale markets in many countries now offer a wide range of products as well as services such as product handling, transport, cold storage, packaging and sales distribution. They also meet specific requirements for a wide variety of users including farmers, cooperatives, specialty and general retailers, supermarkets, secondary wholesalers, institutional buyers, large restaurants, and other businesses. Wholesale markets should not be considered as being purely private sector. There is also an element of public interest in terms of promoting competitive and transparent marketing practices and enforcement of health and hygiene standards. So a development partnership between public and private sectors is needed. Public sector's involvement could be in the form of supply of basic utilities and road infrastructure. **See Box 3.14** for specific recommendations on investment in wholesale markets.

### Box 3.14: Establishment of Wholesale Markets

There are successful wholesale markets established, including with the help of the World Bank, in countries of Europe and Central Asia including Croatia, Albania and Russia. However, there are also examples of ineffective wholesale markets. The main problem is low occupancy and therefore low revenue generation, which is generally due to inadequate recognition of the degree of competition from informal markets. Other potential problems are the lack of involvement or commitment by the concerned municipalities, and failure to enforce applicable laws and regulations related to land allocation for markets and minimum provisions of infrastructure. For example in Bucharest and Warsaw, “informal” private wholesale markets were already operating when the planning and operation of the projects took place. When the new markets opened, they faced competition from existing wholesale markets that charged lower rentals in a more convenient location. Also, inadequate attention was paid to attracting core importers and traders to ensure a volume of trading sufficient to make the market attractive to smaller traders.

It is not possible to standardize wholesale markets across countries due to huge differences in the types of produce, how it is transported, and its quality and quantity. However, there are **common features of good wholesale markets**: they should have produce that is cleaned before brought to market, enable different qualities to be sold separately (sorted), have produce graded and weighed and put in standard packages before being sold, facilitate produce being sold with price information, and contain enough storage capacity to prevent the need for immediate sale. Wholesale markets should also be linked closely with farmers and retail markets, should have enough parking and loading capacity, freight services, and timely market quantity and price information. Wholesale markets can be broadly classified into two categories:

- **Secondary Wholesale Markets**: Located in district or regional cities, they take their produce mostly from rural assembly markets that are located in production areas where the transactions are small scale and usually take place between farmers and traders.
- **Terminal Wholesale Markets**: They are located in major metropolitan areas, where produce is finally channeled to consumers through exchange between traders and wholesalers. Produce may also be assembled for export.

In order to establish well-functioning markets **the following steps should be followed**:

- Project identification and feasibility**: Identify whether there are problems with the existing marketing system. Analyze levels of agricultural production and consumption. Consider facilities, accommodation requirements, and alternative site development scenarios, and prepare an outline master plan and action plan. Consider long-term urban development plans and transport links of the city. Assess parallel marketing channels.
- Project formulation and evaluation**: Determine Physical and budgetary requirements. Involve stakeholders—farmers, traders, transporters and retailers—to obtain their reaction to proposals, including fee increases. Make use of existing facilities to keep costs lower. Estimate demand, trade volume, and financial rate of return.
- Establishment and management**: Professionalism in management is needed. Management boards should be user-elected and should maintain good relations with clientele, government and municipalities. Management should seek to promote and enhance the quality of services, and sufficient training is essential.

Sources: Mittendorf, H. (2000) “Planning Viable Food Wholesale Markets in Eastern European Cities”. Seidler, E. (2001) “Wholesale Market Development – FAO’s Experience”. Shepherd, A. (2004) “Wholesale Markets in the Era of Supermarkets and Hypermarkets-Developments in Central and Eastern Europe”.

3.47 **Communities and individuals could also benefit from renewable energy technologies.** Only 13% of rural Azerbaijani households have functional heating systems and in many rural areas electricity – when it is available – is only permitted for a few hours each day. Renewable energy is low-cost and can provide both for productive uses in small to medium scale agro-enterprise as well as significant improvements in quality of life that contribute to the stability and well-being of rural areas. With the ratification of the Kyoto Protocol, there are now increased opportunities for countries like Azerbaijan to receive international support for investment in renewable energy technologies. One potential source could be participation in the World Bank-managed Community Development Carbon Fund that is designed to provide carbon finance directly to communities so that they can benefit from investments in renewable energy and clean technology.

