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**Report No: 36158-MD**

**PROJECT APPRAISAL DOCUMENT**

**ON A**

**PROPOSED CREDIT**

**IN THE AMOUNT OF SDR 2.8 MILLION  
(US\$4 MILLION EQUIVALENT)**

**AND A**

**PROPOSED GRANT**

**IN THE AMOUNT OF SDR 2.8 MILLION  
(US\$4 MILLION EQUIVALENT)**

**TO THE**

**REPUBLIC OF MOLDOVA**

**FOR AN**

**AVIAN INFLUENZA CONTROL AND HUMAN PANDEMIC PREPAREDNESS AND  
RESPONSE (AIHP) PROJECT**

**AS PART OF THE**

**GLOBAL PROGRAM FOR AVIAN INFLUENZA (GPAI)**

**May 5, 2006**

**Environmentally and Socially Sustainable Development Sector Unit  
South East Europe Country Unit  
Europe and Central Asia Region**

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective April 31, 2006)

Currency Unit = Moldovan Leu  
MDL 13.02 = US\$1  
US\$ 1.4286 = SDR 1

## FISCAL YEAR

January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

APL	Adaptable Program Loan
CAMIB	Central Agricultural Marketing Information Bureau
CAPMU	Consolidated Agricultural Project Management Unit
CDC	Center for Disease Control
ECA	Europe & Central Asia Region
EU	European Union
FM	Financial Management
IFR/FMR	Interim un-audited Financial Reports/Financial Management Report
GPAI	Global Program for Avian Influenza and Human Pandemic Preparedness and Response
HPNI	Highly Pathogenic Avian Influenza
H5N1	Influenza A virus
IDA	International Development Association
ISA	International Standards on Auditing
MAFI	Ministry of Agriculture and Food Industry
MDL	Moldovan Leu
MHSP	Ministry of Health and Social Protection
NCB	National Competitive Bidding
RCVD	Republican Center of Veterinary Diagnosis
PHRD	(Japan) Policy & Human Resources Development
POM	Project Operations Manual
RISP I	First Rural Investment and Services Project
SANCO	European Commission Health & Consumer Protection Directorate-General
SIL	Standard Investment Loan
SOE	Statement of Expenditures
SPMP	Social Protection Management Project
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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**MOLDOVA**  
**Avian Influenza Control and Human Pandemic Preparedness & Response Project**

**CONTENTS**

	<b>Page</b>
<b>A. STRATEGIC CONTEXT AND RATIONALE.....</b>	<b>1</b>
1. Country and sector issues.....	1
2. Rationale for Bank involvement .....	3
3. Higher level objectives to which the project contributes .....	3
<b>B. PROJECT DESCRIPTION .....</b>	<b>3</b>
1. Lending instrument .....	3
2. Project objective and Phases .....	4
3. Project development objective and key indicators .....	4
4. Project components .....	5
5. Lessons learned and reflected in the project design.....	8
6. Alternatives considered and reasons for rejection.....	8
<b>C. IMPLEMENTATION.....</b>	<b>9</b>
1. Partnership arrangements .....	9
2. Institutional and implementation arrangements .....	9
3. Monitoring and evaluation of outcomes/results .....	10
4. Sustainability.....	10
5. Critical risks and possible controversial aspects.....	10
6. Credit/grant conditions and covenants .....	11
<b>D. APPRAISAL SUMMARY.....</b>	<b>11</b>
1. Economic and financial analyses .....	11
2. Technical .....	12
3. Fiduciary.....	12
4. Social.....	12
5. Environment.....	13
6. Safeguard policies .....	13
7. Policy Exceptions and Readiness.....	13

<b>Annex 1: Country and Sector or Project Background .....</b>	<b>14</b>
<b>Annex 2: Major Related Projects Financed by the Bank and/or other Agencies .....</b>	<b>17</b>
<b>Annex 3: Results Framework and Monitoring.....</b>	<b>19</b>
<b>Annex 4: Detailed Project Description .....</b>	<b>24</b>
<b>Annex 5: Project Costs and Financing .....</b>	<b>29</b>
<b>Annex 6: Implementation Arrangements .....</b>	<b>31</b>
<b>Annex 7: Financial Management and Disbursement Arrangements .....</b>	<b>32</b>
<b>Annex 8: Procurement Arrangements .....</b>	<b>36</b>
<b>Annex 9: Economic and Financial Analysis.....</b>	<b>44</b>
<b>Annex 10: Safeguard Policy Issues .....</b>	<b>48</b>
<b>Annex 11: Project Preparation and Supervision.....</b>	<b>49</b>
<b>Annex 12: Documents in the Project File.....</b>	<b>50</b>
<b>Annex 13: Statement of Loans and Credits .....</b>	<b>51</b>
<b>Annex 14: Country at a Glance.....</b>	<b>53</b>
<b>Annex 15: Map (IBRD 33448).....</b>	<b>54</b>

## **A. STRATEGIC CONTEXT AND RATIONALE**

### **1. Country and sector issues**

Emergence of Avian Influenza. Outbreaks of Highly Pathogenic Avian Influenza (HPAI) began in several Southeast Asian countries in 2003 and spread to Europe in 2005. Significantly for Moldova, outbreaks in the neighboring Danube delta region of Romania and in the Crimea peninsula of the Ukraine in 2005 obliged governments to cull (kill) poultry. New outbreaks of Avian Influenza were registered in the Danube delta of Romania as recently as February 2006. To date, over 140 million domestic poultry, in several continents, have either died or been culled. Economic losses to the Asian poultry sector alone total around \$10 billion.

Past and potential infection of humans. The World Health Organization (WHO) reports that a world-wide total of 186 people contracted HPAI and 105 have died. The increase in infection raises concern that the virus could mutate in ways that favor human to human transmission. The WHO warns that the subsequent pandemic could have devastating effects on human health and livelihoods. The pandemic of 1918 killed around 50 million people in eighteen months, with peak mortality rates occurring in people aged 20-45 years. The pandemics of 1957 and 1958 were milder, but many countries experienced strains on their health care systems.

If a pandemic were to appear again, air travel would spread the new virus and decrease the time available for preparing interventions. The Center for Disease Control (CDC) estimates 2 to 7.4 million deaths world-wide. Simulation of a 'mild-case' pandemic at the Lowy Institute of Australia National University predicts loss of 1.4 million people and of US\$ 330 billion of world GDP while simulation of an 'ultra-case' scenario finds loss of 142 million people and US\$ 4.4 trillion. The likelihood of such scenarios is highly uncertain. Still, the Project acts to strengthen the animal and human health systems to address this risk to humans.

International response. In November 2005, concerned governments, technical agencies, and donors met in Geneva to plan an international response to the risks that Avian Influenza will harm human health and cause large-scale economic losses. In January 12, 2006, the World Bank's Board of Directors approved up to \$US 500 million in financing for the Global Program for Avian Influenza (GPAI) that will assist eligible countries. The GPAI is an Adapted Program Loan (APL) that operates horizontally, across countries. Also in January, governments and donors met in Beijing, China and pledged \$US 1.9 billion to the fight against Avian Influenza.

Government response. The Government of Moldova has organized emergency teams, at both the local and national levels, to respond to any outbreak of Avian Influenza. Importantly, the Government of Moldova designed and enacted a National Contingency Plan for Avian Influenza, a National Preparedness Plan for Human Influenza Pandemic and a Republican Action Program on Avian Flu Prophylaxis on the Territory of Moldova. The Bank reviewed the plans and these appear adequate and in line with recommendations of the World Organization for Animal Health, the Food and Agriculture Organization, and the WHO. Nevertheless, the Bank recommends further strengthening of the plans. The EU TACIS Program in Moldova will support such strengthening on the animal health side, within a dedicated activity under its Project for the Development of Animal Health and Food Safety Systems for the Control of Major Epizootic

Diseases. On the human health side, the WHO will provide the expertise to review the contingency documents. Both activities will be done in coordination with the proposed Project.

State of the poultry sector. The poultry sector in Moldova represents circa 80% of the livestock and poultry population, at roughly 18 million heads (as of September 2005). Poultry meat is a nutrition staple generally, but more importantly, it is so in rural areas where poverty incidence is high. Fourteen million birds are owned by households (backyard poultry) and small commercial farmers. The number of backyard poultry is highly variable, with peak season (summer and early fall) population reaching approximately 20 million birds. Backyard farming patterns are characterized by unsafe bio management practices, such as maintenance of multiple species in confined space and free range roaming for grazing.

The country's commercial poultry industry is characterized by the predominance of 5 large producers. Since independence, commercial poultry has suffered a severe drop in output, but has been on a strong rebound since 2002, with an average output (meat and eggs) growth of 10%. Adequate bio-safety standards are enforced at all commercial producers.

State of the animal health system. The national system is being transformed in many aspects. Moldova has set out to meet the animal health and food safety requirements for export of livestock and meat and dairy products to the European Union (EU). According to a recent EU assessment, Moldova is expected to meet the requirements by the end of 2007. A new Veterinary Law is expected to be adopted later this year and to further transform the system. The new law favors private sector provision of veterinary services and limits the size of public services. Many of the 2,500 veterinarians in public service will probably shift to private practice.

Under the new law, the National Agency for Sanitary Veterinary Service and Safety of Animal Origin Products will administer the public system, including the Republican Center of Veterinary Diagnosis (RCVD) and its two satellite laboratories. The EU Food Security Project rehabilitated infrastructure and funded equipment to help the RCVD laboratory identify viruses in livestock. This is a step toward renewing veterinary diagnostic capacity in Moldova, following a long period without investment. Nevertheless, assessment by the World Bank finds that laboratory testing capacity and training in disease control and field services remain areas for improvement.

State of the human health system. The Ministry of Health and Social Protection is responsible for health care planning and regulation. However, most health care providers are directly accountable to their rayon (local) administration. Each Rayon Health Authority, led by a chief doctor, is composed of the primary and secondary providers.

The public health system has been improving since the late 1990s. Public financing of health care increased significantly from 2004 and reached 4.7% of GDP in 2005. But per capita spending remains low relative to the region, at US\$ 25. The Government focuses on retraining of primary care doctors and equipment in health centers –and has achieved good geographical coverage of primary care. As in the animal health sector, the Government lacked the fiscal space necessary for spending on healthcare technology over the past 15 years, and most equipment and facilities are in urgent need of upgrading and replacement.

## 2. Rationale for Bank involvement

A Public Good. Prevention and containment of infectious diseases such as HPAI are public goods. Households and firms face little incentive to invest in prevention and containment that benefit others. Yet much of the world is at risk of a spread of the infection, so the world as a whole faces a powerful incentive to invest in prevention and containment, hence the rationale for World Bank involvement in the fight against HPAI.

Rapid Response. In view of the potential risks, the Bank made every effort to speed preparation. Following a standard preparation cycle would have enhanced technical planning and preparedness for implementation. Yet this would have left Moldova without the financial resources to respond to a highly probable outbreak of Avian Influenza and induced greater risk to human health and greater economic risk. This rapid response necessarily implies somewhat greater implementation risks and a degree of flexibility in the project design.

Role of the Bank. The role of the Bank in Moldova, with respect to HPAI, is to mobilize funds and technical expertise and to build partnerships with technical agencies and donors. A technical team from the WHO joined the Project Team and took the lead in identifying human health activities. The FAO and OIE are expected to contribute with technical expertise to the implementation of the proposed Project. The UNICEF is leading the technical work on communications. Importantly, the US Agency for International Development (USAID) and the EU supported Food Security Project are partners in funding the fight against HPAI in Moldova.

## 3. Higher level objectives to which the project contributes

Achieving the objectives of the Project will lower the economic and social burden of disease in Moldova – all while lowering health and economic risks to neighboring countries.

## B. PROJECT DESCRIPTION

### 1. Lending instrument

The Project. The proposed Project is a Standard Investment Loan (SIL), financed through the International Development Association (IDA). It is 50% credit on IDA terms, and 50% grant.

**Table B.1.1. MOLDOVA: Sources of Financing of the Avian Influenza Project and the Financing Gap**  
(in thousands of US dollars)

<b>Project Total</b>	<b>\$10,600</b>
IDA Financing	\$8,000
Japanese PHRD Grant	\$500
European Union (Multi-donor Trust Fund)	\$600
US Agency for International Development	\$350
Government of Moldova	\$750
<b>Financing Gap <sup>a/</sup></b>	<b>\$400</b>

Source: World Bank. <sup>a/</sup> The Multi-donor Trust Fund, EU-supported Food Security Project, USAID, and UNICEF may finance part of the Gap.

Financing of overall Project. The proposed IDA Financing is the largest source of financing of an overall Project of US\$ 10.6 million (see Table B1.1 and Annex Table 5.2 for further details). With agreement of the Government, the Bank will cancel SDR 0.7 million (US\$1 million equivalent) from the SPMP (credit number 32610),

thereby freeing this amount to the country's overall IDA envelope, in order to make USD\$8 million available to the IDA Financing of the proposed Project.

There is a financing gap of US\$ 400 thousand. However, the EU and USAID appear likely to offer additional financing and there is potential for further support from the Multi-donor Trust Fund. Hence, the Project is likely to be fully funded.

## **2. Project objective and phases.**

GPAI. The Project is part of the “Global Program for Avian Influenza Control and Human Pandemic Preparedness and Response” (Report no. 34386). This Project Appraisal Document is in effect a Technical Annex to the GPAI document. The GPAI document sets forth criteria for countries that seek financing.

Country Eligibility Criteria under the GPAI. Moldova meets the criteria set in the GPAI document for a “country at risk”:

*“Countries at risk*, with no outbreaks or at an early stage of an outbreak, will need to demonstrate governmental commitment to addressing the situation and have in place an appropriate plan for early detection and rapid response, including implementation and monitoring arrangements that the international agencies and donor community, including the Bank, could support.”

To date, Moldova has not suffered an outbreak of Avian Influenza, though it is at significant risk, since two nations on its borders, Ukraine and Romania, suffered outbreaks. Moreover, the Government demonstrated its commitment to the fight against Avian Influenza through policy statements, through preparation of formal plans, and through expenditure and commitment of funds from the national budget.

[Please note that the first two criteria relate to: (i) countries in endemic situations with new human infections detected; and (ii) countries with new infections among poultry, but not humans. At the time of appraisal Moldova does not fall in either category. The fourth and final criteria relates to countries with very low income levels and very low capacity circumstances, including LICUS countries, for which special criteria and waivers would apply if a full-blown human pandemic were to materialize, to ensure that assistance would be available if and when needed, even if the country itself would hardly be able to generate or mobilize any effective AI response, to safeguard the global public good nature of the global Avian Influenza objective.]

## **3. Project development objective and key indicators**

The overall objective of the Project is to minimize the threat posed to humans by HPAI. To achieve this, the Project will support surveillance for outbreaks of such diseases, preparation for outbreaks, and control of outbreaks among humans and animals. The outcome indicators are as follows:

If there is an outbreak of HPAI among poultry following implementation, then

- ③ A Moldovan government laboratory identifies the presence of HPAI;
- ③ The Government culls birds at the infection point and establishes a protection zone, with participation of local governments and the population; and
- ③ Compensates small farmers for culled birds.

