

# KOREA: ESTIMATES OF SUPPORT TO AGRICULTURE

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## DEFINITIONS AND SOURCES

**Table 1. Agricultural Support Estimates / Total Transfers** contains country Total Support Estimate (TSE) and derived indicators, which cover all agricultural production, i.e. all agricultural commodities produced in the country. Definitions of basic data sets refer to the specific programmes applied in the country. For the Producer Support Estimate (PSE) and Consumer Support Estimate (CSE), each policy measure is classified according to implementation criteria, which include: the *transfer basis* of support (output, input, area/animal numbers/receipts/income, and non-commodity criteria); whether support is based on *current or non-current basis*; whether *production is required* or *not* to receive payment. Each policy measure is also assigned several “labels” indicating additional implementation criteria. "MPS commodities", which vary across countries, are those for which the market price support is explicitly calculated in Tables 4.1 – 4.12.

**Table 2. Breakdown of PSE by Commodity and Other Transfers** provides a breakdown of the total PSE into four categories reflecting the flexibility given to farmers regarding which commodity to produce within the various policy measures. These categories are: Single Commodity Transfers (SCT); Group Commodity Transfers (GCT); All Commodity Transfers (ACT); and Other Transfers to Producers (OTP). All data sets in Table 2 come from Tables 1 and 3.1 – 3.12 where definitions are included.

**Tables 3.1 – 3.12 Producer Single Commodity Transfers** contain producer SCT by commodity, which are calculated for Korea for the following commodities: barley, rice, soybeans, milk, beef and veal, pig meat, poultry meat, eggs, garlic, Chinese cabbage, garlic and red peppers (Tables 3.1-3.11). In addition, SCT for “other commodities” is also calculated (Table 3.12), which covers transfers *to single commodities other than MPS commodities*. All data sets in the calculation of producer SCT by commodity come from Tables 1 and 4.1-4.12 where definitions are included.

**Tables 4.1 – 4.12** contain **Market Price Support (MPS)** and **Consumer Single Commodity Transfers** (consumer SCT) by commodity, calculated for the same set of commodities as **Tables 3.1 to 3.12**. Definitions are provided only for basic data sets from which all the other data sets in this table are derived.

Definitions of the indicators, criteria for classification of policy transfers included in support estimation, and methods of calculation are contained in [the PSE Manual](#) (*OECD's Producer Support Estimate and Related indicators of Agricultural Support: Concepts, Calculations, Interpretation and Use*).

**TABLE 1: KOREA: TOTAL SUPPORT ESTIMATE**

**Definitions:**

**I. Total value of production (at farm gate):** Total agricultural production valued at farm gate prices, i.e. value (at farm gate) of all agricultural commodities produced in the country [1].

*I.1. Of which share of MPS commodities (%):* Share of commodities for which MPS is explicitly calculated (in Tables 4.1-4-11) in the total value of agricultural production.

**II. Total value of consumption (at farm gate):** Consumption of all commodities domestically produced valued at farm gate prices, and estimated by increasing the value of consumption (at farm gate) of the MPS commodities according to their share in the total value of agricultural production  $[(II.1) / (I.1) \times 100]$ .

*II.1. Of which MPS commodities:* Sum of the value of consumption (at farm gate prices) of the MPS commodities as indicated in Tables 4.1-4.11.

**III.1 Producer Support Estimate (PSE):** Associated with total agricultural production, i.e. for all commodities domestically produced [Sum of A to G; when negative, the amounts represent an implicit or explicit tax on producers].

**A. Support based on commodity output**

*A.1. Market Price Support:* On quantities domestically produced (excluding for on-farm feed use -- *Excess Feed Cost*) of all agricultural commodities, estimated by increasing the MPS for the MPS commodities according to their share in the total value of production by commodity group [for each commodity group:  $(\sum \text{MPS for MPS commodities}) / (\sum \text{VP for MPS commodities}) \times \text{VP for total group}$ ; the total MPS is then calculated as the sum of MPS by commodity group]. For Korea, a single commodity group is considered.

*A.2. Payments based on output*

*Deficiency payment programme for wine grapes*

[Period of implementation: 1989-1992](#)

Payment per tonne calculated as the difference between the government-administered price and the international price at which producers sell grapes to wine manufacturers. It applied to all sales to manufacturers.

Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.

These transfers are included in the other (*wine*) SCT (Table 3.12).

**B. Payments based on input use**

*B.1. Payments based on variable input use*

*Credit concessions*

[Period of implementation: from 1986](#)

Budget expenditures on grants and loans with reduced interest rates from the Livestock Industry Development Fund (LIDF) to help livestock farmers to buy inputs such as animals and feed, or to reclaim and establish pastures and to help them to produce grass efficiently.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO

These transfers are included in the all livestock GCT.

*Payments to fertiliser and pesticide use*

[Period of implementation: 1989-2012](#)

Budget expenditures from the General Account to compensate the NACF for its losses in selling fertilisers at a subsidised price and in handling and selling pesticides to farmers.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO

These transfers are included in the all crop GCT.

*Payments to irrigation*

[Period of implementation: from 1987](#)

Half of the budget expenditures from the General Account to support the operational cost of the former Farmland Improvement Association (merged into Korean Agricultural and Rural Infrastructure Corporation in Jan. 2000) which was in charge of operating and maintaining larger irrigation facilities (see also IV.K Infrastructure).

Use of labels: Production limits: NO; Variable payment rates: NO; Input constraints: NO.

These transfers are included in the all crop GCT.

*Payments to seeds*

[Period of implementation: from 1986](#)

Budget expenditures from the General Account to producers' group to install collective seedling facilities for rice and vegetables. Net losses of the seed projects of the Rural Development Administration (RDA) in producing and distributing certified seeds.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO

These transfers are included in the all crop GCT.

*Soil conservation programme*

[Period of implementation: from 1986](#)

Budget expenditures to provide lime and silicic acid to farmers to reclaim damaged soils.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO

These transfers are included in the all crop GCT.

*Interest subsidy for natural disasters*

[Period of implementation: from 1986](#)

Half of the budget expenditures for providing reduced interest rate of loans to low-income farmers who suffered losses from the natural disaster.

Use of labels: Production and payment limits: NO; Variable payment rates: YES; Input constraints: NO

These transfers are included in the ACT.

*Establishment of low-carbon agricultural, livestock and food base*

[Period of implementation: from 2012](#)

Budget expenditure on support for low-carbon agricultural product certification, direct payment and consulting support for farmhouses that voluntarily reduce greenhouse gas emissions.

Use of labels: Production and payment limits: NO; Variable payment rates: No; Input constraints: YES

These transfers are included in the ACT.