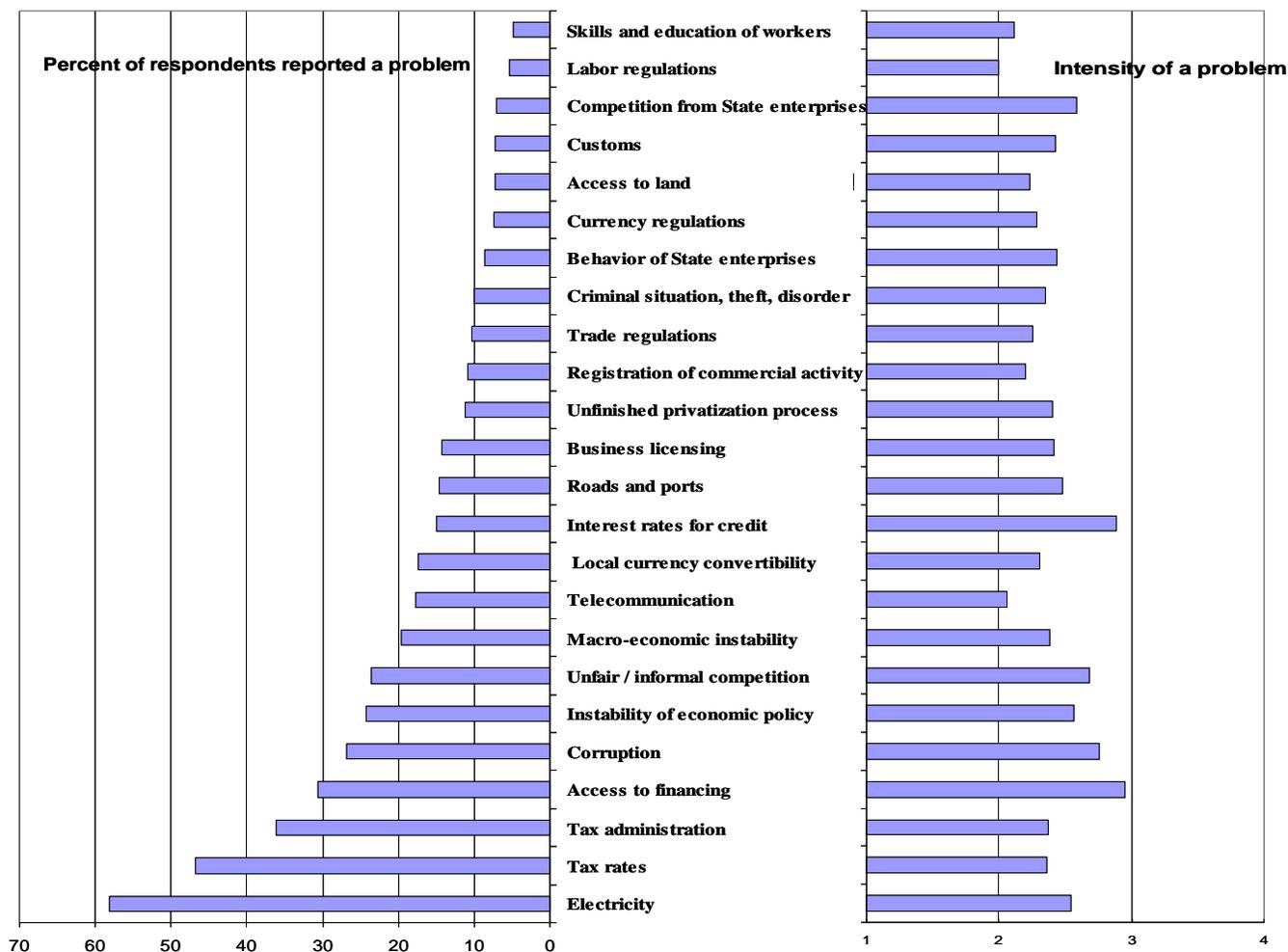
### **Sequencing of Recommendations**

3.48 **The timeframe for implementation of the recommended actions should be based on the potential impact, ease of implementation and degree of current coverage.** The **Action Matrix** in the Executive Summary provides an overview of the recommendations for development of agricultural markets in Azerbaijan. These recommendations should be discussed in open forums between Government and other stakeholders in the agricultural sector, including private enterprises, preferably represented by professional associations. Improvement of the business climate is a pre-condition for development of the agricultural sector, as well as the non-oil economy in general, and it is unlikely that either public or private investments will succeed otherwise. This is a clear priority, but requires action and collaboration from agencies across Government. To a great degree the implementation of any of the recommendations will depend on the capacity of Government, and particularly the Ministry of Agriculture. Thus, capacity development is also a major priority, and the recent decision to consolidate The Agency under MOA is a step in the right direction. However, this is a long-term effort and other activities could begin in the meantime, especially if technical assistance is provided to help manage the activities. Clearly, developing agricultural markets also requires money, and it is imperative that the agricultural sector be allocated resources commensurate with its importance. What is essential is that the momentum established by the reforms of the past decade not be lost, so that agricultural markets can be improved, Azerbaijan can realize the potential of its comparative advantages, and the sector can grow and contribute to rural incomes, employment and poverty reduction.

## **4. ANNEXES**

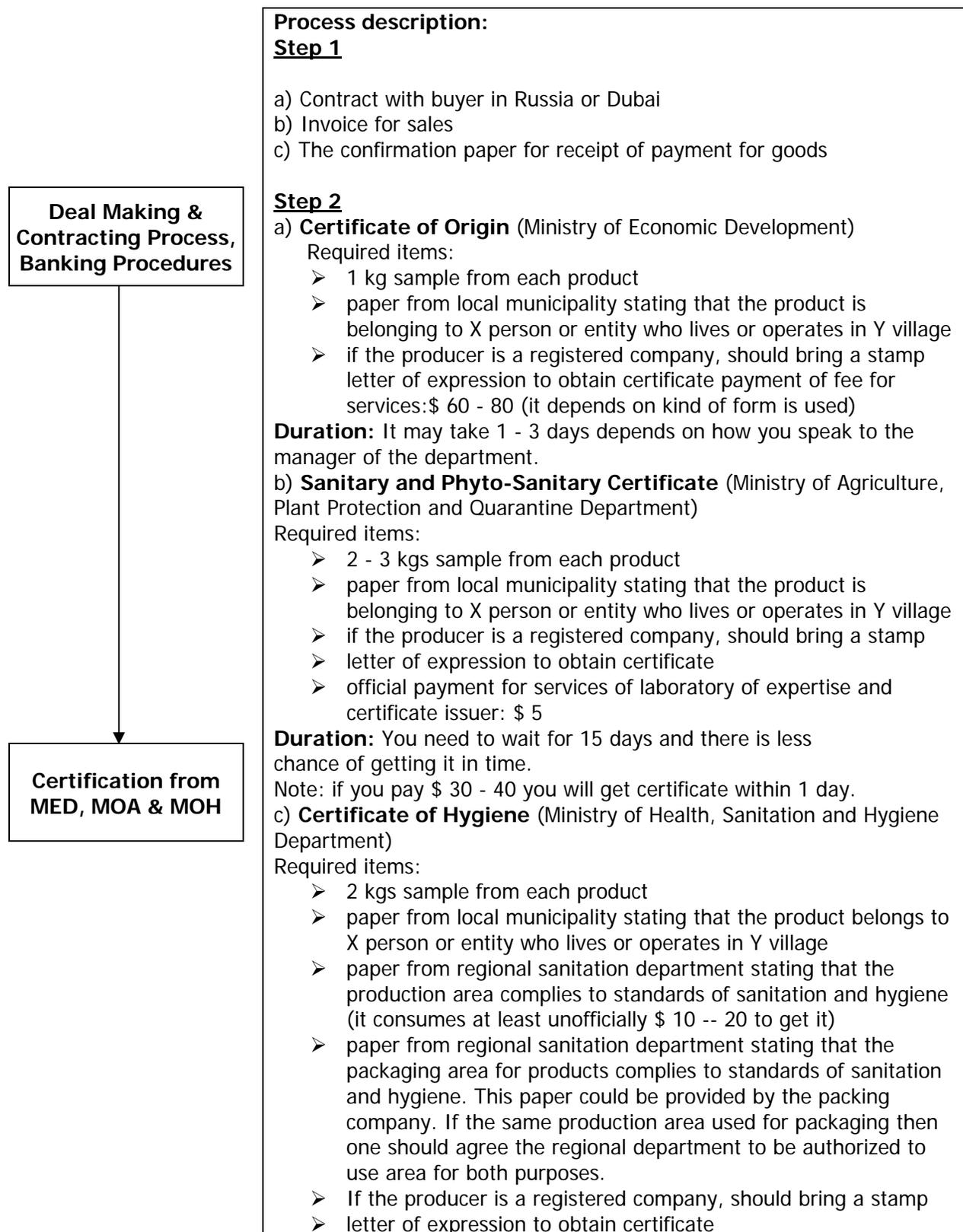
- A. Obstacles for Business—Rank and Grade
- B. Export Procedures for Food Products
- C. Terms of Reference for a Standards Action Plan
- D. List of Meetings in Azerbaijan
- E. List of Participants, February 2004 Workshop
- F. Questionnaire Format for Field Interviews
- G. List of Background Documents
- H. Map of Azerbaijan