If there is poultry to human infection following implementation; then

- ③ A Moldovan government laboratory identifies the presence of HPAI;
- ③ Patients are transported safely and hospitalized in protected rooms.
- ③ Patients are provided with adequate HPAI relevant treatment.

With regard to intermediate outputs, the key indicators are as follows:

The Moldovan government:

- ③ Plans for each stage of response to an outbreak of HPAI and conducts simulation exercises;
- ③ Procures, delivers, and trains personnel in use of testing equipment, protective clothing, and other equipment and materials;
- ③ Conducts a public awareness and information campaign on HPAI.

#### **4. Project components**

**Component 1: Animal Health** (The total size for this component is US\$ 3.6 million; of which US\$ 2.85 million is financed by IDA). Currently, the component does not include activities related to backyard poultry restructuring, due to lack of identified funding. The Government expressed interest in implementing such activities if additional funding were to become available.

**Sub-component 1.A: Animal disease surveillance & diagnosis.** The sub-component strengthens the RCVD and its two regional satellite laboratories. The key investments are in essential equipment for testing for the presence of HPAI in animals, for consumables and reagents.

Technical assistance focuses on building human resources in the use of database programs (including the global information system) and in the analysis of data to support decisions on prevention and control of animal diseases. To develop an efficient disease information system, the sub-component supports training on collection and analysis of epidemiological data and on risk assessments. Project-supported technical assistance builds institutional capacity for serology and virology tests for the disease. These technical assistance and training activities are to be financed largely with proceeds of the Japanese PHRD Grant (US\$250,000).

**Sub-component 1.B: Animal HPAI control and outbreak containment.** This sub-component supports actions to contain any outbreak of HPAI, starting with culling of infected and at-risk poultry and then moving to disposal of their carcasses in a bio-secure and environmentally acceptable manner. Moreover, the sub-component promotes bio-security at commercial poultry farms and invests in control of movement of birds and products that may

be infected. The sub-component trains and equips staff and external workers, and delivers personal protective clothing. In addition, it supports technical assistance to review, assess, and if necessary recommend improvements in the Government's contingency plans for HPAI preparedness and response.

**Sub-component 1.C: Compensation Fund.** The purpose of the Fund is to encourage farmers to report possible outbreaks of Avian Influenza. In the absence of a Fund, many small farmers will not report sick poultry because of the potential loss from culling. There are further reasons not to report: small farmers don't want to cause their neighbors to lose poultry to culling and want to avoid damaging the commercial reputation of their town and of their poultry industry. The activities of the Public Awareness and Information component will help address farmers' concerns.

But to effectively encourage reporting, a Compensation Fund must reimburse the cost of birds culled. To respond quickly, it should have enough cash available to reimburse a substantial part of the cost of the several isolated outbreaks of Avian Influenza. It does not seem possible to predict the size of an initial outbreak. In the absence of a precise forecast, the Bank recommends establishment of a fund with initial financing of \$1.5 million. This would reimburse farmers for nearly 500,000 conventional birds, or about 3.5% of the national stock of poultry on household farms (see Annex 4). Compensation to large commercial poultry producers is not envisaged under the present scheme. Failure to budget for compensation could lead to failure to pay toward the start of an outbreak, so that farmers lose any incentive to report. Therefore, the Government of Moldova agreed to establish and contribute to the proposed Fund.

The Bank proposes that, in valuing losses, the Commissions apply recent farm-gate prices for each type of chicken (hen, broiler), roosters, turkeys, geese, and ducks (see Table in Annex 4). The Compensation Fund would apply this reference price, as opposed to a current price, since market prices for chicken would probably collapse during culling. Furthermore, the Compensation Fund refunds 75% of the assessed market value, as recommended by FAO, to dissuade smuggling of poultry from areas not affected by HPAI (see Annex 4).

The Bank suggests that the Ministry of Agriculture and Food Industry manage the Compensation Fund, with assistance from the Consolidated Agricultural Project Management Unit (CAPMU). Under the proposed arrangement, a local Extraordinary Anti-Epidemic Commission, organized by the Ministry's State Veterinary Inspectorate, values the loss of culled birds at each farm, signs a declaration of loss, and issues a receipt to the farmer. The CAPMU validates declarations of losses and pay *Primarias* (local mayoralties), who will pay farmers. Detailed operational and financial management arrangements for operating the Compensation Fund will be prescribed in the Project Operational Manual. Annex 7 elaborates on financial management aspects of the Fund.

**Component 2: Human Health** (The total size of this component is US\$ 3.7 million, of which US\$ 2.95 million is financed by IDA).

The stock of medical equipment deteriorated over past decades because of lack of spending on rehabilitation and investment. The focus of the human health component is therefore on procurement and training in use of key equipment.

**Sub-component 2.A: Human health capacity building.** The sub-component brings technical assistance and trains government staff in epidemiology at the national and rayon level. It also procures epidemiological surveillance software and trains staff in its use. Importantly, it supports training in crisis preparedness and management. Moreover, it supports assessment & planning, and training in the information and telecom system. Finally, the sub-component supports review and update of the regulatory system and development of guides for use of personal preparedness equipment. Training and capacity building activities are to be financed through the proceeds of the Japanese PHRD Grant (US\$100,000).

**Sub-component 2.B: Human HPAI testing.** At present, the Ministry of Health and Social Protection cannot test for the presence of HPAI in humans. Therefore, this sub-component procures key testing equipment for the National Laboratory for Viral Respiratory Diseases, which is the only viral laboratory in Moldova. The lab's personnel have a good quality professional background and can learn to use new equipment quickly.

**Sub-component 2.C: Human health system response.** When preventive health measures fail, patients are hospitalized in isolation rooms. The sub-component procures equipment for the intensive care unit(s) of designated hospitals. Furthermore, the sub-component purchases WHO accredited influenza kits (including vaccines) and purchases Oseltamvir (Tamiflu), to increase the national stockpile.

**Component 3: Public Information and Awareness.** (The total size of this component is US\$ 1.3, of which US\$ 0.45 is financed by IDA). Institutional capacity building and training needs are to be covered from the Japanese PHRD Grant (US\$150,000).

The component implements a three-stage strategic communication plan:

- i. A pre-epidemic campaign to promote health and safe behaviors to reduce risks to children, families, households and communities; and to promote responsible media reporting to avoid panic and misinformation.
- ii. An intensive communication campaign during the pandemic alert, to begin immediately if and when human transmission is confirmed.
- iii. Post epidemic communication support to promote recovery.

**Component 4: Implementation support and monitoring & evaluation.** (The total size of this component is US\$ 0.55 million, which is all financed by IDA).

This component provides technical and financial support for project management, implementation, and monitoring and evaluation. In order to increase Government ownership and ensure sustainability after the closing date of the Project, measures will be taken to build capacity of the Implementation Agencies to implement the proposed Project. Therefore, the component provides support for strengthening implementation and monitoring capacity of the Ministry of Agriculture and Food Industry and the Ministry of Health and Social Protection, by financing

technical assistance, including auditing services, and incremental operating costs and monitoring and evaluation activities.

In addition, this component funds training in project monitoring and evaluation at all administrative levels, and development of an action plan for monitoring & evaluations. It conducts baseline studies, on-going participatory monitoring and evaluations, and a final project evaluation. Specific surveys may be conducted to obtain data for this purpose. Project evaluation includes both quantitative and qualitative aspects and be conducted on a yearly basis.

**Unallocated funds.** The risks of under-funding of a subcomponent are high because the volume of human cases and of poultry culled are unpredictable. Therefore the costs of medications and hospital care, as well as the costs of disposal of poultry carcasses and compensation are unpredictable. Responding to larger than anticipated costs requires flexibility. To address this, the Project includes a large unallocated component of \$US 1.45 million.

## **5. Lessons learned and reflected in the project design**

The Project draws from lessons learned in the Vietnam Avian Influenza Emergency Recovery Project, which has been effective for more than a year, from the recent Kyrgyz Republic Avian Influenza Control and Human Preparedness and Response Project, as well as from experience with the multi-country program to fight HIV-AIDS.

One of the key lessons is that speed of response is important in public health emergencies, where prevention is more humane and cost-effective than ex-post treatment and mitigation. This is reflected in the rapid identification and appraisal.

In the Vietnam project, the country's preparedness was a key factor. Like Vietnam, Moldova prepared national strategy documents and action plans. A further lesson from Vietnam is the success of a two-pronged strategy: first, the control of Avian Influenza at the source in high-risk regions, and second, simultaneous actions to minimize risks to humans and to prepare for a pandemic. This is the strategy adopted by the Government of Moldova and is directly reflected in the animal and human health components of this Project.

The main lessons learned from emergency projects are to avoid policy conditionality, apply a simple design, and adopt flexible procurement arrangements – all lessons respected here.

## **6. Alternatives considered and reasons for rejection**

**Lending Instruments.** The Bank has not considered other lending instruments for this intervention in light of the emerging urgency in dealing with the threat of the spread of Avian Influenza.

**Focus of Project.** The Bank considered including a sub-component on backyard poultry restructuring. However, due to financing concerns, such activities were not included in the project design.

**Implementation Arrangements.** The Bank considered a variety of implementation arrangements for the Public Information and Awareness Component, but chose to pursue an arrangement by which actual implementation will be out-sourced to UNICEF, in light of UNICEF's in-country record and on-going involvement with public information and awareness activities related to Avian Influenza.

## **C. IMPLEMENTATION**

### **1. Partnership arrangements (if applicable)**

All project components were designed in collaboration with officials in the Ministry of Agriculture and Food Industry and Ministry of Health and Social Protection, and following field visits and consultation with local specialists. Turning to international partners, the WHO deployed three specialists to join the Project team, and they led identification of the human health component. The UNICEF led design of the public awareness and information component. The Government of Japan, USAID and the European Union are partners in financing, either through parallel financing or co-financing arrangements.

### **2. Institutional and implementation arrangements**

A Project Steering Committee (PSC) will be established by the Government at the beginning of the project to perform overall supervisory functions. The Bank recommends that the PSC includes key members of the Republican Emergency Anti-epidemic Commission. The PSC is expected to be co-chaired by the Ministers of Agriculture and Health and Social Protection. The PSC will conduct regular supervision of project implementation and coordinate relations with the various ministries and other stakeholders.

There are two Implementation Agencies. The Ministry of Agriculture and Food Industry implements the Animal Health Component, while the Ministry of Health and Social Protection implements the Human Health Component. The Ministry of Health and Social Protection also coordinates implementation of the Public Information and Awareness Component, although actual implementation of component activities will be contracted to UNICEF.

To increase Government ownership and ensure sustainability, the Project augments the capacity of the Ministries to implement anti-Avian Influenza activities after the closing date. Under this component, the Ministries hire (a total of two) Component Coordinators as local consultants to manage and implement project activities within their sectors. Their role is to coordinate project activities with other relevant government agencies. Moreover, they prepare annual work programs in their sectors and submit inputs to the Project's quarterly and annual financial monitoring reports. The Coordinators are responsible for monitoring and collecting relevant data from their respective implementing ministries and agencies and compile them into progress reports, focusing on the status of physical implementation by component, the use of project funds, and monitoring indicators.

Because of the urgency of launching the Project, an existing unit, the Consolidated Agricultural Project Management Unit (CAPMU) assumes responsibility for procurement, financial management and disbursement. The CAPMU demonstrated its capacity to manage fiduciary tasks under the Rural Investment and Services Project (RISP I) and other agricultural and environmental projects. It provides fiduciary support to the two agencies and facilitates the work of the Component Coordinators. Furthermore the CAPMU prepares bidding documents, drafts contracts, executes payments upon instruction of the implementation agencies, submits financial reports and consolidates project progress reports.

### **3. Monitoring and evaluation of outcomes/results**

The Implementation Agencies, with assistance from the CAPMU, will be responsible for evaluation of outcomes. Please see Annex 3 for details.

### **4. Sustainability**

The Project appears fiscally sustainable in most respects. The Government already pays the salaries of the veterinarians, technicians, nurses, doctors, and other staff engaged in prevention and containment of Avian Influenza and will probably be able to continue to pay from its ordinary budget resources. Moreover, the Government is not contemplating significant new hiring as part of the project and is purchasing materials and equipment from ordinary budget resources.

The area for fiscal concern is the Compensation Fund for farmers who lose poultry to Avian Influenza. Lack of adequate funding may lead to a quick cessation in payments to farmers as the funds allocated from the Project are exhausted soon after the start of a pandemic. This would reduce incentives for farmers to report sick poultry and this could become an obstacle to surveillance and culling.

The Bank found that Moldovan government staff has a strong technical background. With training planned under the Project, they should be able to sustain project activities following the close of the Project.

### **5. Critical risks and possible controversial aspects**

The greatest risk is that Avian Influenza will infect poultry across a sub-region of Moldova before national capacity of surveillance and response increases, before the government can allocate a budget for compensation, or before donors contribute to Moldova's effort.

An additional set of risks relate to issues of governance and corruption. These are acknowledged, even by officials within the Government as major issues in the public sector, and the project will be implemented in an environment of possible corruption. Therefore, the Project will place strong emphasis on disclosure and transparency and on strengthened monitoring of the

compensation mechanisms, coupled with specific remedial measures, to be detailed in the Project Operations Manual. A summary of such measures is provided in Annex 7.

Controversy may arise if compensation funds are exhausted, since farmers may resist culling. People may also resist any policy of quarantine of human population (“social distancing”).

On the human health side, there is potential for controversy related to the availability of sufficient stocks of and/or inclusive access to medicines and/or treatment for infected patients.

## **6. Credit/grant conditions and covenants**

The conditions of effectiveness are:

- ③ Preparation and adoption of a Project Operations Manual acceptable to IDA;

The conditions of disbursement are:

- ③ For Component I-Animal Health, preparation of an Environmental Management Plan acceptable to IDA;
- ③ For Component I-Animal Health, Sub-Component 1C, establishment and implementation of a Compensation Fund in accordance with criteria and procedures set forth in the Project Operations Manual and the Recipient’s legislation.

Financial covenants:

- ③ The DFA contains a financial covenant on the Government’s contribution to the Compensation Fund.

## **D. APPRAISAL SUMMARY**

### **1. Economic and financial analyses**

The Project appears justified by expected benefits relative to costs. These cannot be directly evaluated because science-based estimates of probabilities (risks) of infection are not available. Instead, the economic analysis sketches scenarios with relatively conservative assumptions regarding probabilities.

In the main scenario for infection of poultry, implementation of the Project leads to a fall in the probability of a generalized outbreak among poultry from about 48% to 24% and from an expected loss of \$US 69 million to \$US 35 million (see Annex 9). In this scenario, the rate of return for a US\$ 10.6 million project, considering only lost poultry, is 226%. In the low case scenario, the Project has much less impact on the probability of an outbreak among poultry, and the baseline probability of an outbreak is also smaller. In this low case, the Project leads to a fall in the probability of a generalized outbreak among poultry from almost 36% to 273% and the rate of return is 23%.

Humans usually resist infection by existing strains of HPAI\*, and the number of infections and deaths from an outbreak in Moldova would probably be small. Mutation of the virus may increase morbidity and mortality rates significantly (Annex 9). Given the assumptions on morbidity and mortality in Annex 9, the Project would reduce the probability of death of exposed people from 0.5% to 0.2%.