*B.2. Payments based on fixed capital formation*

*Credit concessions*

[Period of implementation: from 1986](#)

Budget expenditures on grants and loans to farmers with reduced interest rates:

- from the LIDF to promote farm-level structural adjustment.
- from the General Account, the Agriculture and Fisheries Development Fund and the Special Account for Agro-Fisheries and Rural Structure Improvement to develop mechanisation in Korean agriculture, to increase the size of farms, to promote investments in farming equipment and facilities, to improve farm land structures and to restore damaged farmland. It also includes specific preferential loans to help young farmers to start business.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO  
These transfers are included in the ACT.

#### *Management of livestock wastes programme*

**Period of implementation: from 1990**

Budget expenditures on grants and preferential loans to livestock producers to install purification facilities.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: YES (the environmental effects should be considered when making purification facilities).

These transfers are included in the all livestock GCT.

#### *Creation of model towns of environment-friendly farming*

**Period of implementation: from 1999**

Budget expenditures on grants to farmers of a village who are practicing environmentally friendly farming by a village unit.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: YES (the use of chemical fertiliser is controlled).

These transfers are included in the ACT.

#### *Direct payment for environmentally-friendly livestock practice*

**Period of implementation: 2004-06**

Direct payment to livestock farmers who undertake environmentally-friendly practices including recycling a certain amount of livestock manure and decreasing raising density of pigs and chicken. Antibiotics are prohibited for a certain period before slaughtering.

Use of labels: Production limits: NO; Variable payment rates: NO; Input constraints: YES (the use of antibiotics and chemical fertiliser is controlled and the recycling of livestock manure is promoted).

These transfers are included in the all livestock GCT.

#### *Support for the losses from natural disasters*

**Period of implementation: from 1986**

Half of budget expenditures for providing reduced interest rate of loans to low-income farmers who suffered losses from the natural disaster.

Use of labels: Production and payment limits: NO; Variable payment rates: YES; Input constraints: NO

These transfers are included in the ACT.

### *B.3. Payments based on on-farm services*

#### *Extension services*

**Period of implementation: from 1986**

Budget expenditures to provide technical assistance to livestock breeders (financed by the LIDF) and for the development of region-specific technologies (financed by the Special Account for Agro-Fisheries and Rural Structure Improvement and the RDA). Non-commodity specific LIDF expenditures are allocated to individual livestock products based on their share in the value of total livestock production.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO

These transfers are included in the ACT.

#### *Pest and disease control*

**Period of implementation:** from 1986

Budget expenditures of the NACF to provide manufacturers with agro-chemicals in case of pest outbreak, and budget expenditures to prevent and control outbreaks of "black stem blight" through spraying pesticides. Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO. These transfers are included in the all crops GCT.

#### *Animal reproduction*

**Period of implementation:** from 1986

Budget expenditures on programmes financed by the LIDF to improve livestock quality. They include artificial insemination, productivity tests and the provision of imported high quality breeds. Support for the provision of silk eggs to farmers.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO. These transfers are included in the beef and milk GCT.

### ***C. Payments based on current area planted/animal numbers/receipts/income – production required***

#### *Milk reduction programme*

**Period of implementation:** 1990, 1998, 2003

Payments per head of dairy cattle provided to dairy farmers who reduced their milk production.

Use of labels: Production and payment limits: YES (Payments are to reduce milk production); Variable payment rates: NO; Input constraints: NO.

These transfers are included in the *Milk* SCT (Table 3.4).

#### *Variable payment for paddy-fields*

**Period of implementation:** 2005-19

Payments per hectare on paddy fields which are used to produce rice in the current year.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO. These transfers are included in the *Rice* SCT (Table 3.2).

#### *Meat quality enhancement programmes (Beef, pig meat)*

**Period of implementation:** 1988 and 1993-2007

Payments per head of animal to encourage beef production (before 1984) and to encourage high quality beef and pig meat production (from 1993).

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO. These transfers are included in the beef and pig meat GCT.

#### *Payment for set-aside*

**Period of implementation:** 2003-05

Payments per hectare to farmers who set aside paddy rice field or cease to plant paddy rice or any marketable crops for the next three years.

Use of labels: Production and payment limits: YES (Payments are to retire land from production for three years); Variable payment rates: NO; Input constraints: NO.

These transfers are included in the all crops GCT.

#### *Direct payment for environment-friendly farming practices*

**Period of implementation:** from 1999

Payments per hectare to farmers who conform to environmentally friendly farming practices. The scheme has been differentiated between low chemical, chemical-free and organic products since 2003.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: YES (the use of chemical fertiliser is controlled).

These transfers are included in the all crops GCT.

*Paddy-field environmental conservation payment*

Period of implementation: 2001-04

Payments per hectare to farmers who had cultivated paddy fields for the past three years and conformed to good environmental practices.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: YES (the use of chemical fertiliser is controlled).

These transfers are included in the all crops GCT.

*Direct payment for landscape conservation*

Period of implementation: from 2005

Payments per hectare to farmers who cultivate plants for aesthetic purposes to preserve traditional landscape in selected villages.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO

These transfers are included in the all crops GCT.

*Disaster payments*

Period of implementation: from 1986

Income support to low-income farmers who suffered losses from natural disasters in the form of food aid or lump sum payments.

Use of labels: Production and payment limits: NO; Variable payment rates: YES (Payment rates vary according to the severity of damage by natural disasters); Input constraints: NO.

These transfers are included in the ACT.

*Crop insurance*

Period of implementation: from 2001

Government contribution to commodity-based agricultural insurance programs.

Use of labels: Production and payment limits: NO; Variable payment rates: YES; Input constraints: NO

These transfers are included in the all crops GCT.

*Social programmes*

Period of implementation: from 1986

Income support from the General Account to low-income, small farmers' and fishermen's households to reduce their debt burden; government contribution through the Special Account for Agro-Fisheries and Rural Structure Improvement to an insurance scheme for farmers related to working accidents. Tuition for rural students is not included.

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO

These transfers are included in the ACT.

***D. Payments based on non-current area planted/animal numbers/receipts/income – production required***

No payment in this category.

***E. Payments based on non-current area planted/animal numbers/ receipts/income – production not required***

*Payment for less favoured areas*

Period of implementation: 2004-19

Payments per hectare to farmers who actually reside and cultivate a land in the past 3 years in the naturally disadvantaged villages in “remote rural areas”. The eligible villages are selected, where the share of arable land is below 22% and the land gradient is over 14%.

Use of labels: Variable payment rates: YES; Input constraints: NO; Commodity exceptions: NO.

These transfers are included in Other transfers to producers (OTP).

#### *Fixed payment for paddy-field*

**Period of implementation: 2005-19**

Payments per hectare on paddy fields cultivated during the period of 1998-2000. There are no restrictions on current production. The land may be used to produce agricultural products or placed in set-aside.

Use of labels: Variable payment rates: YES; Input constraints: NO; Commodity exceptions: NO.

These transfers are included in Other transfers to producers (OTP).

#### *New direct payment programme*

**Period of implementation: from 2020**

Payments per hectare on farmland. (Payments for less favoured areas and variable and fixed payments for paddy-field were combined into the new programme in 2020) There are no restrictions on current production. Payment shall be reduced when environmental cross-compliance requirements are not met.