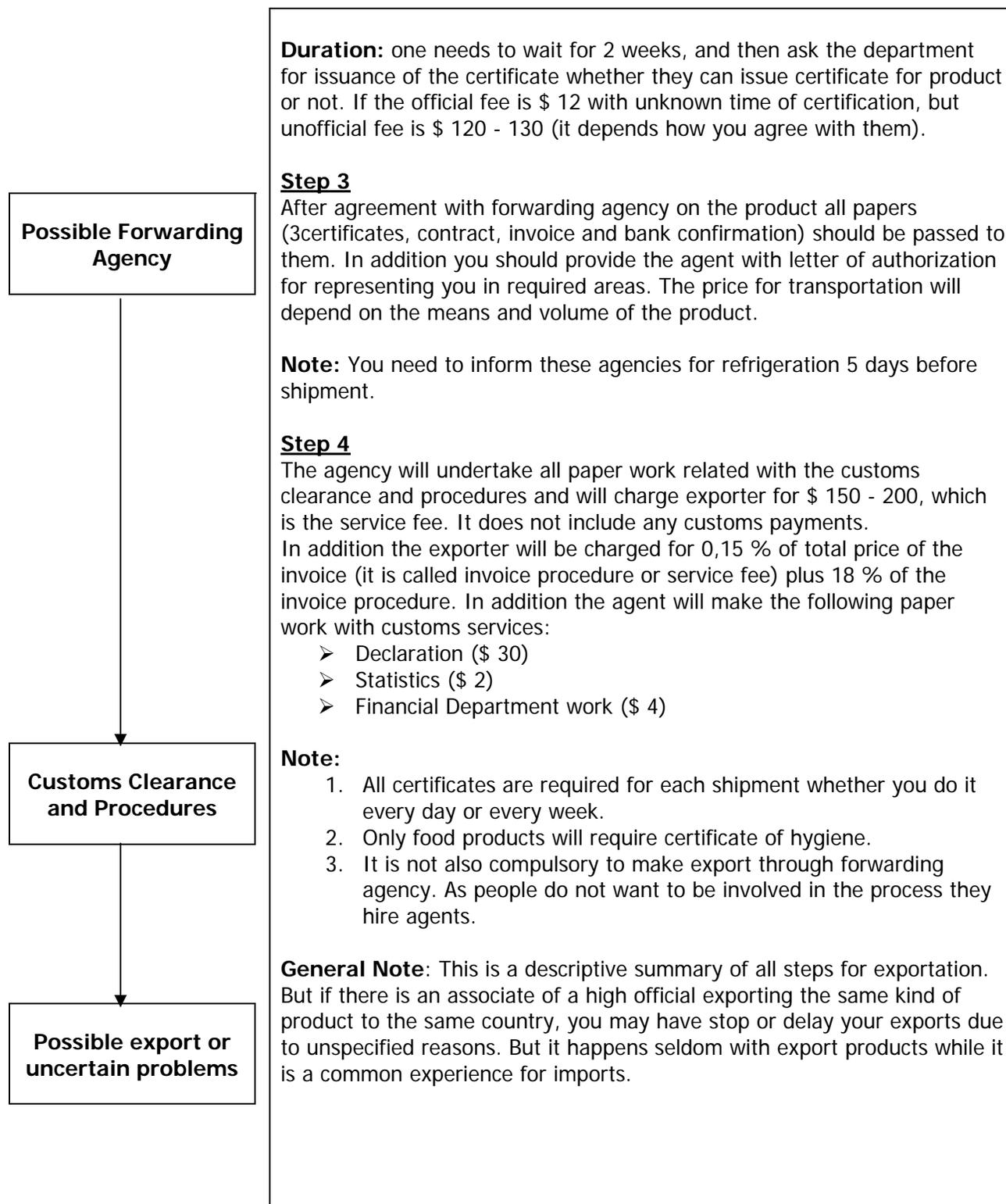
ANNEX A: OBSTACLES FOR BUSINESS—RANK AND GRADE<sup>82</sup>



<sup>82</sup> Source: Azerbaijan: *Joining the Race for Non-oil Investment - A Diagnostic Review of the Environment for FDI*, FIAS, May 2002

## ANNEX B: EXPORT PROCEDURES FOR FOOD PRODUCTS





Source: from enquiries by a local agricultural specialist

## ANNEX C: TERMS OF REFERENCE FOR A STANDARDS ASSESSMENT AND ACTION PLAN<sup>83</sup>

**Objective:** The objective of the assignment is to assist the Government and the private sector to develop a better insight into the compliance with international food safety regulations, especially with WTO rules, and develop a series of actionable recommendations to enhance the capacity of the Government and private sector in managing food safety and other sanitary and phytosanitary standards (SPS) requirements. The assignment will review Azerbaijan's capacity to conduct certifications, food safety and quality analyses, as well as industrial capacities that are required by EU, the USA and other markets for exports of agricultural and agro-processed products.

The responsibility of the assessment team will be to focus on selected knowledge gaps and address the following questions:

- a) **What are the expected major sector-related costs and benefits of compliance with international food safety regulations?** The team will review the operational and investment costs, and take primary responsibility for the evaluation of institutional arrangements for compliance with international food safety regulations along with an SPS working group formed of country stakeholders. The team will review the implications of compliance for domestic, regional, EU and US markets. The analysis should specifically target agro-processing and agricultural sub-sectors that have the potential to export to regional as well as to US and EU markets. The analysis should focus on whole supply chains, especially at the way primary producers are linked to traders and processors. The team will assess the indicative economic costs and benefits of adoption of various food safety measures (e.g. GAP, HACCP) by producers and individual agro-processors, as well as by target industries as a whole (e.g. EUREPGAP). The team should look at how disadvantaging of small-scale producers and processors can be avoided as food safety regulations are put in place.
- b) **What are the necessary legislative and institutional improvements?** The team will review the institutional responsibilities and current standards system in Azerbaijan, and will make recommendations on harmonizing it with international standards. Current food safety regulations should be reviewed, and necessary improvements proposed. Particular emphasis should be placed on institutional arrangements and how they can be modernized to more efficiently meet international standards. Public-private cooperation is a core element in monitoring/gathering information, planning and implementation of SPS management systems and will be coordinated with Azerbaijan working group on food safety and SPS.
- c) **To what extent and how do private and public sector capacities throughout the relevant supply chains need to be upgraded?** Azerbaijan's current private and public capacity to serve the agro-processing sector will need to be upgraded to fulfill required standards inside and outside of Azerbaijan. The team will outline an action plan for follow-up activities to show how these capacities can be upgraded, what general costs would be involved and who would be responsible for individual actions. The action plan should outline what private and public sector capacities are necessary, with special attention to the feasibility of forming coordinated supply chains to ensure safety and quality requirements and value added.