## **2. Technical**

The Bank finds that the main technical needs for animal health are for testing equipment and training to create government capacity to identify Avian Influenza in poultry. Turning to human health, the main technical needs are for separate laboratory capacity to identify Avian Influenza in humans, for training, and for equipment for intensive care isolation unit(s) at the Dr. Toma Ciorba Infectious Disease Hospital in Chisinau, as well as possibly other hospitals indicated by the Government. Please see Section B4 (Components 1 & 2) and Annex 4 (Components 1& 2) for details.

## **3. Fiduciary**

The financial management arrangements for the project have been determined and are acceptable to the Bank, except for controls and procedures for operating the Compensation Fund. The detailed financial management arrangements for operating the Compensation Fund will be prescribed in the Project Operations Manual. CAPMU has the necessary capacity to carry out the fiduciary functions for Avian Influenza Project in all other respects.

A **financial management** assessment of the CAPMU was undertaken in February 2006 to determine whether the existing financial management arrangements are acceptable to IDA. The financial management arrangements of the CAPMU have also been reviewed periodically as part of previous project supervisions and have been found satisfactory. The CAPMU has established and maintained a good financial management system for the implementation of the RISP Project. The CAPMU's financial management system is capable of supporting the implementation of the proposed project in accordance with the requirements of OP 10.02, except for the Compensation Fund sub-component for which internal control and fund flow arrangements have to be finalized. The flow of funds under this sub-component will only begin after appropriate internal control and fund-flow procedures, satisfactory to IDA have been adopted and documented in the Project Operations Manual.

## **4. Social**

The Project assists farm households –the poorest group in Moldova. It protects their income and nutrition from poultry from infection and compensates farmers for culled poultry. Besides poverty, the principle social issue is farmers' trust and participation in surveillance for Avian Influenza and in culling. Farmers will be reluctant to report sick birds if they do not believe they

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\* Source: WHO ([http://www.who.int/csr/disease/avian\\_influenza/avian\\_faqs/en/index.html](http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html))

will receive compensation. Effective culling and disposal also depends on cooperation of local workers. The public awareness and information component will build support. The participation of local officials and veterinarians in the local Extraordinary Anti-Epidemic Commissions is another factor in building farmers' trust.

## 5. Environment

The Project has received an environmental rating of B. An environmental analysis will be completed before project effectiveness. The Project incorporates investments in incinerators and bio-safety. Moreover, the Project leaves an unallocated contingency of approximately 15%, including a contribution from the Government of Moldova, which could be used, to the extent necessary, against the costs of appropriate disposal of poultry carcasses and waste. Actual costs will depend on the number of poultry culled and are therefore somewhat unpredictable.

## 6. Safeguard policies

<b>Safeguard Policies Triggered by the Project</b>	Yes	No
<a href="#">Environmental Assessment (OP/BP 4.01)</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Natural Habitats ( <a href="#">OP/BP 4.04</a> )	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pest Management ( <a href="#">OP 4.09</a> )	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cultural Property ( <a href="#">OPN 11.03</a> , being revised as OP 4.11)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Involuntary Resettlement ( <a href="#">OP/BP 4.12</a> )	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Indigenous Peoples ( <a href="#">OP/BP 4.10</a> )	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Forests ( <a href="#">OP/BP 4.36</a> )	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Safety of Dams ( <a href="#">OP/BP 4.37</a> )	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects in Disputed Areas ( <a href="#">OP/BP 7.60</a> )*	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects on International Waterways ( <a href="#">OP/BP 7.50</a> )	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The Project triggers only one safeguard policy on the required Environmental Assessment. In view of the emergency nature of the proposed Project, the team received a waiver allowing for a delay in the implementation of the Environmental Assessment from the normal appraisal stage. The preparation and disclosure of an Environmental Management Plan is a condition for disbursement for Component I - Animal Health.

## 7. Policy Exceptions and Readiness

There are no policy exceptions.

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\* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

## **Annex 1: Country and Sector or Project Background**

### **MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project**

1. **Country background.** Moldova is a small, landlocked country in south-eastern Europe, bordering on Romania on the west and Ukraine on the east. Its resident population is estimated by the 2004 census to be 3.97 million. The population density of the country is the highest in the Former Soviet Union, and among the highest in Europe, at 129 persons per km<sup>2</sup>. The country presently has a nominal GDP per capita of US\$765 and a Purchasing Power Parity per capita income estimated to be US\$1,470 per annum. By this measure Moldova ranks 148th of 177 countries. The country has a moderately continental climate which is favorable to agriculture. Agriculture is the largest real sector of the Moldovan economy: it accounts for 18.2% of GDP (33% if agro-processing is included), generates the majority of Moldova's exports (65%). It is also important in terms of employment (39% of the total), incomes and poverty reduction, especially in rural areas, with rural poverty accounting for 68% of the total and rural households deriving 73% of their income from agriculture.

The poultry sector in Moldova represents circa 80% of the livestock and poultry population, at roughly 16 million heads (as of January 2006). Poultry meat is a nutrition staple generally, but more importantly, it is so in rural areas where poverty incidence is high. Twelve million birds are owned by households (backyard poultry) and small commercial farmers. The number of backyard poultry is highly variable, with peak season (summer and early fall) population reaching approximately 20 million birds. Backyard farming patterns are characterized by unsafe bio management practices, such as maintenance of multiple species in confined space and free range roaming for grazing.

The country's commercial poultry industry is characterized by the predominance of 5 large producers. Since independence, commercial poultry has suffered a severe drop in output, but has been on a strong rebound since 2002, with an average output (meat and eggs) growth of 10%. Adequate bio-safety standards are enforced at all commercial producers.

2. **Avian Influenza background.** In 2005, the first confirmed outbreaks of Avian Influenza were reported in Romania and Ukraine. This posed an epidemiological threat to Moldovan poultry production. In response, the Government set up a Republican Emergency Anti-epidemic Commission to take charge of preparations for outbreak response and containment. The Commission took several practical organizational and institutional steps, with regard to both the agricultural and human health sides, to improve response capacity: (i) imports of poultry products from countries with officially registered outbreaks were banned; (ii) equipment for serological and viral testing was purchased; (iii) additional disinfection equipment was installed at all border crossing facilities; (iv) outbreak containment simulation exercises at national and regional levels were carried out; (v) an immunization campaign for human influenza virus among 100,000 people who are considered to be high-risk for bird flu infection was implemented; (vi) a cooperation agreement with Romania for Avian Influenza diagnostic verification and virus isolation was concluded.

3. The Government prepared and formally approved key documents, which set forth the institutional and functional responsibilities for Avian Influenza prevention and response preparedness, including a National Contingency Plan for Avian Influenza, a National Preparedness Plan for Human Influenza Pandemic and a Republican Action Program on Avian Flu Prophylaxis on the Territory of Moldova. To operationalize the contingency and action plans, The Government issued 26 operational guidelines and normative acts to concerned line agencies and institutions. A welcome development is that the Government decided to compensate households and poultry farmers for losses incurred in cases of culling.

4. Furthermore, with the help of UNICEF, the Government drafted and implemented a comprehensive public awareness campaign which disseminated basic knowledge on various aspects of Avian Influenza prevention and preparedness among the population at large, farmers, veterinarians and children. In addition, staff of relevant Government agencies has participated in various media events to raise awareness about Avian Influenza risks and mitigation measures. The Government is committed to continue its public awareness efforts, while further streamlining the focus of its interventions to specific target groups.

6. In early 2006, the Government of Moldova formally approached the Bank asking for technical and financial assistance for augmenting its Avian Influenza prevention and mitigation efforts. The proposed project is being processed to respond to this request.

7. **Summary of the Contingency Plan for Avian Influenza of the Republic of Moldova.**

The Contingency Plan for Avian Influenza of the Republic of Moldova, available in the Project Files, was approved on October 20, 2005. Its major focus is on animal health, as the first line of defense against Avian Influenza, but it contains aspects of coordination with responsible human health agencies. It will be updated and modified as needed in the light of evolving conditions and growing experience.

8. The plan provides the basis for the mobilization of resources and the provision of coordinated technical and financial support, training and capacity building with regard to animal health and veterinary services. It establishes preparedness responsibilities and benchmarks of the relevant institutions, from the Ministry of Agriculture and Food Industry, and its State Veterinary Service to specific village based groups, to deal with the imminent threat of the disease being introduced into poultry in the country, with actual outbreaks and compensation for culling. The Plan is based on the existing in-country institutional and service structure, and adequacy and readiness to perform the intended tasks. The plan specifically deals with three main themes: **surveillance, containment and control of outbreaks, and communications.**

9. The Plan includes the following chapters:

1. General Provisions
2. Legal Provisions
3. Financial Provisions
4. Supply Chains
5. Personnel Resources
6. Equipment and Facilities Resources
7. Operational Manual for Avian Influenza
8. Surveillance and Laboratory Diagnosis
9. Vaccination
10. National Compensation System
11. Training
12. Public Awareness and Information

10. **Summary of the National Preparedness Plan for Human Influenza Pandemic.** This plan addresses aspects of human health preparedness for human influenza in lieu of national capacity in key public health areas, inter-sectoral coordination, epidemiological surveillance, laboratory diagnosis, disease prevention, clinical case management, and communication. It will be updated and modified as needed in the light of evolving conditions and growing experience.

11. The Plan addresses the pandemic alert periods (when animal and human cases may occur) and the pandemic period (effective person-to-person transmission). It establishes mechanisms for coordination with the veterinary services as well as with relevant local, regional and international organizations, epidemiological surveillance, laboratory diagnosis, and clinical management human cases (under both periods). It addresses pandemic preparedness, including procurement of a pandemic vaccine when available, rapid implementation of a national immunization campaign, and communication to the public.

12. The plan does not acknowledge current limitations in terms of financial and technical resources, however these were addressed in a recent collaborative effort between the WHO and Moldovan health authorities.

**Annex 2: Major Related Projects Financed by the Bank and/or other Agencies**  
**MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project**

**The World Bank's** recent and on-going related activities include:

**Rural Investment and Services Program (RISP).** RISP is a two-phased Adjustable Program Credit, and its objective is to provide long-term support to accelerate agricultural recovery and growth to enable Moldova's agricultural sector to play its full role in providing the underpinnings for future income growth and poverty reduction. Within this program objective, the objective of the first and second phases was and is to continue fostering post-privatization growth in the agricultural sector by improving access of new private farmers and rural businesses to what they need to succeed – legal ownership status, knowledge, know-how and finance. The first phase of the RISP was financed through a US\$15.5 million IDA credit, while it is expected that the second phase will be financed through a US\$15 million IDA grant and credit package. The second phase of the RISP is expected to go the Board on March 31, 2006. The RISP is relevant to the proposed Project because of the RISP's successful efforts to establish a nationwide network of agricultural information and extension service providers. The network is actively involved in dissemination of agricultural information to thousands of small and medium sized farms, and is currently part of an on-going effort by USAID to implement Avian Influenza awareness and training programs in all Moldovan villages.

**Social Protection Management Project.** The development objective of the Social Protection Management Project is the implementation of a comprehensive reform of the public pension system and the introduction of a regulatory framework for private pension funds; and support implementation of the new organizational structure for social insurance. The Project was financed through a US\$11.1 million IDA credit. The Government and the Bank agreed to cancel SDR 0.7 million (US\$1 million equivalent) from the Social Protection Management Project and direct these proceeds to the IDA Financing of the proposed Project.

**Health Investment Fund Project.** The development objective of the Health Investment Fund is to improve the health status of the Moldovan population, and to increase the quality and efficiency of the public health sector by improving access to essential services to the poor. The Fund was financed through a US\$10 million IDA credit. The Fund includes support to strategic work aimed at controlling the Tuberculosis and HIV/AIDS epidemics. The Health Investment Fund Project is relevant to the proposed Project because it builds capacity in the health sector and attempts to deliver medical services to the poor.

**The European Union's** recent and on-going related activities include:

**Food Security Program.** The Program is providing support to, among others, the budget of the Ministry of Agriculture and Food Industry. In the past three years, the Program has focused on strengthening the capacity of the Ministry and implementing country-wide programs in irrigation, veterinary services, and animal identification systems, sanitary and phyto-sanitary measures. More recently, the Program approved disbursement of Euro 300,000 for implementation of Avian Influenza preparedness measures. This enabled the Government to finance most immediate needs related to diagnosis and containment preparedness. The Program will run through the end of 2007, and will potentially finance up to Euro 250,000 in additional technical assistance and investment costs related to capacity building of the veterinary services.

**The United States Agency for International Development (USAID)** recent and on-going related activities include:

**The Agribusiness Development Project.** This Project is a 5-year, US\$19 million program being implemented by the Citizens Network for Foreign Affairs. Its main objective is to strengthen Moldova's high value agricultural sector by addressing four major links in the supply chain. These are: (i) ensuring wide access to market information to penetrate new export markets, (ii) establishing and strengthening competitive agribusinesses, particularly export-orientated value adding enterprises, (iii) improving farmer capacity to supply the volume and quality of agricultural products needed by buyers, and (iv) establishing producer and industry associations. A relevant element of the program is the implementation of an Avian Influenza Training/Information Dissemination Program of about \$US 250,000, designed to cover all Moldovan villages, in order to minimize the potential for an outbreak of Avian Influenza in Moldova. The Agribusiness Development Project will be implemented with the assistance of the RISP network of extension service providers.

**USAID intends to co-finance national Avian Influenza awareness and information efforts,** to be implemented by the UNICEF. The financing is estimated at US\$350,000.

**The United Nations Development Program and UNICEF** recent and on-going related activities include the co-financing, at roughly US\$20,000 each, of the national Avian Influenza awareness and information efforts. UNICEF will be the lead technical agency in charge of implementation of such activities.

**The Food and Agriculture Organization's (FAO)** recent and on-going related activities include the Project for Emergency Assistance for Early Detection and Prevention of Avian Influenza in the Eastern Europe and Caucasus Regions. The objective of the project is to strengthen national capacity for generating and sharing HPAI disease intelligence and using this to mount emergency preparedness planning against the eventuality of HPAI being introduced into the region, specifically in relation to migration of a trade in wild birds. Their Project cost is US\$400,000.