Use of labels: Variable payment rates: No; Input constraints: NO; Commodity exceptions: NO.

These transfers are included in Other transfers to producers (OTP).

### ***F. Payments based on non-commodity criteria***

#### *F.1. Payments based on long-term resource retirement*

##### *Fruit acreage reduction programmes*

**Period of implementation: from 1990**

Payments per hectare to farmers who abandoned wine grapes production (1990-1993), peach production (1991-1993) and mandarin production (1997).

These transfers are included in Other transfers to producers (OTP).

#### *F.2. Payments based on specific non-commodity output*

No payment in this category.

#### *F.3. Payments based on other non-commodity criteria*

No payment in this category.

### ***G. Miscellaneous payments***

No payment in this category.

### **III.2 Percentage PSE** $[100 \times (\text{III.1}) / ((\text{I}) + (\text{Sum of A2 to G}))]$

**III.3 Producer NPC:** For all agricultural commodities the producer NPC is estimated as a weighted average of the producer NPC calculated for the individual MPS commodities and shown in Table 4. For each commodity Producer NPC = [domestic price received by producers (at the farm gate) + unit payments based on output] / border price (also at the farm gate).

### **III.4 Producer NAC** $[1 / (100 - (\text{III.2})) \times 100]$



**IV. General Services Support Estimate (GSSE):** total budgetary expenditure to support general services provided to agriculture [Sum of H to M].

### ***H. Agricultural Knowledge and Innovation System***

*H.1. Agricultural Knowledge Generation:* Budget expenditures on research programmes financed by the General Account of the RDA, the Special Account for Agro-Fisheries and Rural Structure Improvement, and the LIDF.

#### *Kanghwa area's Hanwoo meat producing programme*

Period of implementation: 1986-95

Budget expenditure.

#### *Technology development for high quality Hanwoo beef production*

Period of implementation: 1993-97

Budget expenditure.

#### *Operation of Hanwoo Quality Improvement Center*

Period of implementation: from 1982

Budget expenditure.

#### *Operation of "Hanwoo" quality improvement complex*

Period of implementation: 1986-2005

Budget expenditure.

#### *Pig productivity test and breeding improvement programme*

Period of implementation: from 1989

Budget expenditure.

#### *Chicken productivity test and breeding improvement programme*

Period of implementation: 1986-2011, 2016

Budget expenditure.

#### *Milking productivity test and dairy cattle improvement programme*

Period of implementation: 1986-2005

Budget expenditure.

#### *Statistics survey on agriculture*

Period of implementation: from 1986-2011, from 2015

Budget expenditure.

#### *Support for KREI's research*

Period of implementation: 1986-99

Budget expenditure.

#### *Research on development for agro-fishery and forestry (Agriculture and forestry technology development)*

Period of implementation: from 1994

Budget expenditure.

#### *Research on development for agro-fishery and forestry (Development of high value-added food technology)*



Period of implementation: from 2009  
Budget expenditure.

*Research for consolidating production base in rural areas*

Period of implementation: from 1994  
Budget expenditure.

*Survey and research on livestock industry*

Period of implementation: from 1986  
Budget expenditure.

*Research and development of utilization of feed resources*

Period of implementation: 1986-88  
Budget expenditure.

*Improvement of breeding stock facilities*

Period of implementation: 1986-88, 2008-14  
Budget expenditure.

*Breeding livestock registration programme*

Period of implementation: from 1986  
Budget expenditure.

*Breeding stock improvement programme*

Period of implementation: 1986-94  
Budget expenditure.

*Computarization of cattle registration*

Period of implementation: 1986-99  
Budget expenditure.

*Agricultural science & technology research*

Period of implementation: from 1986  
Budget expenditure.

*Veterinary research*

Period of implementation: 1986-2005, 1998-2000  
Budget expenditure.

*Wheat & Barley research*

Period of implementation: 1986-91  
Budget expenditure.

*Crop research*

Period of implementation: from 1986  
Budget expenditure.

*Local specific agriculture research*

Period of implementation: 1986-2003  
Budget expenditure.

*Livestock production technology research*

Period of implementation: from 1986  
Budget expenditure.

*Researches on livestocks and horticultural crops in Cheju island*

Period of implementation: 1986-2011  
Budget expenditure.

*Agricultural bio-industrialization research*

Period of implementation: 1995  
Budget expenditure.

*Agricultural environment research*

Period of implementation: 1996, from 2008  
Budget expenditure.

*Bio-resources research*

Period of implementation: 1996, from 2002  
Budget expenditure.

*Crop protection research*

Period of implementation: from 2008  
Budget expenditure.

*Research on animal disease and livestock product safety*

Period of implementation: 1996  
Budget expenditure.

*Research on development of high-yield variety and efficient cultivating*

Period of implementation: 1996  
Budget expenditure.

*Agricultural technology development research*

Period of implementation: 1996  
Budget expenditure.

*Support for research facilities for local research center*

Period of implementation: from 1996  
Budget expenditure.

*Research on animal quarantine technology*

Period of implementation: 1996-98  
Budget expenditure.

*Research on plant quarantine technology*

Period of implementation: 1996-2004  
Budget expenditure.

*Agricultural mechanisation research*

Period of implementation: 1986-99, from 2002  
Budget expenditure.

*Research on grain polishing and storage*

Period of implementation: 1986-95  
Budget expenditure.

*Agro-chemical research*

Period of implementation: 1986-94, 2008-13  
Budget expenditure.

*Contribution to Korea Food Research Institution*

Period of implementation: 1988-99  
Budget expenditure.

*Silkworm research*

Period of implementation: 1986-94  
Budget expenditure.

*Sericulture research*

Period of implementation: 1986-95  
Budget expenditure.

*Agricultural research for highland areas*

Period of implementation: 1986-2011  
Budget expenditure.

*Horticultural research*

Period of implementation: from 1986  
Budget expenditure.

*Fruit cultivation research*

Period of implementation: 1992-94, 1996  
Budget expenditure.

*Research on vegetable and horticulture*

Period of implementation: 1996  
Budget expenditure.

*Research on sericulture and entomology*

Period of implementation: 1996-98  
Budget expenditure.

*Administrative cost for KICAFF*

Period of implementation: 1992-2002  
Budget expenditure.

*Administrative management of agricultural research*

Period of implementation: 1989-95, from 2001  
Budget expenditure.

*Research on genetics*

Period of implementation: 1999-2000, from 2008  
Budget expenditure.

*Pilot Programme for organic livestock farming*

Period of implementation: 2003-05

Budget expenditure.

*Bio-organic production*

Period of implementation: 2005-06, 2008-11

Budget expenditure.

*Agricultural college research facility support programme*

Period of implementation: 1996-2005

Budget expenditure.

*Climate change factual survey*

Period of implementation: 2017-

Budget expenditure.