---

<sup>83</sup> These TOR were developed by Cornelis van der Meer and Steven Jaffee of the World Bank under a Dutch BNPP trust fund to promote SPS improvement strategies.

## **Methodology**

In the **preparatory phase** relevant documents and information will be collected from the web and from agencies and donors. The initial, diagnostic phase will take place in Azerbaijan and will comprise:

- (a) **An assessment of Azerbaijan's comparative advantages** in agricultural exports and trade and of major obstacles, especially in the SPS field, to realizing its trade potential. The comparative advantage analysis in this study already provides a good foundation for this.
- (b) **An assessment of the policies, infrastructure and skills in food safety and SPS** in Azerbaijan and required international standards that will be based on information gathered from existing documents, relevant Government agencies, international donor organizations, and independent and state laboratories. A review of any analytical and/or policy work conducted by the working group on food safety and SPS.
- (c) **A general assessment of the costs of compliance** in terms of (i) major public expenditure; (ii) major costs of adopting food safety measures in three target industries (e.g. dairy, fruit and vegetable processing, etc.); (iii) major benefits of adopting food safety measures in target industries, such as efficiency gains, value added, product differentiation etc; and (iv) general industry costs and benefits, and industry competitiveness. This part would be based on targeted interviews with key regulators and actors in the agribusiness value chains.
- (d) On a general level the team will make an assessment of opportunities, costs and risks of relevant strategies of compliance and non compliance.
- (e) A meeting with the Azerbaijan SPS working group to discuss findings and an action plan

The **final phase** will cover the following elements, making recommendations on investments, policies and institutional changes, and pointing out which elements will require more detailed follow-up:

- (a) The priority areas for upgrading export industries based on potentials and market requirements.
- (b) The priority areas for controlling imports and domestic situations in order to protect human and agricultural health and to meet international requirements.
- (c) The development and analysis of different policy and institutional recommendations for food safety compliance and how that compliance will affect Azerbaijan's resulting market access. The need for development of coordinated supply chains will be assessed.
- (d) The expert assessment of Azerbaijan's laboratory capacity and development of methodologies, tools and training plans for laboratories. The recommendations on required numbers and capacities of private and state laboratories.
- (e) A general inventory of current capacities in food safety and SPS-related services, and an assessment of the training capacity and training needs in food safety related matters in the private and public sectors.
- (f) An outline of Azerbaijan's possible approach to improve SPS measures in a phased manner.
- (g) Preparation of case studies and/or elaborated examples on adoption of food safety measures in selected supply chains by individual agro-processors, farmers' organizations or large farmers.

## **Outputs**

### **The expected outputs include:**

- (a) Establishment of and participation in a dialogue with Government, companies, producers, donor organizations inside and outside the agricultural sector about the suitable policy approach and institutional implementations;
- (b) Presentation of findings and discussion of potential action plan options;
- (c) A final report that discusses the areas as described in the study description and includes action plan recommendations with priority public and private investment and policy changes.

### **Timing**

The work will require approximately three months to complete, including one month of fieldwork in country

### **Team Composition**

The composition of the team will depend on work previously done already, on the size of Azerbaijan and its trade pattern. There may be one or two missions depending on how much information is available.

The team will have at least some general knowledge of SPS requirements in main export markets, knowledge on food safety issues and the Codex Alimentarius, some general knowledge of phytosanitary and veterinary issues (if relevant) and knowledge of public and private food safety issues and food safety laboratory standards and requirements. The team would be matched with local expertise.

**ANNEX D: LIST OF PEOPLE MET AND PLACES VISITED IN AZERBAIJAN**

<b>NAME</b>	<b>TITLE</b>	<b>ORGANIZATION</b>	<b>TEL (FAX):</b>	<b>EMAIL AND ADDRESS</b>
Abdulalimov, Rusian	Director	Department for Elaboration of Investment Projects and Business Plans	30 01 00	Baku
Abdullayev, Shirzad	Large scale farmer		317 95 61	Lenkaran
Abiyev, Hasanaga	Executive Director	Masally Regional Agricultural Advisory Center	388 28 32	Masally
Agaverdiyev, Aliadi	Deputy Director	“Takan” Ltd. (fruit & processing plant)	366 93 95	Guba
Agayev, Mirgiyas	Director	MIRIPAK (fruit & vegetables processing factory)	481618; 944872; 2232311	69 Huseynzade St. behind Karamel factory
Akif, Karimov	Head Technologies	TAIMEX- Dairy Company	(99412) 40 96 00; 40 97 00; 473903- fax	2071 Boyuk –Shor, Baku, Azerbaijan
Akhmadov, Vugar	Agribusiness Specialist	Pragma/Azerbaijan Agribusiness Center		<a href="mailto:yugoagro@yahoo.com">yugoagro@yahoo.com</a> ; (050) 333 47 32
Alekperov, Khalil	Chief Consultant	Ministry of Agriculture	93 86 22 (exten- 1-83)	
Aliyev, Anver	Chief Advisor on Economical Issues	Guba Regional Agricultural Department		Guba
Askerov, Guloglan	Farmer			Masally
Benson, Lars	Country Director	CDC Economic and Enterprise Dev. Program	12977461	ibenson@cdc-az.org
Bibov, Hasanagha	Chief Law Advisor	Guba Regional Agricultural Department		Guba