### Annex 3: Results Framework and Monitoring

#### MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project

##### Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
Minimize the threat posed to humans by HPAI.	<p>If there is an outbreak of HPAI among poultry following implementation, then</p> <ul style="list-style-type: none"> <li>③ A Moldovan government laboratory identifies the presence of HPAI;</li> <li>③ The Government culls birds at the infection point and establishes a protection zone, with participation of local governments and the population; and</li> <li>③ Compensates small farmers for culled birds.</li> </ul> <p>If there is transmission of a form of Avian Influenza HPAI to humans following implementation; then</p> <ul style="list-style-type: none"> <li>③ A Moldovan government laboratory identifies the presence of HPAI;</li> <li>③ Patients are transported safely and hospitalized in protected rooms.</li> <li>③ Patients receive treatment appropriate to HPAI infection.</li> </ul>	Project evaluation.
Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
The Government of Moldova is prepared for each stage of response to an outbreak of HPAI.	<p>Integrated and operational response plan for animal health delivered.</p> <p>Integrated and operational response plan for human health delivered.</p> <p>Simulation exercises conducted.</p>	Improvement of preparedness
Small farmers report sick poultry to veterinarians.	<p>A compensation fund with total funding of at least US\$ 1.5 million (coverage of 3.5% of the poultry on household farms) is established, has legal status, and pays legitimate claims.</p> <p>National public awareness and information campaign is conducted.</p>	Improvement in national surveillance system for HPAI infection of poultry
People and primary care physicians report incidents of influenza suspected of being Avian Influenza.	National public awareness and information campaign is conducted.	Improvement of national surveillance system for HPAI infection of people.
The Ministry of Agriculture and Food Industry has the capacity to	Equipment for animal testing for HPAI delivered.	Improvement of capacity for monitoring and surveillance of

survey for and identify HPAI in animals.	<p>Personnel are trained.</p> <p>Personnel have used laboratory equipment and results have been validated by an independent laboratory.</p>	HPAI infection of animals.
The Ministry of Agriculture and Food Industry has the capacity to organize outbreak containment and control in collaboration with its local partners (Extra-ordinary Emergency Epidemic Committees).	<p>Protective clothing, medicines, testing materials, etc., are delivered.</p> <p>Personnel are trained in outbreak containment and control techniques.</p> <p>Simulation exercises are successful.</p> <p>Outbreaks are contained and controlled.</p>	Improvement of government capacity for containment and control, etc.
The Ministry of Health and Social Protection has the capacity to identify the presence of HPAI in people.	<p>Equipment for testing people for HPAI delivered.</p> <p>Personnel are trained.</p> <p>Personnel have used equipment and results have been verified by an independent laboratory.</p>	Improvement of government capacity for testing for HPAI infection of people.
The Ministry of Health and Social Protection has the capacity to transport several HPAI infected patients safely to Dr. Toma Ciorba Infectious Disease Hospital in Chisinau (other hospitals) and treat them adequately.	<p>Equipment for the isolation intensive care room is delivered to and installed in Dr. Tom Ciorba Hospital.</p> <p>Personnel are trained.</p>	Improvement in capacity for treatment of infected people and for containing spread of the infection.

### Arrangements for results monitoring

Project Outcome Indicators	Baseline	Data Collection and Reporting					
		YR1	YR2	YR3	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
<b>If there is an outbreak of HPAI among poultry following implementation, then</b>	No HPAI outbreaks have ever occurred in Moldova.						
③ A Moldovan government laboratory identifies the presence of HPAI;	Capacity improvements in progress	Within 72 hours of sample collection, with 95% confidence	Within 48 hours of sample collection, with 95% confidence	Within 48 hours of sample collection, with 95% confidence	Quarterly for CAPMU reports, Semi-annual for mission supervision report. One end of project evaluations report	Lab records	Quarterly and annual reports from the CAPMU; Mission supervision report; End of project evaluation.
③ The Government culls birds at the infection point and establishes a protection zone, with participation of local governments and the population; and	Partial readiness	An outbreak is fully contained within 72 hours.	An outbreak is fully contained within 72 hours.	An outbreak is fully contained within 72 hours.	Quarterly for CAPMU reports, Semi-annual for mission supervision report. One end of project evaluations report	Reports by Emergency Commissions	Quarterly and annual reports from the CAPMU; Mission supervision report; End of project evaluation.
③ Compensates small farmers for culled birds.	No compensation mechanism in place	Farmers are compensated within 10 days after containment	Farmers are compensated within 10 days after containment	Farmers are compensated within 10 days after containment	Quarterly for CAPMU reports, Semi-annual for mission supervision report. One end of project evaluations report	Reports by Emergency Commissions, Beneficiary Surveys, Financial Reports, Bank Transfer Information	Quarterly and annual reports from the CAPMU; Mission supervision report; End of project evaluation.
<b>If there is pandemic of HPAI among people following implementation; then</b>							
€ A Moldovan government	Moderate	Within 72	Within 48	Within 48	Quarterly for	Lab records,	Quarterly and

laboratory identifies the presence of HPAI;	capacity	hours of sample collection, with 95% confidence	hours of sample collection, with 95% confidence	hours of sample collection, with 95% confidence	CAPMU reports, Semi-annual for mission supervision report. One end of project evaluations report	Patient surveys	annual reports from the CAPMU; Mission supervision report; End of project evaluation.
③ Patients are transported safely and hospitalized in protected rooms.	Limited capacity	30 % of projected capacity for transportation and hospitalization is in place	80% of projected capacity for transportation and hospitalization is in place	100% of projected capacity for transportation and hospitalization is in place	Quarterly for CAPMU reports, Semi-annual for mission supervision report. One end of project evaluations report	Emergency and hospital records; Patient surveys	Quarterly and annual reports from the CAPMU; Mission supervision report; End of project evaluation.
③ Patients receive treatment appropriate to HPAI infection.	Limited capacity	30 % of projected capacity for care and medicated treatment is in place	80 % of projected capacity for care and medicated treatment is in place	100 % of projected capacity for care and medicated treatment is in place	Quarterly for CAPMU reports, Semi-annual for mission supervision report. One end of project evaluations report.		Quarterly and annual reports from the CAPMU; Mission supervision report; End of project evaluation.
<b>Intermediate Outcome Indicators<sup>1</sup></b>							
Detailed and operational response delivered and simulation exercises conducted.	Zero	1 plan 2 simulation exercises	1 simulation exercises				Mission supervision report.
A compensation fund with total funding of at least US\$ 1.5 million (coverage of 3.5% of the poultry on household farms) is established, has legal status, and is functional to pay legitimate claims.	No fund exists	Est. fund Government Contributes (min USD 100,000, per year up to a maximum of USD 500,000 for the entire Project duration)	Government Contributes (min USD 100,000, per year up to a maximum of USD 500,000 for the entire Project duration)	Government Contributes (min USD 100,000, per year up to a maximum of USD 500,000 for the entire Project duration)			Mission supervision report. CAPMU reports. National budget.

<sup>1</sup> The intermediate Outcome Indicators capture the “no outbreak” scenario.

National public awareness and information campaign is conducted.	Just begun	Continuous	Continuous	Continuous			Mission supervision reports. CAPMU reports. UNICEF report.
Equipment for testing animals for HPAI delivered. Personnel are trained. Personnel have used laboratory equipment and results have been validated by an independent laboratory.	None delivered or trained	All equipment delivered. All staff trained.	Surveillance and diagnosis capacity fully in place.	Surveillance and diagnosis capacity fully in place.			Mission supervision reports. CAPMU reports. Report fro independent laboratory.
Protective clothing, medicines, testing materials, etc., are delivered. Personnel are trained in the use of protective clothing, etc. Simulation exercises are successful.	Limited delivery and training.	All equipment delivered. All staff trained.	All containment systems are operational	All containment systems are operational			Mission supervision reports. CAPMU reports.
Equipment for testing people for HPAI delivered. Personnel are trained. Personnel have used equipment and results have been verified by an independent laboratory.	None delivered, no one trained.	All equipment delivered, all staff trained.	Diagnosis capacity fully in place.	Diagnosis capacity fully in place.			Mission supervision reports. CAPMU reports. Independent laboratory report.
Equipment for the isolation intensive care room is delivered to and installed in Dr. Tom Ciorba Hospital. Personnel are trained.	No equipment delivered, No staff trained	All equipment delivered. All staff trained.	All systems for care and treatment are operational	All systems for care and treatment are operational			Mission supervision reports. CAPMU reports

## **Annex 4: Detailed Project Description**

### **MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project**

#### **COMPONENT 1: ANIMAL HEALTH**

Assessment of the National Veterinary Services. A team from the European Commission's Health & Consumer Protection Directorate-General (SANCO) reviewed the main governmental veterinary services in 2005. The Government of Moldova agreed to adhere to an Action Plan to meet European Commission's requirements for export of live animals and animal products into the EU. The Parliament is expected to adopt a new veterinary law later in 2006. The law will streamline the public veterinary service, which will function under the supervision of an autonomous National Agency for Sanitary Veterinary Service and Safety of Animal Origin Products. Significantly, the law will reduce staffing of the public veterinary services and lead to large-scale privatization of the service providers in the field.

The quality of the staff of the public veterinary services is rather good. Furthermore, the services are active in preparing for an outbreak of HPAI. Much time and effort have been spent on raising awareness and preparedness among both the veterinary professionals and the general public. This included an extensive multi-media campaign and desk simulation exercises.

The veterinary laboratory network was rehabilitated and the rehabilitation of the central facility (RCVD) started in 2005 and will probably be completed in 2007. Many of the rayon-level laboratories will close and regional laboratory services will be concentrated in two satellite laboratories in Cahul and Balti. Nevertheless, the main area for improvement is in equipment.

**Sub-component 1.A.: Animal Disease Surveillance & Diagnosis.** To strengthen diagnostic capacity, the sub-component will strengthen the capacity of the RCVD and its two satellite laboratories. The main investments would be in essential equipment necessary to confirm the presence of HPAI in animals. Moreover, the sub-component will finance the accompanying consumables and reagents, as well as training.

To strengthen veterinary surveillance, the sub-component will develop a disease information system. Technical assistance will focus on human resource development in the establishment and use of database programs (including the global information system) and the analysis of data to support decisions on prevention and control of animal diseases. Furthermore, it will support training on collection and analysis of epidemiological data and on risk assessments. In addition, technical assistance will build institutional capacity for serology and virology tests for confirmation of the disease. Finally, the sub-component will provide limited financial support for technical assistance on surveillance of wild and migratory birds. Such technical assistance and training activities are to be financed largely from the proceeds of the Japanese PHRD Grant.

**Sub-component 1.B.: Animal HPAI Control and Outbreak Containment.** This sub-component will support the implementation of HPAI outbreak containment actions. The sub-component will finance one or more simulation exercises in the field to support increased levels of preparedness to deal with outbreaks.

The sub-component will support activities aimed at eradication of the disease at the source of infection, and in particular, the culling of infected and at-risk poultry and the disposal of carcasses in a bio-secure

and environmentally acceptable manner. The sub-component will promote bio-security at commercial poultry farms by supporting control of movement of birds and products that may be infected. It will also promote bio-security by procurement of personal protective clothing and through vaccination of veterinary staff and workers against seasonal human influenza.

Poultry vaccination on a large scale as a preventive measure is not recommended in Moldova at this moment. In the face of an outbreak and in order to contain the spread, the project will support the authorities with the procurement of a limited quantity of Avian Influenza vaccine to undertake ring vaccinations if so required.

**Sub-component 1.C.: Compensation Fund.** The purpose of the fund is to encourage farmers to report possible outbreaks of Avian Influenza by offering compensation for poultry culled.

The legal basis for compensation is the National Contingency Plan on Avian Influenza, which refers to the Law on Insurance of the Republic of Moldova No. 1508-XII as of 15/06/93. The Government will legally establish a compensation fund mechanism that would receive contributions from the Government of Moldova, the World Bank (IDA), and possibly other donors. This will assure that international auditors can follow use of IDA funds, without mixing of funds used for other purposes.

The fund should be large enough, initially, to reimburse birds culled as a result of several isolated outbreaks of Avian Influenza. The calculation below shows that a fund with \$1.5 million could reimburse farmers for 500,000 conventional birds culled, or about 3.5% of the national stock of poultry.

**Annex Table 4.1: ESTIMATED COSTS OF COMPENSATION OF SMALL-SCALE POULTRY FARMERS**

	Calculation	Notes
Stock of poultry in household farms	13,987,793	Ministry of Agriculture, for Sept. 1, 2005 <sup>a/</sup>
Avg farm-gate price in Moldovan Lei	104.5	Average price in lei of 2-2.5k chicken
Adjustment for average age	0.5	Average age is about 8 weeks.
Age adjusted price in Moldovan Lei	52.25	
Standard reimbursement rate	0.75	Rate applied in Kyrgyz Republic & Turkey
Moldovan Lei per US\$	13	Approx. exchange rate in 2006
Reimbursement per bird in US\$	\$3.01	
Cost of reimbursing total stock	\$42,165,126	About 14 million birds
Cost of reimbursing 5%	\$2,108,256	About 700,000 birds
Cost of reimbursing 4%	\$1,686,605	About 560,000 birds
Cost of reimbursing 3.5%	\$1,475,779	About 490,000 birds
Cost of reimbursing 3%	\$1,264,954	About 420,000 birds
Cost of reimbursing 2%	\$843,303	About 280,000 birds

<sup>a/</sup> Mix is assumed to be 60% hens, 10% roosters, & 30% turkeys. Source: World Bank

The Bank and the Government have agreed, that the latter, is to allocate US\$ 0.5 million for the proposed Fund. The Bank allocates \$US1 million of the proposed IDA Financing for this purpose.

**Annex Table 4.2: Farm Gate Cost of Live Birds in March 2006**

Poultry	Price in MDL
Chickens	70
Roosters	100
Turkeys	175

Source: World Bank. Based on visits to farms.

The Ministry of Agriculture and Food Industry, through its veterinary services organized Extraordinary Anti-Epidemic Commissions in each locality. Each Commission consists of local government officials and representatives of civil society. The Commissions will supervise culling by local hired workers and with local equipment. The Commissions will also value the loss of culled birds, sign a declaration of the loss, and issue a receipt to farmers. The declarations will be signed by the head of the Commission and the farmer.

The Government would apply the retail price for each type of whole chicken (hen, broiler), duck, and turkey meat as a basis for compensation. This is because farm-gate prices are not available; it is even illegal, at present, to sell live birds. The sources of prices for poultry meat are the consumer price index (CPI), published by the National Statistical Bureau, supplemented when necessary by daily data collected by CAMIB, a private company. The Compensation Fund would apply the reference price about two months before culling, since market prices for chicken would probably collapse during culling. Furthermore, the Compensation Fund would refund 75% of the assessed market value, as recommended by FAO, to dissuade farmers in neighboring areas from smuggling in poultry for culling.

The Ministry of Agriculture and Food Industry, through its veterinary services would manage culling and local record keeping. The Consolidated Agricultural and Project Management Unit (CAPMU) would manage payments to mayors, who would effect payments to farmers. Each farmer and a witness will sign the declaration of loss a second time upon receipt of compensation.

## COMPONENT 2: HUMAN HEALTH

Assessment. A delegation of experts from the WHO joined the Project Team and led its assessment of the human health sector and identification of priority investments. The Bank believes that there is a risk of human infection since Moldova is on the route of migratory birds, and borders the Danube Delta of Romania, the scene of multiple outbreaks of the Avian Influenza. In the assessment of the public health system, the main findings are that the professional quality of staff is rather good, but the stock of medical equipment deteriorated over past decades because of lack of spending on rehabilitation and replacement. Therefore, the focus of the component is on replacing the highest priority equipment and introduction of modern medical and epidemiological techniques.