*Rural renewable energy distribution support*

Period of implementation: 2020-

Budget expenditure.

*H.2. Agricultural Knowledge Transfer*

Budget expenditures to finance facilities, equipment and operational cost of agricultural schools and colleges, to retrain young full-time farmers and farmers enrolled in an early-retirement programme, and to disseminate information and new technologies.

*H2.a. education*

*Meal provision for high school students under vocational training*

Period of implementation: 1986-2004

Budget expenditure.

*Education for young farmers and fishers*

Period of implementation: from 1990

Budget expenditure.

*Support for training facilities of agricultural and fisheries schools*

Period of implementation: 1993-99

Budget expenditure.

*Vocational training for farmers and fishermen for occupational change*

Period of implementation: 1990-93

Budget expenditure.

*Support of establishment of high-tech agricultural center*

Period of implementation: 1998-2000

Budget expenditure.

*H2.b. extension services*

*Extension services of agricultural techniques and living standard improvement*

Period of implementation: from 1986

Budget expenditure.

*Support for management consulting on farming*

Period of implementation: from 1999

Budget expenditure.

*Sericulture training*

Period of implementation: prior to 1986

Budget expenditure.

*Extension services of technology development for on-site farming*

Period of implementation: 2006-08

Budget expenditure.

*Improvement of information and communication environment for agriculture*

Period of implementation: from 1999

Budget expenditure.

## ***I. Inspection and Control***

### *I.1. Agricultural product safety and inspection*

Budget expenditures on inspection services of agricultural products (financed by the General Account or the Special Account for Agro-Fisheries and Rural Structure Improvement).

*Agricultural products inspection services*

Period of implementation: from 1986

Budget expenditure.

*Agricultural products warranty programme*

Period of implementation: from 1994

Budget expenditure.

*Inspection of raw milk and pesticide residues on livestock products*

Period of implementation: 1992-93, 1996-2009, from 2015

Budget expenditure.

*Agricultural products safety inspection*

Period of implementation: from 1996

Budget expenditure.

### *I.2. Pest and disease inspection and control*

Budget expenditures of local governments to support and execute the air spraying of pesticides in order to control pests, and on plant and animal quarantine services.

*Animal disease prevention and control programme*

Period of implementation: from 1986

Budget expenditure.

*Pest control*

Period of implementation: 1986-97

Budget expenditure.

### *I.3. Input control*

Budget expenditures on inspection services of agricultural chemicals and machinery (financed by the General Account)

*Agricultural chemicals and animal drugs examination service*

Period of implementation: 1986-2003

Budget expenditure.

*Inspection services of agricultural chemicals and machinery*

Period of implementation: from 2008

Budget expenditure.

*Feed inspection*

Period of implementation: 1986-2006

Budget expenditure.

**J. Development and maintenance of Infrastructure**

*J.1. Hydrological Infrastructure*

Budget expenditures from the General Account and the Special Account for Agro-Fisheries and Rural Structure Improvement to develop irrigation and drainage, to improve water supply.

*Tideland reclamation in southwestern coast*

Period of implementation: 1986-2016

Budget expenditure.

*Rearrangement of upland productivity*

Period of implementation: from 1992

Budget expenditure.

*Land rearrangement programme*

Period of implementation: from 1986

Budget expenditure.

*Large scale comprehensive agricultural development programme*

Period of implementation: from 1986

Budget expenditure.

*1/2 Support for the irrigation facilities management of KARICO*

Period of implementation: from 1988

Budget expenditure.

*Large scale land reclamation*

Period of implementation: 1986

Budget expenditure.

*Reclamation of upland into rice paddies*

Period of implementation: before 1980

Budget expenditure.

*Irrigation water development programme*

Period of implementation: from 1986

Budget expenditure.

*Restoration of damaged farmland and irrigation facilities*

Period of implementation: 1987-90, 2002-05, 2007

Budget expenditure.

*Drainage improvement programme*

Period of implementation: from 1986

Budget expenditure.

*Water supply facilities repair programme*

Period of implementation: from 1991

Budget expenditure.

*Reinforcement of agricultural production foundation programme*

Period of implementation: 2001-09

Budget expenditure.

*Tele-control of irrigated water supply*

Period of implementation: from 2001

Budget expenditure.

*J.2. Storage, marketing and other physical infrastructure*

Budget expenditures from the General Account and the Special Account for Agro-Fisheries and Rural Structure Improvement to support the construction of equipment and facilities for upstream industries (e.g. feed, machinery) and downstream industries (RPCs, wholesale markets, marketing).

*Tideland reclamation in southwestern coast*

Period of implementation: 1986-2016

Budget expenditure.

*Rearrangement of upland productivity*

Period of implementation: from 1994

Budget expenditure.

*Farm road enlargement and pavements works*

Period of implementation: from 1995

Budget expenditure.

*Formation of environmentally friendly agricultural zones*

Period of implementation: 1998-2013

Budget expenditure.

*Comprehensive development of green rural villages*

Period of implementation: 2002-12

Budget expenditure.

*Comprehensive Development Program for Rural Community*

Period of implementation: 2004-14

Budget expenditure.



*Regional Agriculture Cluster Programme*

Period of implementation: from 2005

Budget expenditure.

*Assistance to upstream industries (input production facilities)*

Period of implementation: from 1986

Budget expenditure.

*Assistance to downstream industries (processing facilities)*

Period of implementation: from 1986

Budget expenditure.

*J.3. Institutional infrastructure*

There is no budget expenditure in this category.

*J.4. Farm restructuring*

Budget expenditures on farmers' retirement programmes.

*Ginseng industry structural adjustment programme (support to industry)*

Period of implementation: from 1996

Budget expenditure.

*1/2 Structural adjustment for flowers production and marketing*

Period of implementation: 1986-93, 1996

Budget expenditure.

*Farmers' retirement programme*

Period of implementation: from 1997

Budget expenditure.

*Farmers' educational facilities construction programme*

Period of implementation: 1988, 1995-97

Budget expenditure.

*Livestock farmers' educational facilities construction programme*

Period of implementation: 1995-98

Budget expenditure.

***K. Marketing and promotion***

*K.1. Collective schemes for processing and marketing*

*K.2. Promotion of agricultural products*

Budget expenditures on domestic promotion programmes for various agricultural products such as wheat, fruits and vegetables, flowers and processed traditional products.

*Support for promotion of wheat*

Period of implementation: 1994-96

Budget expenditure.

*Export promotion programme for fruits, flowers and processed traditional products (export infrastructure)*

Period of implementation: from 1990

Budget expenditure.

*Export promotion programme for fruits and flowers (export sales)*

Period of implementation: from 1990

Budget expenditure.

*Flowers sale promotion programme*

Period of implementation: 1989-90, 1996-97

Budget expenditure.

*Development of special agricultural products*

Period of implementation: 1999-2002

Budget expenditure.