Bicoku, Ulli	Association Development Advisor	IFDC		<a href="mailto:bicoku@ifdc-az.org">bicoku@ifdc-az.org</a>
Arat, Cuneyt	Business Development Manager	Nestle-SEPN Azerbaijan	(99412) 99 11 07; 9911 76; 99 11 83; 99 14 35- fax; (99450) 223 64 43	<a href="mailto:Cuneyt.arat@azeurotel.com">Cuneyt.arat@azeurotel.com</a> 67 Fizuli Str., 5 <sup>th</sup> floor, Baku, Azerbaijan AZ1014
Badalov, Ruvshan	Produce Dept. Manager	Elite Supermarket	499853; 499855	Darnegul
Bedirkhanov, Mahir	Director	“Takan” Ltd. (fruit & processing plant)		Guba
Bertrand, Philippe		Responsible for the European Commission Budgetary Support	(99412) 93 56 72, 94 39 17;	<a href="mailto:Phillippe.bertrand@azeurotel.com">Phillippe.bertrand@azeurotel.com</a> Ministry of Finance 83, Samed Vurgun Str., AZ1022, Baku, Azerbaijan
Brannaman, John	Agricultural Development Officer	United State Agency for International Development (USAID)	(99412) 980335/ 36/ 37 413235 (fax)	<a href="mailto:jbrannaman@usaid.gov">jbrannaman@usaid.gov</a> C/O US Embassy; 83 Azadlig Avenue, 370007, Baku, Azerbaijan
Brittain, George		TACIS	951506	
Can, Aytug	Sales Mgr.	RAMSTORE Supermarket	903200; 903202 Gulshan	Khatai, Main building
Eckel, Gunther		GTZ	98 78 34, 41 95 71	(accounting practices)
Effendi, Rena	Private Sector Specialist	USAID		<a href="mailto:reffendi@usaid.gov">reffendi@usaid.gov</a>
Farajov, Rafail	Monitoring Manager	Masally Regional Agricultural Advisory Center		Masally
Fataliyev, Aydin	Director	“HS” Ltd.	340 44 97	Guba (not operating yet; equipment installed 1 month ago; seek investors or long term, low interest credit to start operations)
Flowers, Jeff	Country Director	FINCA—Azerbaijan LLC	932660; 985413	<a href="mailto:jflowers@finca.co-az.net">jflowers@finca.co-az.net</a>
Foster, Micheal	Programme Coordinator	International Rescue Committee, Agricultural Development Project	(99412) 49 96 25; 9812 14-fax Imishli: (994157) 5 31 79; 5 52 67	<a href="mailto:mick@ircfield.baku.az">mick@ircfield.baku.az</a> In Baku: 117 Attaturk Avenue, 4 <sup>th</sup> floor, Baku, Azerbaijan, 370069 In Imishli: 47 H.Aslanov Str., Imishli, Azerbaijan 373370

Gahramanov, Eldar	Deputy Chairman	Commission for Agrarian Policy, Parliament	92 98 85; (050) 200 12 92	
Gahramanov, Tazakhan	Training Manager	Masally Regional Agricultural Advisory Center		Masally
Gencer, Ferid	Manager	Elite Supermarket	499853; 499855	Darnegul
Guliyev, Eldar	President, Chairman of Board	The Council of "AZERITTIFAG"	(99412) 93 50 02; 93 92 68-FAX	<a href="mailto:JASSOUR@AKO.BAKU.AZ">JASSOUR@AKO.BAKU.AZ</a> 11 Mammedaliyev Str., Baku, Azerbaijan, 370000
Gurbanov, Ilham	Director	Regional Agrarian Research Institute		Guba
Hajiyev, Musa	Coordinator	Masally Regional Agricultural Advisory Center		Masally
Hasanov, Gadir	Sector Director	Ministry of Agriculture	98 01 65	
Hashimov, Chingiz	Director of Bazar	Masally Bazar (wholesale center)		Masally
Huseynov, Bayramgulu	Director	"Taravat" small processing plant		Guba
Huseynov, Islam	President	Azerbaijan Dairy Processors Association	(99412) 98 30 12 (99450) 223 41 45- mobile	<a href="mailto:asea2001@hotmail.com">asea2001@hotmail.com</a> 189 Vidadi str. Baku, Azerbaijan
Huseynov, Rafil	Sector Director	Ministry of Agriculture		93 94 62; <a href="mailto:huseynovrafil@yahoo.com">huseynovrafil@yahoo.com</a>
Idris, Abdullayev	Owner	"Inam" small processing enterprise	379 14 99	Guba (all equipment outdated and needs replacement)
Iskenderov, Gurban	Farmer, trader, wholesaler		223 72 30	Guba
Ismayilov, Ibrahim	Project Coordinator	GTZ	(050) 346 67 10	<a href="mailto:ibrahim.agropolicy@azeurotel.com">ibrahim.agropolicy@azeurotel.com</a>
Ismayilov, Sarraf	Director	Digah Ltd. (fruit & vegetable processing enterprise)	314 32 43	Lenkaran
Ismayilov, Sardar	Head of workshop	Digah Ltd. (fruit & vegetable processing enterprise)		Lenkaran
Israfilov, Zaur	Marketing and Support Team Manager	International Rescue Committee	(99412) 49 96 25; 9812 14-fax (99450) 225 04 02	<a href="mailto:zaur@irchq.baku.az">zaur@irchq.baku.az</a> In Baku: 117 Attaturk Ave. 4 <sup>th</sup> floor, Baku, Azerbaijan 370069
Jalilov, Mushtaba	Small Farmer			Hulovlu village, Khachmaz

Karakushu, Murat	Consultant	Agency for Support to the Development of Agriculture		<a href="mailto:karakushum@hotmail.com">karakushum@hotmail.com</a>
Karimov, Bakhtiyar	National Monitor	TASIC and the Balkans/ Cards Monitoring Programme	(99412) 97 30 73	<a href="mailto:b.karimov@monitorsbaku.azeurotel.com">b.karimov@monitorsbaku.azeurotel.com</a> IRS Plaza 3rd floor 340 Nizami st., Baku, Azerbaijan
Khalilov, Ilgar	Head of Department	Guba Regional Agricultural Department	323 50 18	Guba
Khaliyev, Nuraddin	Large scale farmer	Innovative Nursery/Kiwi Farm	312 77 36	Lenkaran
Mamedagha	Azerbaijani-iranian trader	Masally Outside wholesale storage area		Masally
Mamedhasanov, Naig	Director	Tovuz-Baltiyya Co.	403702-Nargiz; 200 43 93; 989473-F	42 Azadlig Avenue
Mamedov, Nazim	Farmer	“Ilaha” Fruit & Vegetable Transport and Supply Enterprise	318 39 72	Khachmaz
Mammadov, Ali	First Deputy Chief	Agro-industrial Dept., Cabinet of Ministers	92 54 29	
Mammadova, Nargiz R.	Deputy Director	Naig’s Co, Tovuz Baltiyya Ltd	40 37 02; 30 00 43	
Mirzakhanov, Asif	Tech Director	Company “SAF”	(050) 223 09 72	Guba, Zardabi St. Center for Economic Reforms, 2 <sup>nd</sup> floor
Mirzakhanov, Elman	Chairman	Company “SAF”	(050) 223 09 72	Guba, Zardabi St. Center for Economic Reforms, 2 <sup>nd</sup> floor
Mirzamamedov, Nazim	Trader/exporter			Guba
Mustafayev, Akif (Dr.)	Director of Rural Policy Unit	Agency for Support to the Dev. of the Ag. Private Sector	93 29 34	<a href="mailto:amustafayev@azeurotel.com">amustafayev@azeurotel.com</a>
Nadirov, Faiq	Head of the Project/Executive Director	Masally Regional Agricultural Advisory Center	321 12 65	Masally
Pashayev, Nariman	Technician	“HS” Ltd.		Guba
Peden, Mike	Chief of Party	PRAAGMA	931893	172, Tolstoy St. opposite Mugan Bank