**Sub-component 2.A: Human health capacity building.** The sub-component trains government staff and builds capacity to strengthen monitoring, surveillance, and testing for HPAI in humans. Specifically, it (i) improves country-wide laboratory based influenza surveillance, including through standardized collection of samples at rayon levels; (ii) instills a “bio-safety” and “quality-assurance” culture in the handling of viral diagnoses; (iii) supports drafting and adoption of a validated laboratory Standard Operating Procedures (SOP); (iv) improves communication and information sharing between human and veterinary health viral labs; and (v) trains laboratory staff in the use of new equipment and medical techniques.

The sub-component also builds capacity in containment of HPAI and care for HPAI patients. It specifically supports: (i) development of instructional tools, computer modules and workshops to promote adoption of case identification, management and infection control protocols at rayon hospitals and emergency transport services; (ii) development and dissemination of additional relevant materials for district hospitals and emergency medical services relating to patient assessment, stabilization, and transport to Chisinau; (iii) development of hospital and rayon level pandemic contingency plans, with subsequent workshops and tabletop exercises; and (iv) development of a pandemic coordination network

at the rayon level. The training and capacity building activities are to be financed with proceeds of the Japanese PHRD Grant.

**Sub-component 2.B: Human HPAI testing.** At present, the Ministry of Health and Social Protection cannot test for the presence of HPAI in humans. Therefore, this sub-component will procure key testing equipment for the National Laboratory for Viral Respiratory Diseases, which is the only viral laboratory of its kind in Moldova, WHO accredited reagents, and consumables and goods, including for supporting bio-safety standards. The Bank finds that the lab's personnel have a strong enough background so that they can learn to use and apply new equipment and techniques quickly.

Specifically, the Laboratory will be reinforced through the purchase and installation of a Biological safety cabinet class II for the National Virological Respiratory Laboratory; the upgrading of its capacities for direct antigen detection by immunofluorescence, the purchase and installation of RT-PCR equipment; and necessary reagents and WHO kits. In addition and in order to address diagnostic needs in the short-term, the Project will support the establishment of a protocol for sending suspected samples for testing abroad (e.g. to a WHO Collaborating Center), including collection materials, transport means, cold box devices for transport, and triple package containers.

**Sub-component 2.C.: Human health system response.** When preventive health measures fail, human cases will have to be hospitalized in isolation rooms. The sub-component will procure equipment for the intensive care units of the Dr. Toma Ciorba Infectious Disease Hospital in Chisinau, which is the national reference hospital for patients with HPAI. Other hospitals may benefit from similar upgrades, if deemed necessary during implementation. In the short-term, the specific needs to be financed are: one mechanical ventilator for the hospital, infrastructure for an intensive care unit of two to four beds at the hospital, medical supplies for a mobile ambulance for transporting infected passengers, personal protective equipment, and at least one mobile incinerator. The sub-component also supports purchases of human influenza vaccines, WHO influenza kits, an increase in the national stockpile of Oseltamvir (Tamiflu), an anti-viral medication, and fully equipped ambulances, respiratory care and personal protective equipment.

### **COMPONENT 3: PUBLIC AWARENESS AND INFORMATION.**

The objective of this component is to raise public awareness about HPAI risks. The component will support the implementation of a communication plan to address key aspects of prevention, preparedness and response in Moldova. At the request of the MAFI and the MOH, UNICEF has taken the lead in developing the plan. Capacity building and training is to be supported by the Japanese PHRD Grant.

The communication response has three planned stages:

- i. A pre-outbreak campaign to promote safe and responsible behavior to reduce risks to children, families, households and communities; and to promote responsible media reporting to avoid panic and misinformation.
- ii. An intensive communication campaign during an epidemic alert, to begin immediately if and when human infection is confirmed.
- iii. Post epidemic communication support to promote recovery and to help those who need it.

The potential for an Avian Influenza pandemic demands a response from many partners, including the Ministry of Health and Social Protection, Ministry of Agriculture, Ministry of Finance, veterinary services, laboratories and local government. The component will support activities to improve coordination and collaboration among these stakeholders.

Turning to financing, USAID committed US\$ 350,000 to support the implementation of the pre-pandemic phase of the plan, through parallel financing; UN agencies pledged US\$ 42,000. IDA financing will partially cover the financing gap for 2006 and the subsequent years of the campaign.

#### **COMPONENT 4: IMPLEMENTATION SUPPORT AND MONITORING & EVALUATION.**

This component provides technical and financial support for project management, implementation, and monitoring and evaluation. In order to increase Government ownership and ensure sustainability after the closing date of the Project, measures will be taken to build capacity of the Implementation Agencies to implement the proposed Project. Therefore, the component provides support for strengthening project implementation and monitoring capacity of the Ministry of Agriculture and Food Industry and the Ministry of Health and Social Protection, by financing technical assistance, including auditing services, and incremental operating costs and monitoring and evaluation activities.

In addition, this component funds training in project monitoring and evaluation at all administrative levels, and development of an action plan for monitoring & evaluations. It conducts baseline studies, on-going participatory monitoring and evaluations, and a final project evaluation. Specific surveys may be conducted to obtain data for this purpose. Project evaluation includes both quantitative and qualitative aspects and be conducted on a yearly basis.

## Annex 5: Project Costs and Financing

### MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project

**Annex Table 5.1: Project Cost by Component and/or Activity**

	<b>Local US \$million</b>	<b>Foreign US \$million</b>	<b>Total US \$million</b>
1. Animal Health	1.3	2.3	3.6
2. Human Health	0.9	2.8	3.7
3. Public Awareness & Information	0.9	0.4	1.3
4. Project implementation and monitoring & evaluation	0.3	0.25	0.55
<b>Total Baseline Cost</b>	3.4	5.75	9.15
Physical Contingencies	0.7	0.55	1.25
Price Contingencies	0	0.2	0.2
<b>Total Project Costs</b>	4.1	6.5	10.6

Note: See Annex Table 5.2 below for details of financing.

**ANNEX TABLE 5.2: COST AND FINANCING OF AVIAN INFLUENZA PROJECT, BY COMPONENT**  
(in thousands of US dollars)

	<b>Total a/</b>	<b>IDA Cr b/</b>	<b>PHRD c/</b>	<b>EU d/</b>	<b>USAID e/</b>	<b>GoM f/</b>	<b>Gap g/</b>
<b>1 Animal Health</b>	<b>\$3,600</b>	<b>\$2,850</b>	<b>\$250</b>			<b>\$500</b>	<b>\$0</b>
1A Animal disease surveillance & diagnosis	\$1,300						
1B Animal HPAI control & outbreak containment capacity	\$800						
1C Compensation Fund	\$1,500						
<b>2 Human Health</b>	<b>\$3,700</b>	<b>\$2,950</b>	<b>\$100</b>	<b>\$600</b>		<b>\$0</b>	<b>\$50</b>
2A Human health capacity building	\$100						
2B Human HPAI testing	\$600						
2c Health system response	\$3,000						
<b>3 Public information &amp; awareness</b>	<b>\$1,300</b>	<b>\$450</b>	<b>\$150</b>		<b>\$350</b>	<b>\$0</b>	<b>\$350</b>
							<b>\$0</b>
<b>4 Project management, monitoring &amp; evaluation</b>	<b>\$550</b>	<b>\$550</b>					<b>\$0</b>
<b>Unallocated</b>	<b>\$1,450</b>	<b>\$1,200</b>				<b>\$250</b>	<b>\$0</b>
<b>Project Total</b>	<b>\$10,600</b>	<b>\$8,000</b>	<b>\$500</b>	<b>\$600</b>	<b>\$350</b>	<b>\$750</b>	<b>\$400</b>

Notes: a/ Project Team estimates of the overall Avian Influenza Project; b/ Proposed US\$ 8 million IDA Financing; c/ Japanese PHRD Grant; d/ possible EU financing of multi-donor trust fund; e/ USAID is contemplating additional financing; f/ The Government of Moldova pledged to allocate these funds through amendments to the budget; g/ Additional financing may come from the multi-donor trust fund, the EU-supported Food Security Project, by USAID and by the UNICEF.

## **Annex 6: Implementation Arrangements**

### **MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project**

A Project Steering Committee (PSC) will be established by the Government at the beginning of the project to perform overall supervisory functions. The Bank recommends that the PSC includes key members of the Republican Emergency Anti-epidemic Commission. The PSC is expected to be co-chaired by the Ministers of Agriculture and Health and Social Protection. The PSC will conduct regular supervision of project implementation and coordinate relations with the various ministries and other stakeholders.

There are two Implementation Agencies. The Ministry of Agriculture and Food Industry will implement the Animal Health Component, while the Ministry of Health and Social Protection will implement the Human Health Component. The Ministry of Health and Social Protection will also coordinate implementation of the Public Information and Awareness Component, although implementation and administration of the component activities will be contracted to UNICEF.

To increase Government ownership and ensure sustainability, the Project will augment the capacity of the ministries to implement anti-Avian Influenza activities after the closing date. Two Component Coordinators will be hired within the ministries, as local consultants, with support from the Project, to manage and implement project activities within their sectors. They will coordinate project activities with other relevant government agencies. Moreover, they will prepare annual work programs in their sectors and submit inputs to the Project's quarterly and annual financial monitoring reports. The Coordinators will be responsible for monitoring and will collect relevant data from their respective implementing ministries and agencies and compile them into progress reports, focusing on the status of physical implementation by component, the use of project funds, and monitoring indicators.

Because of the urgency of launching the project, an existing unit, the Central Agricultural Project Management Unit (CAPMU) will assume responsibility for procurement, financial management and disbursement. The CAPMU demonstrated its capacity to manage fiduciary tasks under the Rural Investment and Services Project (RISP I) and other agricultural and environmental projects. It will provide fiduciary support to the two agencies and facilitate the work of the Component Coordinators. Furthermore the CAPMU will prepare bidding documents, draft contracts, execute payments upon instruction of the implementation agencies, submit financial reports and consolidate project progress reports.

Program Coordination. The Government is in a solid position to coordinate the proposed Program, both with donors, as well as among its major institutions involved in HPAI preparedness. In 2005, it established a functioning and pro-active mechanism for coordination of donor activities related to Avian Influenza, holding regular information, consultation and coordination meetings with the donor community. The lead Government agency for donor coordination is the Ministry of Agriculture and Food Industry, through its State Veterinary Service. The Ministry of Health and Social Protection and its National Centre for Preventive Medicine are an integral part of the coordination efforts. Implementation of actions related to HPAI is coordinated between the Ministry of Agriculture and Food Industry and the Ministry of Health and Social Protection based on the hierarchy established by the Government its National Contingency Plan for Avian Influenza and the Republican Action Program on Avian Flu Prophylaxis on the Territory of Moldova. Both agencies report to the National Emergency Anti-epidemiologic Commission, which is the umbrella coordination body at the Government level, headed by a Deputy Prime Minister.

## **Annex 7: Financial Management and Disbursement Arrangements**

### **MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project**

Executive Summary and Conclusion. The financial management arrangements for the project have been determined and are acceptable to the Bank, except for controls and procedures for operating the Compensation Fund. The detailed financial management arrangements for operating Compensation Fund will be prescribed in the Project Operations Manual<sup>2</sup>. The design of a Project Operations Manual acceptable to IDA is a *condition of effectiveness*. CAPMU has the necessary capacity to carry out the fiduciary functions for Avian Influenza Project in all other respects.

Country Issues. Based on the latest Country Financial Accountability Assessment of December 13, 2003, improvement is still required in the management of public expenditures, including the budget process and budget execution, as well as cash and debt management.

Implementing entities. The Ministry of Agriculture and Food Industry (MAFI) and Ministry of Health and Social Protection (MHSP) will be implementing the Project. CAPMU will be responsible for financial management functions for components implemented by both MAFI and MHSP. CAPMU will be responsible for ensuring that the Project establishes and maintains: (i) adequate accounting systems and procedures; (ii) flow-of-funds mechanisms facilitating timely disbursement of funds and timely payments for goods, works and services; (iii) regular reporting on the use of funds; and (iv) appropriate arrangements for regular financial audits. These responsibilities will be described in detail in the Project Operations Manual and summarized in the Financing Agreement.

CAPMU has experience with financial management under Bank-financed projects and has established sound internal control mechanisms on the application and use of funds. However, additional internal control procedures for the operations of the Compensation Fund will be developed, to respond to the specific risks associated with the flow-of-funds mechanism envisaged under the project. These procedures will be outlined in the Project Operations Manual.

Risk mitigation strategy. The risk is low to moderate for all components, except for the Compensation Fund sub-component (moderate to substantial). The project financial management arrangements are designed to mitigate the inherent elevated risk through designing a detailed Project Operations Manual for the Compensation Fund, and the following combination of Bank supervisions, required audits, and monitoring of periodic reports.

Staff. The existing FM staffing in the CAPMU is acceptable to implement the project at the initial phase, but additional staff might be needed to allow, *inter-alia*, for periodic visits to the village level to review the implementation of the Compensation Fund. The additional staff will report to the CAPMU financial and procurement managers. The financial manager will be responsible for disbursement functions as well as project accounting, reporting, and preparing accounting reports and financial statements, as well as monitoring financial flows to project beneficiaries, and prepare quarterly financial reports (IFRs/FMRs) and the annual financial statements for audit.

Financial Reporting. For project monitoring purposes, quarterly financial monitoring reports will be required. CAPMU will be responsible for designing appropriate interim un-audited financial reports

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<sup>2</sup> The responsibility for drafting the Project Operations Manual rests with the Implementing Agencies and CAPMU. The Bank will provide assistance and guidance to support the drafting.

(IFRs) [previously financial monitoring reports (FMRs)] to include: (a) Project Sources and Uses of Funds, (b) Uses of Funds by Project Activity, (c) Designated Account/Local Bank Account Statements, (d) Physical progress report, and (e) Procurement report. These financial reports will be submitted to IDA within 45 days of the end of each quarter. The first quarterly IFRs/FMRs will be submitted after the end of the first full quarter following the initial disbursement. Formats of the annual financial statements and the IFRs/FMRs will be incorporated in the Financial Management section of the Operations Manual. The accounting software currently used by the CAPMU allows for preparing IFRs/FMRs which would incorporate all components, sub-components and expenditure categories, as may be appropriate.

Disbursement Arrangements. The Recipient will establish through CAPMU a Designated Account for the credit/grant, in a commercial bank, acceptable to IDA. Disbursements from the IDA Financing will follow the transaction-based method, i.e., traditional Bank procedures: Statements of Expenditure (SOEs), Direct Payments, Special Commitments. For certain payments, above the Minimum Application Size as specified in the Disbursement Letter, the CAPMU will submit withdrawal applications to the Bank for payments to suppliers and consultants directly from the Designated Account. There will be one Designated Account for the IDA credit and grant and to the extent possible, the DA will be funded equally from the credit and the grant. The ceiling for the Designated Account is established as \$700,000. There will be a separate Designated Account for channeling the proceeds of the Japanese PHRD Grant.

Accounting policies and procedures. With the exception of the Compensation Fund sub-component, for which CAPMU does not have previous experience, CAPMU has maintained an effective internal control system to ensure that project expenditures are properly authorized and supporting documents are maintained; accounts are reconciled periodically; project assets, including cash, are safeguarded; and cash compensation grants are properly accounted for. A detailed assets/inventories register will be maintained as part of the project internal control procedures.