#### **L. Cost of Public stockholding**

Net budget expenditures of the Special Account for Food Grain Management, the Food Grain Management Fund and the Food Grain Stock Management Fund for the handling and the storage of crops by the Government or the NACF.

*Government purchase of cereal for public stockholding*

Period of implementation: 1986-2013

Budget expenditure.

*Misc. cost of government purchase*

Period of implementation: 1986-95, 1997-2000

Budget expenditure.

*Cereals sales management programme*

Period of implementation: 1986-95

Budget expenditure.

*Government cereal handling (Government management)*

Period of implementation: from 1986

Budget expenditure.

*Government cereal handling*

Period of implementation: 1986-97

Budget expenditure.

*Government cereal management facilities*

Period of implementation: 1986-91

Budget expenditure.

*Maintenance of cereals storage and processing facilities*

Period of implementation: 1986-96

Budget expenditure.

*Buffer stock management programme (purchase and storage cost)*

Period of implementation: from 1986

Budget expenditure.

### **M. Miscellaneous**

**V.1 Consumer Support Estimate (CSE):** Associated with agricultural production, i.e. for the quantities of commodities domestically produced, excluding the quantities used on-farm as feed -- excess feed cost. [Sum of N to Q; when negative, the amounts represent an implicit tax on consumers].

**N. Transfers to producers from consumers (TPC):** Associated with market price support on all domestically produced commodities, estimated by increasing the transfers calculated for the MPS commodities according to their share in the total value of production by commodity group [for each commodity group:  $(\Sigma \text{ TPC for MPS commodities}) / (\Sigma \text{ VVP for MPS commodities}) \times \text{VP for total group}$ ; the total TPC is then calculated as the sum of TPC by commodity group. For the list of commodity groups, see Section A.1. Market Price Support within this Table 1].

**N.1. Of which MPS commodities:** Sum of the values of transfers from consumers to producers associated with market price support for the MPS commodities as calculated in Tables 4.1 to 4.11.

**O. Other transfers from consumers (OTC):** Transfers to the budget associated with market price support on the quantities imported of domestically produced commodities, estimated by increasing the transfers calculated for the MPS commodities according to their share in the total value of production by commodity group [for each commodity group:  $(\Sigma \text{ OTC for MPS commodities}) / (\Sigma \text{ VVP for MPS commodities}) \times \text{VP for total group}$ ; the total OTC is then calculated as the sum of OTC by commodity group. For the list of commodity groups, see Section A.1. Market Price Support within this Table 1].

**O.1. Of which MPS commodities:** Sum of the transfers to the budget associated with market price support on the quantities imported of the MPS commodities as calculated in Tables 4.1 to 4.11.

### **P. Transfers to consumers from taxpayers**

**P.1. Commodity specific transfers to consumers:** Sum of commodity specific transfers from taxpayers to consumers (farm gate level) from Tables 4.1 - 4.12, including:

#### *School milk scheme*

Period of implementation: from 1986

Students from low income household are eligible to receive government subsidy for the daily milk consumption at school. The target group has been expanded gradually from elementary school to middle and high school since 2005. The government support 70% of the price and around 374 000 students were supported in 2007.

#### *Soybeans subsidy*

Period of implementation: 1991-92

Payments

#### *Beef Price Stabilisation Programme*

Period of implementation: 1986-90; 1996-98

Payments and interest concession on loans

#### *Pigmeat reserve programme*

Period of implementation: 1986, 1990

Payments

*Dairy products storage programme*

Period of implementation: 1986-87, 1990, 2000

Payments

*NLCF Hanwoo marketing enhancement programme*

Period of implementation: 1993-96

Payments and interest concession on loans

*Pig purchase*

Period of implementation: 1988-90, 1993-99

Interest concession on loans

*Milk purchase*

Period of implementation: 1998

Interest concession on loans

*Compensation for corn purchase*

Period of implementation: 1990-2002

Payments and interest concession on loans

*Compensation for feed corn purchase*

Period of implementation: 1991-92

Payments.

*Compensation for rapeseed purchase*

Period of implementation: 1991-97

Payments.

*Compensation for losses incurred during rice purchase by the NACF*

Period of implementation: 1986-2006

Payments.

The programmes below include budget expenditures to cover part of operational costs of co-operatives and/or downstream companies and to compensate them for purchasing most agricultural products at a higher price than they sell them in order to operate price stabilisation programmes. These programmes are thus commodity specific. The total expenditure is allocated by commodity using the share in the value of production.

Expenditures are financed by the LIDF for livestock products; by the Agriculture and Fisheries Development Fund, the Special Account for Agro-Fisheries and Rural Structure Improvement for corn, soybeans and rapeseed; and by the Food grain Management Fund or the Special Account for Food grain Management for cereals.

*Support for the business fund of regional livestock co-operatives*

Period of implementation: 1990-92, 1999-2003

Interest concession on loans.

*Loans for livestock products marketing*

Period of implementation: 1986-95; 1998-2000

Interest concession on loans.

*NLCF's livestock products marketing fund*

Period of implementation: 1986-95

Interest concession on loans.

*Vegetable marketing facilitation*

Period of implementation: 1995-2008

Interest concession on loans. Allocated to

*Agricultural products marketing support*

Period of implementation: since 1986

Interest concession on loans.

*P.2. Non-commodity specific transfers to consumers:* Sum of non-commodity specific transfers from taxpayers to consumers, including:

*Q. Excess Feed Cost:* Associated with market price support on quantities of domestically produced crops and used on-farm as feed as calculated (Sum of *Excess Feed Cost* in the MPS Tables 4.1 and 4.2).

**V.2 Percentage CSE**  $[100 \times (V.1) / ((II) + (P))]$

**V.3 Consumer NPC:** For all agricultural commodities the consumer NPC is estimated as a weighted average of the consumer NPC calculated for the individual MPS commodities and shown in Table 2. For each commodity consumer NPC = domestic price paid by consumers (at the farm gate)/ border price (also at the farm gate).

**V.4 Consumer NAC**  $[(1 / (100 - (V.2)) \times 100]$

**VI. Total Support Estimate**  $[(III.1) + (IV) + (P)]$  and  $[(R) + (S) - (T)]$

**R. Transfers from consumers**  $[(N) + (O)]$

**S. Transfers from taxpayers**  $[(III.1)-(N) + (IV) + (P)]$

**T. Budget revenues**  $[(O)]$

**TABLE 2. KOREA: BREAKDOWN OF PSE BY COMMODITY SPECIFICITY AND OTHER TRANSFERS**

All data sets in Table 2 to come from Tables 1 and 3.1 to 3.12 where definitions are included.

**Definitions:**

**I. Producer Single Commodity Transfers (producer SCT):** the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm level, arising from policy measures directly linked to the production of a single commodity such that the producer must produce the designated commodity in order to receive the payment. This includes policies where payments are specified on a per-commodity basis [Sum of SCTs for individual commodities from Tables 3.1-3.12].