Pashayev, Jamal	Associate Banker	European Bank for Reconstruction and Development	(99412) 97 10 14; 97 10 19- Fax	<a href="mailto:pahsayevj@bku.ebrd.com">pahsayevj@bku.ebrd.com</a> - ??? The Landmark Bldg. I, 4 <sup>th</sup> floor 96 Nizami Str., Baku, Azerbaijan 370000
Petrova, Margarita	Dairy Technologist	Milk Pro- Dairy Company	In Baku: (99412) 90 45 54; 90 13 98; 9012 62-fax (99450) 357 28 11- mobile In Goychay: (994167) 5 50 54; 5 16 54-fax	<a href="mailto:mpro@intrans.az">mpro@intrans.az</a> ; <a href="mailto:mima_pp@yahoo.com">mima_pp@yahoo.com</a>  In Baku: 4 Mexanika Str., Baku, Azerbaijan
Rafiyev, Ismayil	Project Director FTF	ACDI/VOCA	906723; 976268, Secr: Milena	IPED YOLU Business Centre. Khatai Metro Station
Rustamov, Ajdar	Sales Director	Company “SAF”	(050) 223 09 72	
Salimov, Hasan	Chief Accountant	“Masally Conserv” holding	(5) 15 15	Masally
Schuette, Reinhold (Dr.)	Head of Project	GTZ Agricultural Policy Project	(050) 201 02 43	reinhold.schuette@gtz.de
Sheydayev, Rafik	Trader/exporter			Guba
Shikhiyev, Movsum (Dr.)	President	Milk Pro- Dairy Company	In Baku: (99412) 90 45 54; 90 13 98; 9012 62-fax  In Goychay: (994167) 5 50 54; 5 16 54-fax	<a href="mailto:mpro@intrans.az">mpro@intrans.az</a>  In Baku: 4 Mexanika Str., Baku, Azerbaijan
Smotzok, Manfred	Chief of Party	IFDC/USAID	<a href="mailto:smotzok@ifdc-az.or">smotzok@ifdc-az.or</a> ; 223 45 79	
Sutcu, Yildirim	Director	“Qafqaz Cannery” Ltd.	(+994 172) 3 57 05	Khachmaz
Taghiyev, Israil	Farmer			Masally
Tagiyev, Rafik	Agricultural Advisor to the Head of Executive Power of Khachmaz Rayon	Head of Agricultural Department		Khachmaz
Teymurov, Firuz	Plant Director	“Lenkaran Konserv” Stakeholding Company (former kombinat)	313 4703	Lenkaran
Ucur, Alparslan	General Manager	RAMSTORE Supermarket	903200; 903202 Gulshan	Khatai, Main building
Yurosek, David	Agribusiness Adviser	PRAGMA	931893	172, Tolstoy St. opposite Mugan Bank

**ANNEX E: LIST OF PARTICIPANTS, FEBRUARY 2004 WORKSHOP, BAKU, AZERBAIJAN**

NAME	TITLE	ORGANIZATION	TEL/FAX/EMAIL
Ahmedov, Vugar	Agrobusiness Specialist	Pragma	<a href="mailto:vugoagro@yahoo.com">vugoagro@yahoo.com</a> ; (050) 333 47 32
Alekperov, Khalil	Chief Consultant	Ministry of Agriculture	93 86 22 (exten- 1-83)
Bicoku, Ylli	Association Development Advisor	IFDC	<a href="mailto:bicoku@ifdc-az.org">bicoku@ifdc-az.org</a>
Blarel, Benoit	Sector Manager	World Bank	
Brannaman, John	Agricultural Development Officer	USAID	<a href="mailto:jbrannaman@usaid.gov">jbrannaman@usaid.gov</a>
Chirag-Zade, Rufiz	Operations Officer	World Bank	
Effendi, Rena	Private Sector Specialist	USAID	<a href="mailto:reffendi@usaid.gov">reffendi@usaid.gov</a>
Gahramanov, Eldar	Deputy Chairman	Commission for Agrarian Policy, Parliament	92 98 85; (050) 200 12 92
Garaisayev, Samed	Chief Consultant of Livestock Department	Ministry of Agriculture	62 74 25
Hasanov, Gadir	Sector Director	Ministry of Agriculture	98 01 65
Huseynov, Islam			
Huseynov, Rafil	Sector Director	Ministry of Agriculture	93 94 62; <a href="mailto:huseynovrafil@yahoo.com">huseynovrafil@yahoo.com</a>
Ismayilov, Ibrahim	Project Coordinator	GTZ	(050) 346 67 10
Karakushu, Murat	Consultant	Agency for Support to the Development of Agriculture	<a href="mailto:karakushum@hotmail.com">karakushum@hotmail.com</a>
Mammadov, Ali	Deputy Director	Cabinet of Ministries	92 54 29
Mammadova, Nargiz R.	Deputy Director	Naig's Co, Tovuz Baltiya Ltd	40 37 02; 30 00 43
Mirzaxhanov, Elman	Chairman	Company "SAF"	(050) 223 09 72
Mustafayev, Akif	Director	Agency for the Support for Private Sector of Agriculture	93 29 34
Schuette, Reinhold (Dr.)	Head of Project	GTZ Agricultural Policy Project	(050) 201 02 43
Smotzok, Manfred	Chief of Party	IFDC/USAID	<a href="mailto:smotzok@ifdc-az.org">smotzok@ifdc-az.org</a> ; 223 45 79
Sutton, William	Task Team Leader	World Bank	
Tuck, Laura	Sector Director	World Bank	Ltuck@worldbank.org

## ANNEX F: QUESTIONNAIRE FORMAT FOR FIELD INTERVIEWS<sup>84</sup>

Company or farm: _____
Person(s): _____ Position: _____
Person(s): _____ Position: _____
Address: _____
Tel: _____ E-mail: _____ Interview Date: _____
Year founded: _____ Partners: _____ Org form: _____

**Nature of Business/Work (What types of products, technologies and scales of production? Adequate?)**

### QUESTIONS

- 1) What is the state of the public and private **INFRASTRUCTURE** (*power, storage, markets*)?
- 2) What is the level of **COORDINATION** among firms – farmers and is it changing?
  - a. Do you participate in **CONTRACT FARMING**? How does it benefit you? (Where are your farmers & what do you provide?)
  - b. What is typical producer **SIZE** you deal with? What would be necessary to facilitate your work with the small producers more?
  - c. Do you belong to any like trade (producer) **ASSOCIATIONS**? What is their role and impact? (i.e marketing, info services, technology, research, etc.)
- 3) Market **PUBLIC INSTITUTIONS**. How effective are the current public marketing-oriented activities i.e. price information, trade fairs, marketing advice (thru extension), etc.? Are private efforts filling the need?
- 4) **Enabling Environment**
  - a. Laws and regulations
  - b. Taxation (official and unofficial)
  - c. Tariffs and quotas

<sup>84</sup> Note that these interviews were primarily intended to collect qualitative information, and the questionnaires were used only as guidelines to the discussions.