Information Systems. CAPMU's information system is a standard, of-the-shelf accounting software, known as the "1-C Bookkeeping System." This system is used for keeping accounting records and preparation of financial reports to the local authorities and of financial reports, including SOEs to IDA. This Project will have a separate set of accounts in the CAPMU accounting records.

Financial Audits. Annual audits of the project financial statements will cover all aspects of the project, including specific requirements for the Compensation Fund. The audits will be performed by independent auditors acceptable to the Bank, and in accordance with International Standards on Auditing (ISA), and the Bank's guidelines on auditing. They will include both the audit of financial transactions, an assessment of the internal control, funds flow mechanisms, and the reasonableness of the accounting, reporting and internal and external controls in respect of the Compensation Fund. The annual audit reports will consist of a single opinion on the financial statements of the project, incorporating the project accounts, including Designated Account Reconciliation, and SOE; as well as a Management Letter. The auditors' TOR will be prepared by the CAPMU and cleared by the Bank before the engagement of the auditor.

The cost of the audits will be eligible for financing from IDA Financing. CAPMU will provide the auditor with full access to project-related documents and records, including the compensation claims database, and with the information required for the purpose of the audit.

The audit reports will be submitted to the Bank not later than six months after the end of the fiscal year to which they relate.

Supervision Plan. During project implementation, the Bank will supervise the project's financial management arrangements in two ways: (i) review of the project's quarterly IFRs/FMRs and as well as

the project's annual audited financial statements and auditor's management letter; and (ii) during the Bank's supervision missions, review of the project's financial management and disbursement arrangements (including a review of a sample of SOEs and movements on the Designated Account) and payments from Compensation Fund to ensure compliance with the Bank's minimum requirements and procedures set out in the Project Operations Manual.

Compensation Fund. The Government will establish a national Compensation Fund from which owners of poultry culled will be compensated. MAFI will manage the Compensation Fund. Extraordinary Anti-Epidemic Commissions will be set up to value and record the culling of birds by the State Veterinary Agency.

The necessary legal, institutional, operational, and financial details for the Compensation Fund will be developed, agreed upon, and included in the Project Operations Manual.

CAPMU will execute gross payments from the Compensation Fund to agreed agents of each of the affected towns/villages (most likely, local mayoralties will act as disbursing agents). The agents will make payments to individual farms and households. Proper financial and monitoring safeguards will be included in the Project Operations Manual to ensure timely, fair, transparent and monitorable disbursements to compensation beneficiaries, and to avoid potential abuses on all sides.

As a *condition of disbursement* of funds under the Compensation Fund sub-component, MOA, MAFI and CAPMU will establish and implement a Compensation Fund mechanism with appropriate internal control procedures and flow-of-funds arrangements acceptable to the Bank, to be documented in the Project Operational Manual.

PAD annexes and Operations Manual will set forth the procedures for recording poultry culled under government orders and for establishing and recording poultry owner's claims for compensation payments. A number of minimum internal control procedures and risk mitigation measures will be implemented with respect to recording and verifying poultry culling and claims for compensation payment before any flow of funds is initiated.

- The Project Operations Manual will detail the mechanisms for identifying owners eligible for compensation payments, ensuring that there will be no multiple claims. A Compensation Fund database will be maintained by the designated Ministry to facilitate record keeping, claim verification, payment facilitation, monitoring and auditing;
- All forms to be used to record poultry culling and compensation claims will be provided by the Project. They will be pre-numbered and recorded in the database of the Compensation Fund. All unused forms, as well as any invalid or incorrectly completed forms, must be returned to the Compensation Fund when the culling records are submitted;
- The owners of village and backyard poultry will, at the time of culling, receive a Culling Certificate noting the date and the type and number of birds culled. Each certificate will be signed by all the designated members of the established local commission and countersigned by the poultry owner. Based on the individual poultry owner certificates, a village summary will be completed;
- For medium and larger farmers, appropriate internal controls, including independent check of culling by independent audit firm and use of pre-numbered duplicate claim forms, would be included in the operating manual;
- Appropriate internal control procedures on the verification of claims prior to payments are made would be included in the operational manual. Some of these controls would include independent

check of the claim forms, checking of claim summaries (if applicable), checking against various database and applicable compensation schedules applicable at the prevailing date;

- Flow-of-funds arrangements for making compensation payments are designed to minimize the number of stages through which funds will need to pass before reaching the intended beneficiaries, while ensuring maximum transparency. Once authorized, compensation payments will be effected from the Compensation Fund through CAPMU in one of two ways: (i) in person and in cash in the village, by Postal Service or bank transfer (depending on local conditions and number of payments), or (ii) through the mayoralties via their treasury accounts (in case of numerous villages/towns affected). Adequate internal control procedures would be implemented to ensure such payments reached the final beneficiaries/recipients.
- The CAPMU will carry out, or will arrange to have carried out, additional checks to ensure that the eligible poultry owners, and only they, are paid and are paid in full. This will include, but not be limited to, periodic operational reviews, under terms of reference (TORs) acceptable to IDA, to confirm the validity and legitimacy of the compensation payments made. The reviewers will be required to verify compensation claims and payments made in randomly selected samples of villages or districts; this verification will include: checking against the database, collecting and verifying information available and obtained at the village/district level, checking with individual poultry owners, checking forms and reports, etc. Any significant weaknesses identified will be promptly rectified in close consultation with IDA.
- In addition, the external independent auditors will be asked to provide an opinion on the reasonableness of the accounting, reporting and internal controls in respect of the operations of the Compensation Fund, and the audit TORs (acceptable to IDA) will include these specific requirements.

**Financial Management Action Plan.** Financial management arrangements at CAPMU are generally acceptable, but a number of actions are required to ensure that arrangements are fully satisfactory for the project, especially with respect to the Compensation Fund. The following action plan will be discussed with the Recipient:

	<b>Action</b>	<b>Responsibility</b>	<b>Due Date</b>	<b>Remarks</b>
1	<b>Project Operations Manual.</b> Develop a manual to fully document the procedures for accounting and internal control, including disbursement and flow of funds (including flow chart), financial reporting, including IFR/FMR, annual reports and audit, acceptable to the World Bank.	Implementati on Agencies, CAPMU	Condition of Effectivness	The Compensation Fund sub-component will be disbursed after the CAPMU/MAFI has implemented appropriate internal control and fund flow procedures.
2	Design of institutional arrangements of the Compensation Fund operations. Establishment and implementation of appropriate internal control procedures and fund flow arrangements for the <b>Compensation Fund sub</b> -component, acceptable to the World Bank.	MAFI/MOA/ CAPMU	Disbursement Condition for the Compensation Fund sub-component	A manual needs to be developed to reflect the characteristics of the project, including flow of funds and accountability for cash grants/ compensation fund.
3	<b>Staffing of the FM Unit.</b> Recruitment of additional specialist. This is not a FM condition.	CAPMU	To be ready after commencement of project implementation	

## **Annex 8: Procurement Arrangements**

### **MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project**

#### **A. General**

Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May, 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the IDA Financing, different procurement methods or consultant selection methods, need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Recipient and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

As described in OP8.50 for Emergency Recovery Assistance (ERA), in addition to emergency assistance in response to natural disasters the Bank may support operations for prevention and mitigation in countries prone to or at risk of specific emergencies. This support may comprise:

- (a) developing a national strategy;
- (b) establishing an adequate institutional and regulatory framework;
- (c) carrying out studies of vulnerability and risk assessment;
- (d) reinforcing vulnerable structures; and
- (e) acquiring hazard reduction technology

Given that the HPIA may pose a significant risk to the country, as well as to the health of the population due to the risk of an influenza pandemic the project may follow usual ERA procedures. Agreements covering procurement methods, thresholds and other conditionality will be consistent with ERA assistance guidelines and determined for Moldova according to its capacity and experience with Bank procurement.

A General Procurement Notice (GPN) will be published in the on-line edition of *Development Business* and in *dgMarkets* in May 2006 (estimated) announcing goods and consulting services to be procured and inviting interested eligible suppliers and consultants to express interest and to request any complementary information from the Recipient. Specific Procurement Notices (SPN) will be published in the on-line edition of the *Development Business* for all ICB contracts, and in the printed edition at the option of the Recipient. For goods to be procured through ICB, individual bidding opportunities would also be advertised in a major local newspaper on the same (or within 5) day(s) of the on-line publication. The local advertisements will be in the English language and, at the option of the Recipient, will also be in the local language. For consultants' contracts above US\$100,000, SPN/Request for Expression of Interest will be advertised in on-line edition of the *Development Business* and in at least one major national newspaper/publication of wide circulation (in the national and English languages). The notices should also be published on the web sites of the Ministry of Agriculture and Food Industry and Ministry of Health and Social Protection.

Attention is also drawn to the fact that under the May, 2004 Guidelines it is also required to post information concerning Contract Awards. The following information should be published locally for each contract, the names of all Bidders who submitted a bid, the bid prices as read out at the public bid opening, the name of the bidder and the evaluated price for each bid that was evaluated, the name of bidders who were rejected and the reasons for rejection, the name of the winning bidder and the price offered. Information about all contracts awarded through direct contracting, irrespective of price shall be

published. For all ICB contracts and contracts awarded through selection of consultant firms for contract exceeding US\$100,000 the information should be posted on the World Bank site and in UNDB. The procurement procedures and SBDs to be used for each procurement method, as well as model contracts for works and goods procured, are presented in the Project Operations Manual.

**Procurement of Works:** Works procured under this Project may include some minor rehabilitation works under both the Animal Health and Human Health components in cases where laboratories are in need of minor repairs or upgrading in order to take delivery of the new equipment. As these are all envisaged to be very small works (less than \$100,000 equivalent per site) the procurement will be done using a minor works or shopping procedure (see below);

**Procurement of Goods:** Goods procured under this project estimated at about US\$4m equivalent would include: equipment for veterinary laboratory network (RCVD and its two satellite laboratories) under the Animal Health component (Component 1). This would comprise specialised diagnostic equipment to confirm the presence of HPAI in animals, including any necessary consumables and reagents and the development of a disease information system. Under the Human Health component (Component 2) the main procurement will be concerned with the creation of a capacity for testing for the presence of HPAI in humans. This will comprise, specialized equipment, WHO accredited reagents and consumables. Goods supporting bio-safety standards will also be procured. Specifically this will comprise a biological safety cabinet class II for the National Laboratory for Viral Respiratory Diseases, upgrading of immunofluorescence capabilities and the purchase and installation of RT-PCR equipment and reagents. This component will also finance the upgrading of facilities at the Infectious Diseases hospital in Chisinau through the purchase of a mechanical ventilator, infrastructure and supplies for an intensive care unit and for an ambulance for transporting infected passengers, protective clothing and a mobile incinerator. It is expected that limited procurement of human influenza vaccines, influenza kits and respiratory care equipment will be made. Under Component 4 there may be some procurement of office equipment and computers to support implementation of the Project. In so far as possible procurement will be done using the Bank's SBD for all ICB and National SBD agreed with or satisfactory to the Bank. However, for the supply of specific specialized equipment (particularly diagnostic equipment under both the Animal and Human Health components) an LIB procedure may be used. This is recommended and justified through the fact that there are only a limited number of firms who can provide this equipment and due to the emergency nature of the project. Consumables, various testing kits and medicines may be procured under Direct Contracting procedures through appropriate UN Agencies. The following procedures are envisaged to be used under IDA Financing.

- (i) **International Competitive Bidding (ICB).** Standard equipment, consumables, IT equipment and systems and medical equipment under all components of the Project for contracts above US\$300,000 equivalent per contract will be procured using ICB procedures in accordance with the Bank's Procurement Guidelines.
- (ii) **Limited International Bidding (LIB).** For the purchase of specialized diagnostic equipment a survey will be undertaken to identify suitable suppliers and if justified an LIB procedure may be used. This procedure will be implemented in accordance with paragraph 3.2 of the Procurement Guidelines.
- (iii) **Shopping (SH)** procedure will be used for readily available off-the-shelf goods, including office and computer equipment. In line with regional policy for Avian Influenza operations, all items would have standard specifications, estimated to cost less US\$200,000 equivalent per contract. This procedure will be based on obtaining and comparing price offers from at least three suppliers from at least two different countries in accordance with paragraph 3.5 of Procurement Guidelines. It is recommended that the World Bank shopping site should be used as a basis to draw up shortlists for simple

computer equipment. In the case of Minor Works shopping procedures will be used for contracts estimated to cost less than US\$200,000 equivalent.

- (iv) **National Competitive Bidding (NCB).** Goods estimated to cost less than \$300,000 equivalent per contract and Works estimated to cost less than \$1,000,000 will be procured according to NCB procedures in accordance with paragraphs 3.3 and 3.4 of the Bank's Procurement Guidelines using documents agreed with and acceptable to the Bank;
- (v) **Direct Contracting.** Where certain goods are available only from a particular supplier or in cases where compatibility with existing equipment so requires goods may be procured under Direct Contracting having obtained prior approval from the Bank (in accordance with para. 3.6 of the Procurement Guidelines). A number of specialized UN Agencies are able to support the procurement of drugs, vaccines, specialised equipment and supplies. It is intended to make use of these Agencies (e.g. WHO, FAO, UNICEF) in accordance with paragraph 3.9 of the Procurement Guidelines as suppliers of goods (mainly drugs, vaccines and reagents) following their own procedures for procurement.

**Procurement of non-consulting services:** At this stage it is not foreseen to procure any non-consulting services

**Selection of Consultants:** Contracts for Consulting Services will be packaged to combine related skills and services in order to make them attractive for competition and reduce the number of contracts to be administered taking into consideration the implementation arrangements. To the extent practicable, training activities would be incorporated with consulting services contracts. Consultant services consist of short-and long-term assignments to be contracted to firms and/or individuals (national and/or foreign or jointly) depending on the nature and duration of the assignments. Selection procedures will be managed through competition among qualified short listed consultants. The short lists for consultant services contracts with firms shall comprise six firms with a wide geographical spread, and with no more than two firms from any one eligible country. The procurement of consultant services contracts financed under the IDA Financing will be in accordance with the provisions of the Consultant Guidelines. For consulting assignments exceeding US\$200,000 equivalent per contract, expressions of interest will be obtained by advertisement in the Development Business (on-line), supplemented with notices issued in the national press.

Consultancy services will be required for the following major tasks: technical assistance for human resource development in the establishment and use of database programs; training on collection and analysis of epidemiological data and on risk assessment under the animal health component. Under the human health component consultancy services will be required for capacity building. In particular this will comprise the establishment and maintenance of surveillance and monitoring; support to drafting and adoption of a validated laboratory Standard Operating Procedures (SOP). With respect to containment of HPAI and care for HPAI patients the following consultancy services will be required (i) development of instructional tools, computer modules and workshops to promote adoption of case identification, management and infection control protocols at rayon hospitals and emergency transport services; (ii) development and dissemination of additional relevant materials for district hospitals and emergency medical services; (iii) Development of hospital and rayon level pandemic contingency plans, and (iv) development of a pandemic coordination network at the rayon level. Component 3 will comprise activities related to the raising of Public Awareness and information. It is expected this will be managed and conducted through UNICEF, it is expected that would be hired under a sole source contract using the standard agreement between the Bank and UNICEF and having met the requirements of sections 3.10 and 3.15 of the Consultants Guidelines. For any subcontracts UNICEF would use its own procurement arrangements. Finally there will be limited consultancy provided to support the implementation arrangements;

Civil servants can be hired as individual consultants or as members of a team with financing under the IDA Financing provided they are on leave of absence without pay and they have not been working for any of the Beneficiary Agencies immediately prior to taking leave of absence.