**Percentage producer SCT:** is the commodity SCT expressed as a share of gross farm receipts for the specific commodities (including support in the denominator). This indicator can be expressed for the total SCT (Table 2), or for a specific commodity (Table 3.1 to 3.12).

$$\%SCT = 100 * SCT / (\text{Value of production}_{COM} + A.2_{COM} + B_{COM} + C_{COM} + D_{COM})$$

$$\text{Share in Total PSE (\%): } SCT_{SHARE} = 100 * SCT / PSE$$

**II. Group commodity transfers (GCT):** the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures whose payments are made on the basis that one or more of a designated list of commodities is produced. That is, a producer may produce from a set of allowable commodities and receive a transfer that does not vary with respect to this decision [GCT = B<sub>GROUP</sub> + C<sub>GROUP</sub> + D<sub>GROUP</sub>].

$$\text{Share in Total PSE (\%): } GCT_{SHARE} = 100 * GCT / PSE$$

**Transfers to specific groups of commodities:** the GCT indicator is calculated for Australia for the following groups of commodities: All crops, fruits and vegetables, all livestock, and ruminants.

**III. All commodity transfers (ACT):** the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that place no restrictions on the commodity produced but require the recipient to produce some commodity of their choice [ACT = C<sub>ALL</sub> + B<sub>ALL</sub> + D<sub>ALL</sub>].

$$\text{Share in Total PSE (\%): } ACT_{SHARE} = 100 * ACT / PSE$$

**IV. Other Transfers to Producers (OTP):** the annual monetary value of gross transfers made under policies that do not fall in the above three cases (SCT, GCT, ACT). That is, payments that do not require any commodity production at all. [OTP = E + F + G]

$$\text{Share in Total PSE (\%): } OTP_{SHARE} = 100 * OTP / PSE$$

$$\text{V. Total PSE: } PSE = A + B + C + D + E + F + G = SCT + GCT + ACT + OTP$$

**Percentage PSE:**  $\%PSE = 100 * PSE / (\text{Total Value of Production at farm gate} + A.2. + B + C + D + E + F + G)$



### TABLE 3. KOREA: PRODUCER SINGLE COMMODITY TRANSFERS (BY COMMODITY)

Tables 3.1 to 3.12 provide information on Producer Single Commodity Transfers (PSCT) for the following commodities: barley, rice, soybeans, milk, beef and veal, pig meat, poultry meat, eggs, Chinese cabbage, garlic, red peppers and “other commodities”. All data sets in the calculation SCT by commodity come from Tables 1 and 4.1 – 4.11 where definitions are included.

#### *Definitions:*

**I. Level of production:** Data from respective commodity Tables 4.1 – 4.11 (Market Price Support tables)

**II. Value of production (at farm gate):** Data for respective commodity Tables 4.1 – 4.11 (Market Price Support tables)

**III. Producer Single Commodity Transfers:** Sum of transfers to respective single commodity in categories A, B, C and D.

#### *A. Support based on commodity output*

*A1. Market Price Support* [Data for respective commodity from Table 4]

*A2. Payments based on output*

Payments based on output (A.2) provided to respective single commodity [Data from Table 1]

**B. Payments based on input use, single commodity** [B.1<sub>COM</sub> + B.2<sub>COM</sub> + B.3<sub>COM</sub>]

*B1. Based on variable input use*

Payments based on variable input use (B.1<sub>COM</sub>) provided to respective single commodity [Data from Table 1].

*B2. Based on Fixed capital formation*

Payments based on fixed capital formation (B.2<sub>COM</sub>) provided to respective single commodity [Data from Table 1].

*B3. Based on on-farm services*

Payments based on on-farm services (B.3<sub>COM</sub>) provided to respective single commodity [Data from Table 1].

**C. Payments based on current A/An/R/I, production required, single commodity**

Payments based on current A/An/R/I ( $C_{COM}$ ) provided to respective single commodity [Data from Table 1].

***D. Payments based on non-current A/An/R/I, production required, single commodity***

Payments based on non-current A/An/R/I, production required ( $D_{COM}$ ) provided to respective single commodity [Data from Table 1].

**IV. Percentage producer SCT :**  $\%SCT = 100 * (III) / ((II) + (A.2) + (B_{COM}) + (C_{COM}) + (D_{COM}))$

**TABLE 4. KOREA: MARKET PRICE SUPPORT AND CONSUMER SINGLE COMMODITY TRANSFERS**

Tables 4.1 to 4.12, contain calculation of the Market Price Support (MPS) and Consumer Single Commodity Transfers (consumer SCT) for the following commodities: barley, rice, soybeans, milk, beef and veal, pig meat, poultry meat, eggs, Chinese cabbage, garlic, red peppers and “other commodities”. The data sets used in calculation of the MPS and consumer SCT by commodity are described below. Values for “other commodities” are derived using information on total Market Price Support and Value of Production, and individual commodity data.

***Definitions:***

**1. Barley**

***I. Level of production***

Total production of unhulled barley, naked barley and malting barley in unhulled barley equivalent [1]

Source: [1] Ministry of Agriculture, Food and Rural Affairs (MAFRA), *Crop Statistics*, various years, Sejong.

***II. Producer prices (at farm gate)***

Weighted average of government purchase prices (unhulled and naked barley), government administered price (malting barley) and voluntarily marketed farm gate price of barley.

Source: [III] / [I].

***III. Value of production (at farm gate)***

Sum of the Value of freely marketed unhulled barley, naked barley and malting barley, plus the Value of government purchasing [3].

Source: [3] MAFRA, Food Grain Policy Division, Sejong.

***IV. Trade status***

Net importer through the whole period.

Source: Production minus consumption (I) - (IV).

***V. Market price differential at the farm gate***

Producer price minus reference price (II) – (VII)

## **VI. Reference prices at the farm gate (including the definition of the margin)**

Weighted average of import reference prices for unhulled barley and malting barley. For unhulled barley, from 1979 to 1994, the US export price of second grade barley, f.o.b., (annual average price of Portland cash grain price) plus transportation costs (9.48 per cent) [7] and from 1995, the Korean average import price of ordinary barley in unhulled equivalent, c.i.f. [8]. For malting barley, from 1979 to 1988, the average Japanese price of malting barley imported from Australia [9] and from 1989, the Korean average import price of malting barley in unhulled equivalent, c.i.f. [8].

Sources: [7] USDA, FAS database.

[8] Korean Customs Services [KCS], *Statistical Yearbook on Foreign Trade*, various years, Seoul.

[9] MAFF Japan, Japanese exports and imports published by the Japanese Tariff Association.

## **VII. Level of consumption (at farm gate)**

Total domestic consumption of barley for food and feed use in unhulled barley equivalent [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

## **VIII. Consumption prices (at farm gate)**

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

## **IX. Value of consumption (at farm gate)**

$(IV) * (V)$

## **2. Rice**

### **I. Level of production**

Rice production in husked rice equivalent [1].