- 5) What constraints do you know your downstream & upstream business COLLEAGUES (suppliers, processors, traders and retailers) facing?

What are the constraints to INVESTMENT (for locals and foreign)? Is there outside investment in your firm (local/ foreign)

- 6) What are the Key message from GOV POLICY for the sector and what is Gov's perceived capacity to *implement* it at local and national levels? What is your Key message to gov.
- 7) From a marketing perspective, which products/firms/farmers are doing well, and which are not? Who is the competition? What are the investments areas with the most POTENTIAL?
- 8) MARKET INFORMATION. How do you anticipate (discover) changes in the markets? What info do you most need? Do you feel you can react promptly to new info?
- 9) Do you have good market access? Are your product MARKETS growing or contracting? Is the focus on internal or foreign demand (how is domestic mkt)? Which export markets are important now and potentially in the near future? Does the sector have COMPETITIVE advantages? Who is your Competition?
- 10) What are your market channels? What are your vital links in the value chain and what are their efficiencies, value-added, market power, political power? INCOME DISTRIBUTION Is there a competitive market or is there "monopoly" power among buyers i.e what is the cost of changing buyers? Are some market players realizing disproportionate *rents*?
- 11) What are the most profitable products? Least? Are your profits comfortable? Anticipated changes?
- 12) What important public (gov) STANDARDS for quality/safety are required and what private standards are required or becoming necessary? Do G&S exclude you from or differentiate you any markets?
- a. Is G&S information accessible and understandable? How is this information disseminated?
  - b. Is there a standardized methodology (and equipment) for testing? Reasonable access to necessary testing?
- 13) What are the key constraints where intervention would leverage the greatest impact in the sector? What is your wish list?
- 14) What changes in policies, institutions and investments would improve the situation?
- 15) Who would be your allies to help you achieve improved \_\_\_\_\_?

## **ANNEX G: LIST OF BACKGROUND DOCUMENTS**

Agricultural Development and Credit Project (2002), *Policy Framework Paper for the Agricultural Sector in Azerbaijan*, Azerbaijan Agency for Support to the Development of the Agricultural Private Sector and World Bank.

Agricultural Development and Credit Project (2002), *Final Report: Agro-Processing Technology Expert*, Azerbaijan Agency for Support to the Development of the Agricultural Private Sector and World Bank.

Alekperov, Gurbanali (2004), *Current Situation of Dairy Industry in Azerbaijan*, Report commissioned by Agricultural Markets Study, the World Bank.

Aliyev, Ilham (24 Nov. 2003), *Decree of the President of Azerbaijan Republic on Measures to Accelerate Socio-economic Development*, Baku.

Azerbaijan Dairy Industry Journal (2002), *Azerbaijani Milkmen*, Issues 1 & 2, Azerbaijan Dairy Processors Association, Land O'Lakes PAPA Project, USAID.

DMG Consulting Ltd. (1999), *Agribusiness Sector Survey Report for Azerbaijan for the International Finance Corporation*, Draft Final Report.

Dries, Liesbeth; Swinnen, Johan F. M. (2003): *Foreign Direct Investment, Vertical Integration, and Local Suppliers: Evidence from Poland*. Department of Agricultural and Environmental Economics, Katholieke Universiteit Leuven. Working Paper.

Dudwick, D., K. Fock, and D. Sedik (2005), "A Stock-Taking of Land Reform and Farm Restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan", The World Bank.

Dusenbury, P, S. Rosenfeld, J. Traxler (2003) *Options for Developing a Fruit and Vegetable Processing Industry Cluster in Azerbaijan*, unpublished internal World Bank report prepared by Regional Technology Strategies, Inc.

FAO (1991) *Wholesale Market Management - A Manual*, *FAO Agricultural Services Bulletin* No.140-  
<http://www.fao.org/waicent/foainfo/agricult/ags/AGSM/manage.htm>

FAO (2002), *Proceedings of the China-FAO Regional Workshop on Small Scale Milk Collection and Processing in Developing Countries* 5-17 May 2002.

FAO (2002) *Wholesale Markets Planning and Design Manual* *Agricultural Services Bulletin* No.90 -  
<http://www.fao.org/docrep/T0521E/T0521E00.htm#Contents>

FAO Statistics Website: <http://faostat.fao.org/faostat/collections?subset=agriculture>

FAO Special Action Programme for the Prevention of Food Losses  
<http://www.fao.org/ag/ags/Agssi/cht/AGSI.HTM>

Fock, Karin (15 Jan. 2004), *Policy Note on Azerbaijan's Agrifood System*, ECSSD, the World Bank.

Foreign Investment Advisory Services (FIAS; 2002), *Azerbaijan: Joining the Race for Non-oil Investment. A Diagnostic Review of the Environment for FDI*, International Finance Corporation and the World Bank.

Ganja Regional Agro-consulting Center, Agricultural Strategy Unit (2002), *Comparative Advantage Studies for Crop and Livestock Production*, Agricultural Development and Credit Project, Azerbaijan Agency for Support to the Development of the Agricultural Private Sector and World Bank.

Ganja Regional Agro-consulting Center, Agricultural Strategy Unit (2002), *Comparative Advantage Studies and Analysis of Impact of Development Limiting Factors in Agriprocessing Industry and Evaluation of Alternative Policy that Might Strengthen Development of Processing Industry, and Formation of Policy Framework*, Agricultural Development and Credit Project, Azerbaijan Agency for Support to the Development of the Agricultural Private Sector and World Bank.

Gow, H.R. and J.F.M. Swinnen (2001), *Private Enforcement Capital and Contract Enforcement in Transition Economies*, Amer. J. Agr. Econ. 83(3): 686-690.

Jaffee, S. et al. (2005), *Food Safety and Agricultural Health Standards: Challenges and Opportunities for Developing Country Exports*, Report No. 31207, the World Bank.

Lacroix, Richard (May 15, 2003), *Azerbaijan: Proposed Rural Investment Project (P076234) Preparation Mission—Back to Office Report (supplement)*, ECSSD, the World Bank.

Lacroix, Richard (2003), *Agro-processing in Azerbaijan*, Note, the World Bank.

Lacroix, Richard and Panos Varangis “*Using Warehouse Receipts in Developing and Transition Economies*” The World Bank.