Short lists of consultants for services estimated to cost less than US\$100,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. The following procurement procedures will be used for selection of consultant services:

- (i) **Quality and Cost Based Selection (QCBS)** procedures, as described in Section II, paras 2.1 to 2.31 of the Consultant Guidelines will be used for the larger assignments under all Components of the Project;
- (ii) **Selection under a Fixed Budget (FBS)** would be used in accordance with para 3.5 of the Guidelines.
- (iii) **Least Cost Selection (LCS)** procedure would be used for selection of an auditor to carry out audit of the Financial Statements of the Project.
- (iv) **Selection Based on Consultants' Qualifications (CQ)** will be used for contracting firms for certain assignments under all components of the project for which the value of the assignments is estimated to cost less than US\$200,000 equivalent per contract and where it is considered that a small team of specialists would be more beneficial than a single individual.
- (v) **Individual Consultants (IC)**. Many specialized activities where specific skills are needed for short period of time at scattered intervals and which would not be practical to package with the assignments for consulting firms described above, would be best served through the recruitment of individual consultants (both foreign and national). Selection of individual consultants will be carried out in accordance with Section V of the Consultant Guidelines. Individuals will be selected on the basis of their qualifications for the assignment by comparing the CVs obtained in response to an advertisement in the national press or Development Business.
- (vi) **Single (Sole) Source (SS)**. The method will be used for certain individuals with the prior approval of the Association in accordance with paras. 3.9 to 3.13 of the Consultants Guidelines. The method will also be used for acquiring the services of UNICEF under Component 3 of the project;

**Training Activities:** Training is an integral element of the project's capacity building objective. IDA Financing will finance training programs, including training workshops and local training. Insofar as possible training programs would be included in larger TA contracts with firms to reduce administrative burden on project management. A large part of the required training will be related to capacity building over adoption of new protocols under the Human Health component. Training in the use of new equipment will be packaged together with the equipment procurement. CAPMU supported by consultants, would be responsible for administration of a small number of local workshops (including project launch, mid term and completion workshops) and a number of study tours for the beneficiary Agencies and other specialists. Expenditures related to such training activities include: (a) for local training and workshops – per diems of participants to cover transportation, lodging and subsistence; minor organizational expenses (stationery, handouts, training materials, coffee breaks); (b) for international study tours – international travel and visa costs, per diems (lodging and subsistence) and course-related expenses (fixed tuition or participation fee). Design of the training courses and study tours may be done by the specialists contracted as short term consultants under relevant QCBS, CQ and/or IC procedures depending on the value of the assignment as described above in this Annex.

CAPMU in cooperation with the Beneficiary Agencies would be expected to prepare and agree a training plan with the Bank every year. Estimated budget, list of participants and draft agenda for each training event will be subject to Banks prior review. Expenditure items for training activities, including study tours, would be reported under SOEs. The status of the training plan would be included as part of the quarterly progress reports, and would be updated and/or modified as may be mutually agreed between the coordination units and the Bank.

**Others:** Following ERA procedures, the project may include financing for items on a positive list of imports identified as necessary under a well-defined preparedness and response program to be prepared as part of project implementation. In case of a declared global influenza pandemic, which will trigger disbursement conditions for critical imports, support will be provided under the project for the procurement of a positive list of critical imports. These may be procured under Modified International Competitive Bidding (MICB) according to paragraphs 2.66 and 2.67 of the Procurement Guidelines. Also, commonly traded commodities may be procured through organized international commodity markets or other channels of competitive procurement acceptable to the Bank, in accordance with the provisions indicated above.

There will be a Compensation Fund provided under the Animal Health Component, however, at this stage it is not expected that there would be any procurement activities related to this activity. Management of the Fund would be the responsibility of the Government who would use existing structures to the extent possible. CAPMU, in its fiduciary capacity, may be used to transfer payments to the local level where actual effecting of payments would be handled by the appropriate local departments.

## **B. Assessment of the agency's capacity to implement procurement**

### ***Country Issues***

A country procurement review (CPAR) for Moldova was finalized in 2003, a summary of which is indicated in the following paragraphs. Public procurement represents a substantial element of the expenditure side of the Government's budget. Estimates prepared for the CPAR indicated that total expenditure on procurement amounted to 1.6 billion lei (MDL) in 2002 [US\$118 million]. Procurement accounted for 17 percent of total expenditures by the State government and 42 percent of expenditure by local governments.

While Moldova's procurement law is basically sound, the practice of public procurement falls some way short of the relatively high standard which the law sets. The Department for Public Procurement (now a part of the Agency for Material Reserves, Public Procurement and Humanitarian Aid), whose primary function is to prevent departures from the procurement law, is frequently subject to political pressure and is not held accountable for the way in which it performs its regulatory and oversight functions. However, it should be stated that the proportion of SS procurement has steadily fallen over the last few quarters.

The Law is currently being rewritten under an IDF Grant supported by the Bank, the new law should address many of the shortcomings and weaknesses of the existing law and also aims to re-establish the status of the now Department for Public Procurement back into that of an Agency and make it directly answerable to either Parliament or the Cabinet of Ministers.

### **Procurement Arrangements**

An assessment of the capacity of the Implementation Agencies to implement procurement actions for the project has been carried out by Procurement Accredited Specialist (PAS) assigned to the project during pre-appraisal in February 2006. In common with other projects in this sector and due to its emergency

nature, it was decided that the fiduciary responsibilities (including Procurement) would be the responsibility of CAPMU. CAPMU has already successfully carried out these responsibilities for a number of Bank financed projects in the agricultural sector. The assessment reviewed the organizational structure for implementing the project and the interaction between the project's staff responsible for procurement and the two beneficiary ministries (Ministry of Agriculture and Food Industry and the Ministry of Health and Social Protection). Overall responsibility for procurement management and coordination will therefore rest with CAPMU. Each beneficiary agency will be strengthened with a component coordinator hired as a local consultant whose main responsibilities will be to manage and implement the project activities, with the fiduciary support of CAPMU.

The procedure and documents to be used for all small procurements (inc. bidding documents and contract forms) would all be included in the Project Operational Manual and would be subject to agreement with the Bank as suitable for use (and standard) for the Project. The procedure to be followed would be based on the national Open tendering procedure. The overall project risk for procurement is High.

### **C. Procurement Plan**

The Procurement Plan contains all the relevant procurement information, including prior review thresholds for Bank financed contracts. For procurement under the IDA Financing, the Recipient will use the Bank's latest Standard Bidding Documents (SBD), Standard Form of Consulting Contracts and Request for Proposals (RFP), and Standard Bid Evaluation Report Forms. For NCB procedures acceptable Bidding Documents will be agreed. The Standard Bidding Documents for procurement of Information Systems would be used for procurements of all IT equipment estimated to cost over US\$200,000 per contract. These will comprise Supply and Installation of Information Systems - Single or Two Stage Bidding (both version March 2003 or more recent). Also, the sample procurement documents and forms developed in ECA Region for small value procurement would be adapted to suit the Project needs for procurement as outlined in the POM.

The Recipient, after appraisal, developed a procurement plan for project implementation which provides the basis for the agreed procurement methods. This plan has been agreed between the Recipient and the Project Team on May 3-5, 2006 and is available at the offices of CAPMU as well as at the two implementing Ministries. It will also be available in the project's database and in the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

### **D. Frequency of Procurement Supervision**

In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementation Agencies has recommended two supervision missions per year to visit the field to carry out post review of procurement actions. It is envisaged that 2 out of every 5 procurements will be reviewed ex-post.

### **E. Details of the Procurement Arrangements Involving International Competition**

#### **1. Goods, Works, and Non Consulting Services**

(a) List of contract packages to be procured following ICB, NCB and direct contracting:  
See Procurement Plan (below)

(b) ICB contracts estimated to cost above \$200,000 equivalent per contract (for Goods), NCB contracts estimated to cost above \$300,000 equivalent per contract (for Goods), and all direct contracting will

be subject to prior review by the Bank. The first two ICB, NCB and Shopping contract for Goods (or any value) will also be subject to prior review. All ICB contract for Works, the NCB and first two Minor Works contract shall also be subject to Prior Review

## **2. Consulting Services**

- (a) List of consulting assignments with short-list of international firms:  
See Procurement Plan (below)
  
- (b) Consultancy services estimated to cost above \$50,000 equivalent per contract for firms and \$25,000 equivalent per contract for individuals and single source selection of consultants will be subject to prior review by the Bank. The first CQ contract and first two IC contract irrespective of price will also be subject to Prior Review. All ToRs will be reviewed and agreed with the Bank
  
- (c) Short lists composed entirely of national consultants: Short lists of consultants for services estimated to cost less than \$100,000 equivalent per contract, may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

## Procurement Plan

### I. GENERAL

1. **Agreed Date of the procurement Plan**  
Original: May 5, 2006  
Revision 1:.....
2. **Date of General Procurement Notice:** estimated May 2006

### II. Goods and Works and non consulting services.

1. **Prior Review Threshold:** Procurement Decisions subject to Prior Review by Bank as stated in Appendix 1 to the Guidelines for Procurement :

	<b>Procurement Method</b>	<b>Prior Review Threshold</b>	<b>Comments</b>
1.	ICB and LIB (Goods)	> \$200,000	First ICB and all subject to Prior Review
2.	NCB (Goods)	< \$300,000	First two NCB and all subject to prior review
3.	Shopping (Goods)	< \$200,000	All subject to post review
4.	Direct Contracting*	-	All subject to Prior Review
5.	ICB (Works)	> \$1,000,000	All subject to Prior review
6.	NCB (Works)	< \$1,000,000	First two NCB contract subject to prior review
7.	Shopping (Works)	< \$200,000	First two works contract subject to prior review
8.	Minor Works	< \$200,000	First two works contract subject to prior review
9.	Technical Specs.	-	All subject to agreement and Prior Review

\* all Contracts subject to justification

2. **Pre-qualification.** Bidders shall be pre-qualified in accordance with the provisions of paragraphs 2.9 and 2.10 of the Guidelines (No pre-qualification is envisaged)
3. **CDD Procurement Manual:** Project components to be carried out by community participation in accordance with the provisions of paragraph 3.17 include: No CDD is envisaged
4. **Any Other Special Procurement Arrangements:** Payments under the Compensation Fund will be governed by the Compensation Fund manual which will form an integral part of the POM
5. **Procurement Items with Methods and Time Schedule:** See below

### III. Selection of Consultants

1. **Prior Review Threshold:** Selection Decisions subject to Prior Review by Bank as stated in Appendix 1 to the Guidelines Selection and Employment of Consultants:

	<b>Selection Method</b>	<b>Prior Review Threshold</b>	<b>Comments</b>

1.	Competitive Methods (Firms) QCBS	> \$100,000	All subject to prior review
2.	Competitive Methods (Firms) FBS	Any amount	First 2 contracts subject to prior review
3.	Competitive Methods (Firms) LCS	Any amount	First 2 contracts subject to prior review
4.	Competitive Methods (Firms) CQ	> \$50,000	First 2 contracts subject to prior review
5.	Individual Consultants (IC)	> \$25,000	First 2 contracts subject to prior review
6.	Single Source (Firms and Individuals)*	-	All subject to prior review
7.	ToRs for Consulting Contracts	All methods/values	All subject to prior review

\*all Contracts subject to justification

2. **Short list comprising entirely of national consultants:** Short list of consultants for services, estimated to cost less than \$100,000 equivalent per contract, may comprise entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.
3. **Any Other Special Selection Arrangements:**
4. **Consultancy Assignments with Selection Methods and Time Schedule:** See below

#### IV. Other

1. **Ex-Post Review:** All other contracts below Bank's prior review threshold are subject to Bank's selective ex-post review. Periodic ex-post review by Bank staff will be undertaken during regular supervision missions. Procurement documents, such as bidding documents, bids, bid evaluation reports and correspondence related to bids and contracts will be kept readily available for Bank's ex-post review during supervision missions or at any other points in time. Bank missions will review at least 2 out of every 5 contracts which are subject to ex-post review.
2. **Record Keeping:** CAPMU will maintain complete procurement files which will be reviewed by Bank supervision missions. All procurement related documentation that requires Bank prior review will be cleared by Procurement Accredited Staff (PAS) and relevant technical staff. No packages above mandatory review thresholds by RPA are anticipated. Procurement information will be recorded by CAPMU and submitted to Bank as part of the quarterly (FMRs) and annual progress reports. A simple management information system with a procurement module has been established to assist the CAPMU procurement specialists to monitor all procurement information.

### Annex 9: Economic and Financial Analysis

#### MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project

**Public goods.** Investment in the Project is justified because prevention and containment of infectious diseases such as Avian Influenza are public goods. Households and firms face little incentive to invest in

prevention and containment that benefit others. Yet much of the world is at risk of a spread of the infection, so the world as a whole faces a powerful incentive to invest in prevention and containment, hence the rationale for World Bank involvement in the fight against Avian Influenza.

Probabilistic nature of the analysis. Most World Bank projects seek to improve an existing condition, for example, to rehabilitate a poor quality road or to improve educational achievement. The proposed Avian Influenza Project differs from standard projects in that there is no existing condition: Avian Influenza has not infected Moldovan people or poultry, and this may never occur. Instead, the proposed Project seeks to prevent and control outbreaks that can be regarded, in effect, as probabilistic events, and to reduce the costs of an outbreak (among poultry, or human), should it occur, by minimizing the chances of it spreading further.

Whether wild birds will infect poultry is uncertain, and this uncertainty can be defined as a probability. Spread of the Avian Influenza to the general poultry population is also a probabilistic event. So is the infection of people directly exposed to the virus. Unfortunately, there do not seem to be any reliable estimates of the probabilities. Moreover, it is rather difficult to assess the impact of the Project on outcomes for either poultry or people.

Infection of poultry. Annex Table 9.1 below illustrates the chain of probabilities involved in the spread of HPAI to poultry and the potential for the Project to reduce these probabilities. The probabilities are subjective estimates of the Appraisal Mission. The column labeled ‘main’ shows the most likely scenario. The Table presents a ‘Low’ case scenario in line with the mandate to conduct a sensitivity analysis. In the Low scenario risks of an outbreak are relatively low and the impact of the Project on reducing these risks is relatively low.

**Annex Table 9.1. MOLDOVA: Probabilities of the Spread of HPAI  
Among Poultry, With and Without Project**  
(in percentage points)

<b>Scenarios</b>	<b>Main</b>	<b>Low</b>
<i>Without Project, assumptions about probabilities</i>		
Single & limited outbreak among poultry	95%	90%
Generalized spread of the outbreak among poultry	50%	40%
<i>With Project, reduction in without Project probabilities</i>		
Reduction in prob. of a single limited outbreak among poultry	0%	0%
Reduction in prob. of generalized spread of outbreak	50%	25%
<i>Joint probabilities:</i>		
<b>Without Project:</b> Generalized outbreak among poultry	47.5%	36.0%
<b>With Project:</b> Generalized outbreak among poultry	23.8%	27.0%

Source: World Bank.