Source: [1] Ministry of Agriculture, Food and Rural Affairs (MAFRA), *Crop Statistics*, various years, Sejong.

### **II. Producer prices (at farm gate)**

Weighted average of government purchase prices and voluntarily marketed farm gate price.

Source:  $[III] / [I]$ .

### **III. Value of production (at farm gate)**

Sum of the value of government purchase [3] and the value of voluntarily marketed rice [4]

Sources: [3] MAFRA, Food Grain Policy Division, Sejong.

[4] NACF, *Monthly Review*, Seoul.

#### ***IV. Trade status***

Net importer through the whole period.

Source: Production minus consumption (I) - (IV).

#### ***V. Market price differential at the farm gate***

Producer price minus reference price (II) – (VI)

#### ***VI. Reference prices at the farm gate (including the definition of the margin)***

Chinese export price of rice, f.o.b., plus transportation costs (3 per cent) [10] and from 2001, average import prices (c.i.f.) of rice calculated as the unit value of rice imports (HS1006XX) [3].

Sources: [3] MAFRA, Food Grain Policy Division, Sejong.

[10] FAO Trade Yearbook, various years, Chinese Trade Yearbook, 1996.

#### ***VII. Level of consumption (at farm gate)***

Total consumption in husked rice equivalent [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

#### ***VIII. Consumption prices (at farm gate)***

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

#### ***IX. Value of consumption (at farm gate)***

$(IV) * (V)$

### **3. Soybeans**

#### ***I. Level of production***

Soybeans: Total production [1].

Source: [1] Ministry of Agriculture, Food and Rural Affairs (MAFRA), Crop Statistics, various years, Sejong.

#### ***II. Producer prices (at farm gate)***

Weighted average of government purchase prices and voluntarily marketed farm gate price.

Source: [III] / [I].

#### ***III. Value of production (at farm gate)***

Sum of the value of government purchase [3] and the value of voluntarily marketed rice [4]

Sources: [3] MAFRA, Food Grain Policy Division, Sejong.

[4] NACF, *Monthly Review*, Seoul.

#### **IV. Trade status**

Net importer through the whole period.

Source: Production minus consumption (I) - (IV).

#### **V. Market price differential at the farm gate**

Producer price minus reference price (II) – (VII)

#### **VI. Reference prices at the farm gate (including the definition of the margin)**

Korean average import price, c.i.f. [8].

Source: [8] Korean Customs Services [KCS], *Statistical Yearbook on Foreign Trade*, various years, Seoul.

#### **VII. Level of consumption (at farm gate)**

Soybeans: Total consumption of soybeans [6].

Source: [6] MAFRA, Food Grain Policy Division, *Statistics on Demand and Supply of Food Grains*, various years.

#### **VIII. Consumption prices (at farm gate)**

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

#### **IX. Value of consumption (at farm gate)**

$(IV) * (V)$

### **4. Milk**

#### **I. Level of production**

Producer price of raw milk at farm gate [2].

Source: [2] NLCF, *Materials on Price, Demand and Supply of Livestock Products*, various years.

#### **II. Producer prices (at farm gate)**

Producer price of raw milk at farm gate [2].

Source: [2] NLCF, *Materials on Price, Demand and Supply of Livestock Products*, various years.

#### **III. Value of production (at farm gate)**

$(I) * (II) / 1000$ .

#### ***IV. Trade status***

Net importer since 1990.

Source: Production minus consumption (I) - (IV).

#### ***V. Market price differential at the farm gate***

Producer price minus reference price (II) – (VII)

#### ***VI. Reference prices at the farm gate (including the definition of the margin)***

Border prices of butter and SMP (skimmed milk powder) converted into a milk equivalent border price using technical coefficients minus a processing margin, calendar year. The border prices of butter and skimmed milk powder are the average import prices (c.i.f. prices) of butter and skimmed milk powder [18]. The processing margin is calculated as a simple average of the processing margins for the four main exporting countries: Australia, EU, New Zealand and the United States.

Sources: [18] aT, Korea Agro Trade Information statistics

#### ***VII. Level of consumption (at farm gate)***

Total domestic consumption of cow milk in raw milk equivalent [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

#### ***VIII. Consumption prices (at farm gate)***

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

#### ***IX. Value of consumption (at farm gate)***

$(IV) * (V)$

### **5. Beef and veal**

#### ***I. Level of production***

Domestic production in carcass weight equivalent [2].

Source: [2] NLCF, Materials on Price, Demand and Supply of Livestock Products, various years.

#### ***II. Producer prices (at farm gate)***

Average auction price of beef in wholesale markets in Korea, in carcass weight equivalent [2] adjusted for by-product value, and slaughtering and transportation costs (around 3%) to convert it to a farm gate price [5].

Source: [2] NLCF, Materials on Price, Demand and Supply of Livestock Products, various years.

[5] MAFRA estimates.



### **III. Value of production (at farm gate)**

(I) \* (II) / 1000.

### **IV. Trade status**

Net importer through the whole period.

Source: Production minus consumption (I) - (IV).

### **V. Market price differential at the farm gate**

Producer price minus reference price (II) – (VII)

### **VI. Reference prices at the farm gate (including the definition of the margin)**

From 1986 to 1988, US choice steers, Nebraska, 1100-1300 lb. [13] plus transportation costs from the US to Korea [13].

Since 1989, unit value of imported beef from Canada and the US, in carcass weight equivalent [14]. Since 2001, import price estimated by using the tariff rate [14].

Sources: [13] USDA, Agricultural Outlook [AGLINK database].

[14] MAFRA, Sejong.

### **VII. Level of consumption (at farm gate)**

Total domestic consumption in carcass weight equivalent [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

### **VIII. Consumption prices (at farm gate)**

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

### **IX. Value of consumption (at farm gate)**

(IV)\*(V)

## **6. Pig meat**

### **I. Level of production**

Domestic production in carcass weight equivalent [2].

Source: [2] NLCF, Materials on Price, Demand and Supply of Livestock Products, various years.

### **II. Producer prices (at farm gate)**

Average auction price of pig meat in wholesale markets, in carcass weight equivalent [2] adjusted for by-product value and slaughtering and transportation costs (5-8 per cent) to convert it to a farm gate price [5].

Source: [2] NLCF, Materials on Price, Demand and Supply of Livestock Products, various years.  
[5] MAFRA estimates.

### **III. Value of production (at farm gate)**

(I) \* (II) / 1000.

### **IV. Trade status**

Net importer until 2012, net exporter since 2013.

Source: Production minus consumption (I) - (IV).

### **V. Market price differential at the farm gate**

Producer price minus reference price (II) – (VII)

### **VI. Reference prices at the farm gate (including the definition of the margin)**

US No.2 grade wholesale price plus transportation and insurance costs [15].