<http://www.worldbank.org/fandd/english/0996/articles/0140996.htm>

Land O’Lakes (2000), *Competitive Analysis of Selected Agricultural Products in Azerbaijan*, USAID.

Lehis, E. and X. Wu (2004), “*AZRIP Social Assessment Report*”, the World Bank.

Lerman, Zvi, Csaba Csaki and Gershon Feder (2004), *Agriculture in Transition, Land Policies and Evolving Farm Structures in Post-Soviet Countries*, Lexington Books, USA

MAK Consultancy Group (October 2002), *Macro-economic Analysis and Forecasting Study Final Report*.

Ministry of Economic Development of Azerbaijan (2004), *State Program on Social-Economic Development of Regions of Azerbaijan Republic for the Years of 2004-2008*.

Mitchell, R., *Review of Draft Production Cooperative Law of Moldova (Sept. 2001)*, Rural Development Institute, January 3, 2002.

Mittendorf, H.J. (November 2000) “*Planning Viable Food Wholesale Markets in Eastern European Cities*” Paper Presented at the Council Meeting II of the World Union Wholesale Markets. Hamburg Germany

<http://www.wuwm.org/wuwm/marketstudies/doc1.asp>

Neubert, David (2003), *Evaluation of the Participatory Agriculture Project (PAPA) Program in Azerbaijan*, USAID.

Onumah, Gideon E. "Improving Access to Rural Finance through Regulated Warehouse Receipts Systems in Africa" Paving The Way Forward for Rural Finance An International Conference on Best Practices Case Study  
[http://www.basis.wisc.edu/live/rfc/cs\\_09d.pdf](http://www.basis.wisc.edu/live/rfc/cs_09d.pdf)

Petersen, Christian (TTL; 2003), *An Integrated Non-Oil Trade and Investment Strategy (INOTIS), Volumes 1&2*, ECSPE, the World Bank.

RDP Livestock Services B.V. (2001), *Grazing and Pasture Management Component Identification Study*, Shah Dag Rural Environment Project, Azerbaijan Republic and the World Bank.

Schillhorn van Veen, T.W. (2002), *Rangeland and livestock issues and investments in proposed Shah Dag national park*, Shah Dag Rural Environment Project, ECSSD, the World Bank.

Sedik, D., K. Fock, B. Davis, S. Trento, B. Molinari (2002), *Azerbaijan Rural Poverty Assessment*, Draft of August 8, 2002.

Seidler, Edward (September 2001) "Wholesale Market Development – FAO's Experience" Paper Prepared for the 22<sup>nd</sup> Congress of the World Union of Wholesale Markets, Durban South Africa  
<http://www.fao.org/ag/ags/agism/wuwm.htm>

Shepherd, Andrew W. (May 2004) "Wholesale Markets in the Era of Supermarkets and Hypermarkets-Developments in Central and Eastern Europe" Presented at the World Union of Wholesale Markets Membership Meeting

State Statistical Committee of the Republic of Azerbaijan (2001), *Agriculture in Azerbaijan*.

State Statistical Committee of Republic of Azerbaijan (2002), *Statistical Yearbook of Azerbaijan*.

State Statistical Committee of the Republic of Azerbaijan website: <http://www.azstat.org>.

Swinnen, Johan F.M. (2003), *Vertical Integration, Interlinking Markets, and Growth in the Central and East European Agri-food Sectors*, Paper prepared for the EAAE seminar on "New Policies and Institutions for European Agriculture", Gent, September 24-26, 2003, the World Bank and Katholieke Universiteit Leuven.

The European Bank for Reconstruction and Development (2000) *Annual Legal Indicator Surveys*.

The International Monetary Fund (2003), *Azerbaijan Republic—Selected Issues and Statistical Appendix*, IMF Country Report No. 03/130.

The World Bank (September 1996) "How Warehouse Receipts Help Commodity Trading and Financing" DEC Notes Development Trends, No.21

The World Bank (1998) "India: The Dairy Revolution The Impact of Dairy Development in India and the World Bank's Contribution" OED Publication.

The World Bank (October 31, 2002), *Reaching the Rural Poor, Strategy and Business Plan*.

- The World Bank (2003), *Building Competitiveness: An Integrated Non-Oil Trade and Investment Strategy (INOTIS)*, Report No. 25818-AZ
- The World Bank (March 2003), *Rural Financial Services Implementing - The Bank's Strategy To Reach The Rural Poor*, Report No: 26030.
- The World Bank (June 4, 2003), *Azerbaijan Republic Poverty Assessment*, Volume 1.
- The World Bank (June 4, 2003), *Azerbaijan Republic Poverty Assessment*, Volume 2.
- The World Bank (November 2003), *Trade and Transport Facilitation: Azerbaijan Policy Note*.
- The World Bank (February 2004), *Agriculture Investment Source Book*.
- The World Bank (2004), Azerbaijan Farm Privatization Project, *Implementation Completion Report (ICR)*.
- The World Bank (2004), Azerbaijan Rural Investment Project, *Social Assessment*.
- The World Bank (2005), *Food Safety and Agricultural Health Standards: Challenges and Opportunities for Developing Country Exports*, Report No. 31207.
- The World Bank (2005), *Proposed Azerbaijan Poverty Reduction Support Credit*, Program Document, internal World Bank document.
- The World Bank, *National Dairy Project (Credit 824-In) Performance Audit Report (Internal Report)*
- The World Bank SIMA Database
- The World Bank *Turkey Agricultural Reform Implementation Project Documents*
- Tomasin, Giuseppe (2001), *Identification of Investment Opportunities in the Agrifood Sector*, EBRD and FAO.
- UN Statistical Division Commodity Trade Database.
- United States Department of Agriculture, Foreign Agricultural Service (February 10, 2004), *Russian Federation*.
- Van Berkum, S. (2004), *Dynamics in Vertical Coordination in the Romanian Dairy Sector*, Report for the World Bank Study on *Dynamics of Vertical Coordination in ECA Agrifood Chains: Implications for Policy and Bank Operations*, The World Bank, Washington, DC.
- Weingart, Jerome and D. Giovannucci (2003) *Rural Energy: A Practical Primer for Productive Applications.*, Unpublished paper for D. Giovannucci, ed. *The Guide to Developing Agricultural Markets and Agro-enterprises*. The World Bank
- White, John Tracey (2003) "*Planning and Designing Rural Markets*" Marketing Extension Guide FAO

*Transparency International Corruption Perceptions Index 2004*, Transparency International,  
[www.transparency.org](http://www.transparency.org),

Yaron, J., P. Benjamin, G. Piprek (1997), *Rural Finance- Issues, Design and Best Practices*, The World Bank.

Zorya, S. and A. Amiraslanov, *World Trade Organization and Agriculture in Azerbaijan*.