In the Main scenario, implementation of the project leads to a fall in the probability of a generalized outbreak among poultry from about 48% to 24%. In the low scenario the proportional impact of the project is smaller; implementation leads to a fall in the probability of a generalized outbreak among poultry from 36% to 27%.

The impact of implementation can also be expressed in terms of the expected value of poultry lost to Avian Influenza and to culling (Annex Table 9.2). In the main scenario, the loss of poultry falls from \$69

to \$35 million (this is computed by applying the probabilities from Annex Table 9.1 to the market value of the birds). The rate of return for a US\$ 10.6 million project is rather high, even when only the cost in lost poultry is considered and even when the efficiency of the Project in reducing risk rather low. In the main case, the rate of return is 226%, and in the low case the rate falls to 23%.

**Annex Table 9.2. MOLDOVA: Expected Value of Lost Poultry With and Without Project and Rates of Return**

(in millions of US dollars)

Scenarios	Main	Low
<i>Without Project</i>	\$69	\$52
<i>With Project</i>	\$35	\$39
<b>Project rate of return from loss of poultry avoided</b>	<b>226%</b>	<b>23%</b>

Source: World Bank.

Infection of people. Humans usually resist infection by existing strains of HPAI (Source: WHO), and the number of infections and deaths from an outbreak in Moldova would probably be small. There have been no fatalities so far as a consequence of the outbreak in Romania. Eventual mutation of the virus could raise infection and mortality rates significantly, to around the figures shown on Annex 9 Table 3 below. The Project seems likely to modestly reduce the probabilities of infection, hospitalization, and mortality, perhaps by between 30 and 15%. Given these assumptions, the Project would reduce the probability of death of exposed people from 0.5% to 0.2% is the main scenario.

**Annex Table 9.3. MOLDOVA: Probabilities of Mortality and Morbidity In case of a World-Wide Pandemic**

(in percentage points)

Scenarios	Main	Minus
<i>Without Project, assumptions about probabilities</i>		
Infection of exposed people	30%	50%
Hospitalization of infected people	10%	15%
Mortality of hospitalized people	15%	25%
<i>With Project, reduction in without Project probabilities</i>		
Reduction in probability of infection	30%	15%
Reduction in probability of hospitalization	30%	15%
Reduction in probability of mortality	30%	15%
<i>Compound probabilities:</i>		
<b>Without Project:</b> Probability of mortality of exposed people	0.5%	1.9%
<b>With Project:</b> Probability of mortality of exposed people	0.2%	1.2%

Source: World Bank.

The probabilities in Annex Table 9.3 can be use to compute estimated economic costs of a generalized pandemic among people (Annex Table 9.4). The scenarios are rather speculative; since this is an evaluation of costs of infection by a virus with may become infectious between human through adaptation and mutation and does not yet exist. The computation assumes that about half the residential population of 3.5 million is exposed to a new form of Avian Influenza and that on average, infected people lose 6 days of work, and that hospitalization also lasts for six days. Lost labor is evaluated at the average daily wage and the cost of hospitalization is evaluated at the average daily cost of hospital treatment for

pneumonia. Lives lost are valued as the present discounted value of 20 years of earning of the average national wage, discounted at 8%.

The results are illustrative, but do show that implementation of the Project, under the assumptions of Annex 9 Table 3 and 4, would reduce total costs in both the main and low case scenarios.

**Annex 9 Table 4. MOLDOVA: Expected Value of Lost Work, of Hospitalization, and of Lost Life, During a General Human Pandemic, With and Without Project**

(in millions of US dollars)

<b>Scenarios</b>	<b>Main</b>	<b>Low</b>
<b><i>Without Project</i></b>		
Labor income lost	\$9	\$15
Cost of hospitalization	\$4	\$11
Life lost	\$148	\$618
<b>Total without Project</b>	<b>\$162</b>	<b>\$644</b>
<b><i>With Project</i></b>		
Labor income lost	\$6	\$13
Cost of hospitalization	\$2	\$8
Life lost	\$51	\$380
<b>Total with Project</b>	<b>\$59</b>	<b>\$400</b>

**Fiscal impact and sustainability.** The Project should not compromise the national budget, in most respects. The Government continues to pay the salaries of the veterinarians, technicians, nurses, doctors, and other staff engaged in prevention and containment of Avian Influenza. Moreover, the Government is not contemplating significant new hiring as part of the project.

The Government has been procuring basic equipment and materials as part of its contribution to the anti-Avian Influenza effort. In 2005, the Government disbursed 5 million lei, to finance the following expenditures:

- a) necessary virology laboratory equipment for the Republican Center for Veterinary Diagnostic for AI diagnostics;
- b) kits for AI serological testing;
- c) 6 tones of disinfectant;
- d) a vehicle for performing pathological sampling in Infection Points;
- e) a vehicle for transporting intervention teams to Infection Points;
- f) 5 disinfection vehicles;
- g) 2000 consumable items.

The area for fiscal concern is the Compensation Fund for farmers who lose poultry to Avian Influenza. The Government has publicly committed itself to reimburse all farmers for lost poultry, but has not budgeted any money for such a fund and has no plans, at present, to submit such a budget request to the parliament. This leaves the Government with an uncovered liability of roughly up to US\$ 125 million – the value of the domestic poultry stock. Moreover, lack of adequate funding may lead to a quick cessation in payments to farmers, once the \$US 1.0 allocated by the Project is exhausted, and this would reduce incentives for farmers to report sick poultry.

## Annex 10: Safeguard Policy Issues

### MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project

Safeguard Policies Triggered by the Project	Yes	No
<a href="#">Environmental Assessment (OP/BP 4.01)</a>	[x]	[ ]
Natural Habitats ( <a href="#">OP/BP 4.04</a> )	[ ]	[x]
Pest Management ( <a href="#">OP 4.09</a> )	[ ]	[x]
Cultural Property ( <a href="#">OPN 11.03</a> , being revised as OP 4.11)	[ ]	[x]
Involuntary Resettlement ( <a href="#">OP/BP 4.12</a> )	[ ]	[x]
Indigenous Peoples ( <a href="#">OP/BP 4.10</a> )	[ ]	[x]
Forests ( <a href="#">OP/BP 4.36</a> )	[ ]	[x]
Safety of Dams ( <a href="#">OP/BP 4.37</a> )	[ ]	[x]
Projects in Disputed Areas ( <a href="#">OP/BP 7.60</a> )*	[ ]	[x]
Projects on International Waterways ( <a href="#">OP/BP 7.50</a> )	[ ]	[x]

The Project triggers only one safeguard policy on the required Environmental Assessment. In view of the emergency nature of the proposed Project, the team received a waiver allowing for a delay in the implementation of the Environmental Assessment from the normal appraisal stage. The preparation and disclosure of an Environmental Management Plan is a condition for disbursement for Component I - Animal Health.

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\* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

## Annex 11: Project Preparation and Supervision

### MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project

	Planned	Actual
PCN review	None	None
Appraisal	3/24/2006	3/24/2006
Negotiations	4/13/2006	5/5/2006
Board/RVP approval	5/15/2006	
Planned date of effectiveness	7/15/2006	
Planned date of mid-term review	12/31/2007	
Planned closing date	12/31/2009	

Key institutions responsible for preparation of the project:

Ministry of Agriculture and Food Industry  
 Ministry of Health and Social Protection  
 World Health Organization  
 UNICEF

Bank staff and consultants who worked on the project included:

Name	Title	Unit
Anatol Gobjila	Senior Operations Officer	ECSSD
Menahem Prywes	Senior Economist	ECHSD
Rob de Rooij	Veterinary Specialist	Consultant
Dr. John Bashiruddin	Animal Health Lab Specialist	Consultant (Institute For Animal Health)
Dr. Alex Leventhal	Director of Public Health Services	WHO & Ministry of Health, Israel
Dr. Isabelle Bergeri	Medical Officer	WHO (Lyon, France)
Dr. Pavel Ursu	Liaison Officer	WHO (Chisinau, Moldova)
Irina Babich	Financial Management Specialist	ECSPS
Natalia Cherevatova	Program Assistant	ECSSD
Alexei Ionascu	Project Analyst	ECSHD
Anna Wielogorska	Senior Procurement Specialist	ECSPS

Bank funds expended to date on project preparation:

1. Bank resources: US\$82,000
2. Trust funds:
3. Total: US\$82,000

Estimated Approval and Supervision costs:

1. Remaining costs to approval: US\$40,000
2. Estimated annual supervision cost: US\$82,000

## **Annex 12: Documents in the Project File**

### **MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project**

Ministry of Agriculture and Food Industry, Veterinary Medicine Division. “National Contingency Plan of the Republic of Moldova for Avian Influenza.” Chisinau: Moldova, 2006.

Special Anti-epidemics Commission. “National Preparedness Plan for Human Influenza Pandemic in the Republic of Moldova.” Chisinau: Moldova, 2005

Special Anti-epidemics Commission. “Republican Action Program on Avian Flu Prophylaxis on the Territory of Moldova.” Chisinau: Moldova, 2005

Special Anti-epidemics Commission. “Decision #1 on protection of the Republic of Moldova from Avian Influenza.” Chisinau: Moldova, October 20, 2005.

WHO/EURO Mission Report, 20-24 February 2006.

Detailed Project and Japanese PHRD Grant Costing Tables.

### Annex 13: Statement of Loans and Credits

#### MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response Project

Project ID	FY	Purpose	Original Amount in US\$ Millions				Cancel.	Undisb.	Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF			Orig.	Frm. Rev'd
P089124	2006	COMPETITIVENESS ENHANCEMENT	0.00	4.90	0.00	0.00	0.00	9.62	0.00	0.00
P082916	2005	PUB FIN MGMT TA	0.00	8.55	0.00	0.00	0.00	8.25	0.00	0.00
P079314	2004	SIF 2	0.00	20.00	0.00	0.00	0.00	15.97	-0.21	0.00
P075995	2004	AG POLLUTION CONTROL (GEF)	0.00	0.00	0.00	4.95	0.00	2.79	1.17	0.00
P040558	2004	ENERGY 2	0.00	35.00	0.00	0.00	0.00	29.74	6.83	0.00
P074469	2003	WS & SAN	0.00	12.00	0.00	0.00	0.00	10.60	7.62	1.73
P074122	2003	AIDS CONTROL	0.00	0.00	0.00	0.00	0.00	3.92	0.87	0.00
P073626	2003	TRADE & TRANS FACIL IN SE EUR	0.00	7.21	0.00	0.00	0.00	1.28	-1.64	0.00
P051174	2001	HEALTH INVST FUND	0.00	10.00	0.00	0.00	0.00	0.35	-0.65	-0.65
P051173	1999	SOC PROT	0.00	11.10	0.00	0.00	0.00	6.22	5.76	2.40
P035771	1998	FIRST CADASTRE	0.00	15.90	0.00	0.00	0.00	2.22	-0.82	-0.82
Total:			0.00	124.66	0.00	4.95	0.00	90.96	18.93	2.66

#### MOLDOVA STATEMENT OF IFC's Held and Disbursed Portfolio In Millions of US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
2000	FinComBank	0.94	0.00	0.00	0.00	0.94	0.00	0.00	0.00
2004	FinComBank	1.25	0.00	0.00	0.00	1.25	0.00	0.00	0.00
1997	INCON	5.12	0.00	0.00	0.00	5.12	0.00	0.00	0.00
2000	Moldindconbank	0.56	0.00	0.38	0.00	0.56	0.00	0.38	0.00
2004	Moldindconbank	3.50	0.00	0.00	0.00	3.50	0.00	0.00	0.00
2000	ProCredit MDA	0.00	0.00	0.90	0.00	0.00	0.00	0.90	0.00
2001	UF Moldova	21.43	0.00	0.00	0.00	16.43	0.00	0.00	0.00
2001	Victoriabank	1.14	0.00	0.00	0.00	1.14	0.00	0.00	0.00
2004	Victoriabank	5.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
1999	VoxTel	0.00	0.00	1.25	0.00	0.00	0.00	1.25	0.00
2000	VoxTel	0.00	0.00	0.07	0.00	0.00	0.00	0.07	0.00
2001	VoxTel	0.00	0.00	0.30	0.00	0.00	0.00	0.30	0.00
Total portfolio:		38.94	0.00	2.90	0.00	33.94	0.00	2.90	0.00

#### Approvals Pending Commitment

FY Approval	Company	Loan	Equity	Quasi	Partic.
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Total pending commitment:	0.00	0.00	0.00	0.00
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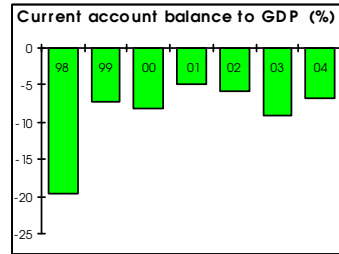
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## Annex 14: Country at a Glance

### MOLDOVA:

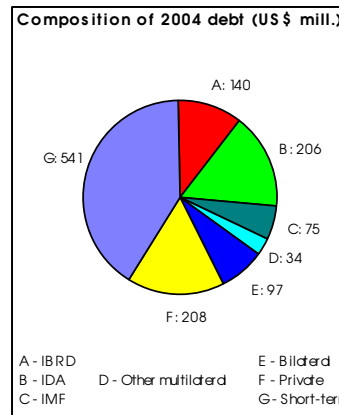
#### BALANCE of PAYMENTS

	1984	1994	2003	2004
<i>(US\$ millions)</i>				
Exports of goods and services	..	651	1054	1,196
Imports of goods and services	..	751	1,720	1,961
Resource balance	..	-100	-666	-766
Net income	..	-16	323	417
Net current transfers	..	24	162	176
Current account balance	..	-92	-181	-173
Financing items (net)	..	122	214	214
Changes in net reserves	..	-30	-33	-41
<b>Memo:</b>				
Reserves including gold <i>(US\$ millions)</i>	..	180	302	321
Conversion rate <i>(DEC. local/US\$)</i>	..	2.8	13.9	12.3



#### EXTERNAL DEBT and RESOURCE FLOWS

	1984	1994	2003	2004
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	..	842	1,447	1,301
IBRD	..	142	157	140
IDA	..	0	193	206
Total debt service	..	84	228	191
IBRD	..	10	24	24
IDA	..	0	1	1
Composition of net resource flows				
Official grants	..	0	0	..
Official creditors	..	32	-31	-20
Private creditors	..	90	-119	-102
Foreign direct investment (net inflows)	..	24	0	..
Portfolio equity (net inflows)	..	1	0	..
World Bank program				
Commitments	..	55	0	0
Disbursements	..	0	12	14
Principal repayments	..	0	17	17
Net flows	..	0	-6	-4
Interest payments	..	10	8	7
Net transfers	..	-10	-14	-11



Note: This table was produced from the Development Economics LDB database.

8/25/05

Annex 15: Maps  
**MOLDOVA: Avian Influenza Control & Human Pandemic Preparedness & Response  
Project**

WB19189

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