This price is usually calculated by the Japan country desk officer, the Japan PSE cookbook states:

“US wholesale price, carcass weight (1986-1994: Omaha, 1995-1997: Pork cutout No.2, 1998-2003: Pork cutout value, 2004-2010: Barrows & Gilts, N base, i.e, 2011- Pork carcass cutout composite primal values) and the costs of transportations from US to Japan.Sources: USDA, ERS. Annual Statistics Summary Livestock, Poultry, and Grain Market News, Livestock Prices from Livestock & Meat Domestic Data.”

Source: [15] OECD PSE/CSE Tables for Japan [Originally from USDA, *Agricultural Outlook*].

### **VII. Level of consumption (at farm gate)**

Total domestic consumption in carcass weight equivalent [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

### **VIII. Consumption prices (at farm gate)**

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

### **IX. Value of consumption (at farm gate)**

(IV)\*(V)

## **7. Poultry meat**

### **I. Level of production**

Domestic production of chicken meat in carcass weight equivalent [2].

Source: [2] NLCF, Materials on Price, Demand and Supply of Livestock Products, various years.

## **II. *Producer prices (at farm gate)***

Delivery price of chicken meat to wholesale markets in carcass weight equivalent [2] adjusted for slaughtering and transportation costs (15-20%) to convert it to a farm gate price [5].

Source: [2] NLCF, Materials on Price, Demand and Supply of Livestock Products, various years.  
[5] MAFRA estimates.

## **III. *Value of production (at farm gate)***

(I) \* (II) / 1000.

## **IV. *Trade status***

Net importer through the whole period.

Source: Production minus consumption (I) - (IV).

## **V. *Market price differential at the farm gate***

Producer price minus reference price (II) – (VII)

## **VI. *Reference prices at the farm gate (including the definition of the margin)***

US producer price, adjusted for EEP [16] plus 20% transportation costs..

Sources: [16] OECD PSE/CSE Tables for the United States.

## **VII. *Level of consumption (at farm gate)***

Total domestic consumption of chicken meat in carcass weight equivalent [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

## **VIII. *Consumption prices (at farm gate)***

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

## **IX. *Value of consumption (at farm gate)***

(IV)\*(V)

## **8. Eggs**

### **I. *Level of production***

Domestic production of eggs in shell, converted in tonnes using the coefficient 1 egg = 55 grams [2].

Source: [2] NLCF, Materials on Price, Demand and Supply of Livestock Products, various years.

## **II. Producer prices (at farm gate)**

Price of large size eggs received by farmers [2].

Source: [2] NLCF, Materials on Price, Demand and Supply of Livestock Products, various years.

## **III. Value of production (at farm gate)**

(I) \* (II) / 1000.

## **IV. Trade status**

Self-sufficiency.

Source: Production minus consumption (I) - (IV).

## **V. Market price differential at the farm gate**

Producer price minus reference price (II) – (VII)

## **VI. Reference prices at the farm gate (including the definition of the margin)**

Wholesale price(Average producer price) of eggs in Japan minus tariffs [15].

Source: [15] OECD PSE/CSE Tables for Japan [Originally from JPN MAFF, Agricultural price statistics].

## **VII. Level of consumption (at farm gate)**

Total domestic consumption of eggs [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

## **VIII. Consumption prices (at farm gate)**

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

## **IX. Value of consumption (at farm gate)**

(IV)\*(V)

## **9. Chinese cabbage**

### **I. Level of production**

Total production [1].

Source: [1] MAFRA, Crop Statistics, various years, Sejong.

### **II. Producer prices (at farm gate)**

Value of production divided by level of production [III] / [1].

### **III. Value of production (at farm gate)**

Value of production [1].

Source: [1] MAFRA, Crop Statistics, various years, Sejong.

### **IV. Trade status**

Self-sufficiency until 2012, net importer since 2013.

Source: Production minus consumption (I) - (IV).

### **V. Market price differential at the farm gate**

Producer price minus reference price (II) – (VII)

### **VI. Reference prices at the farm gate (including the definition of the margin)**

Domestic producer price (II) minus tariffs [12] [(II)/(1+%tarif rate)]

Sources: [12] MAFRA, Sejong.

### **VII. Level of consumption (at farm gate)**

Total domestic consumption [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

### **VIII. Consumption prices (at farm gate)**

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

### **IX. Value of consumption (at farm gate)**

$(IV) * (V)$

## **10. Garlic**

### **I. Level of production**

Total production [1].

Source: [1] MAFRA, Crop Statistics, various years, Sejong.

### **II. Producer prices (at farm gate)**

Value of production divided by level of production [III] / [1].

### **III. Value of production (at farm gate)**

Value of production [1].

Source: [1] MAFRA, Crop Statistics, various years, Sejong.

#### ***IV. Trade status***

Net importer through the whole period.

Source: Production minus consumption (I) - (IV).

#### ***V. Market price differential at the farm gate***

Producer price minus reference price (II) – (VII)

#### ***VI. Reference prices at the farm gate (including the definition of the margin)***

From 1986 to 1992, domestic producer price multiplied by price gap (3.50 times) calculated by comparison of 1993-99 domestic producer price and unit import value.

Since 1993, unit import value [17].

Sources: [17] Ministry of Strategy and Finance, Trade Statistics, various years, Korea.

#### ***VII. Level of consumption (at farm gate)***

Total domestic consumption [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

#### **VIII. Consumption prices (at farm gate)**

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

#### **IX. Value of consumption (at farm gate)**

$(IV) * (V)$

### **11. Red peppers**

#### ***I. Level of production***

Total production [1].

Source: [1] MAFRA, Crop Statistics, various years, Sejong.

#### ***II. Producer prices (at farm gate)***

Value of production divided by level of production [III] / [1].

#### ***III. Value of production (at farm gate)***

Value of production [1].

Source: [1] MAFRA, Crop Statistics, various years, Sejong.

#### ***IV. Trade status***

Self-sufficiency until 2012, net importer since 2013.

Source: Production minus consumption (I) - (IV).

**V. Market price differential at the farm gate**

Producer price minus reference price (II) – (VII)

**VI. Reference prices at the farm gate (including the definition of the margin)**

From 1986 to 1992, domestic producer price multiplied by price gap (3.50 times) calculated by comparison of 1993-99 domestic producer price and unit import value.

Since 1993, unit import value [17].

Sources: [17] Ministry of Strategy and Finance, Trade Statistics, various years, Korea.

**VII. Level of consumption (at farm gate)**

Total domestic consumption [6].

Source: [6] MAFRA, Food Grain Policy Division, Statistics on Demand and Supply of Food Grains, various years.

**VIII. Consumption prices (at farm gate)**

Implicit prices corresponding to reference prices plus the unit value of market transfers.

Calculated as  $(II) - ((IX.1) + (X.1)) / (I) * 1000 + ((IX.1) + (IX.2)) / (IV) * 1000$

**IX. Value of consumption (at farm gate)**

$(IV) * (V)$