기타연구보고 M98 | 2009. 12.

동북아농정연구포럼(FANEA) 2009 활동보고서

박 기 환 연 구 위 원
강 명 환 2 급 관 리 원
김 선 경 책임연구조원
이 경 미 연 구 조 원
한 근 수 전 문 연 구 원

한국농촌경제연구원

연구 담당

박기환	연구위원	동북아농정연구포럼 운영사업 총괄
강명환	2급관리원	동북아농정연구포럼 실무담당
김선경	책임연구조원	대외연구협력활동 업무지원
이경미	연구조원	대외연구협력활동 담당
한근수	전문연구원	FANEA 홈페이지 관리 및 운영

머 리 말

동북아농정연구포럼(FANEA)은 한국농촌경제연구원이 중국농업과학원 농업경제발전연구소(IAED/CAAS) 및 일본농림수산성 농림수산정책연구소(PRIMAFF)와 함께 한·중·일 3개국 농업·농촌정책 관련 정보 및 자료의 교류와 학술활동 촉진을 목적으로 2003년 설립된 포럼이다.

FANEA는 설립 목적에 부합하기 위해 3기관이 공동주최하는 국제심포지엄을 매년 개최해 오고 있으며, 2003년 10월 제1회 국제심포지엄(한국 서울)을 시작으로 금년 3월 제6회 국제심포지엄이 일본 동경에서 개최되었다. 제6회 심포지엄은 「Rural Development and Agriculture」, 「The Supply and Demand Situations in the International Agricultural Markets」의 두 가지 테마로 한·중·일 3개국 전문가들이 발표하고 토론하였다.

이 보고서는 2009년도 동북아농정연구포럼(FANEA) 사업의 활동보고서로 제6회 국제심포지엄 발표논문 전체를 수록함으로써 정부, 학계, 농업 관련기관 등에 필요한 자료를 제공하기 위해 작성되었다. 아무쪼록 이 보고서가 한·중·일의 농업·농촌을 이해할 수 있는 기초 자료로 활용되기를 기대한다.

동북아농정연구포럼은 앞으로도 3개국의 농업정책 연구 협력과 학술 교류 촉진, 농업정책 분야의 공동연구 활성화를 위한 다양한 활동을 지속함으로써 동북아지역의 농정연구 네트워크를 조성하고자 노력할 계획이다. 그동안 FANEA 사업 운영을 위해 수고해 주신 관계자 여러분께 진심으로 감사드린다.

2009. 12.

한국농촌경제연구원장 **오 세 익**

요 약

제6회 FANEA 국제심포지엄은 2009년 3월 4일 일본 농림수산성 농림수산정책연구소 세미나실에서 개최하였으며, 「농촌개발과 농업」, 「국제농산물 수급동향」이라는 두 가지 어젠다별로 한·중·일 3개국 관련 전문가가 총 6개의 논문을 발표하고 토론하였다.

우리 연구원에서는 오세익 원장을 비롯한 6명이 국제심포지엄에 좌장, 발표자 및 토론자로 참석하였으며, 중국농업과학원 농업경제발전연구소는 진푸 소장을 포함한 6명, 일본은 농림수산정책연구소 사이토 노보루 소장과 일본 큐슈대학 츠보타 쿠니오 교수 등 6명이 참석하였다.

심포지엄 개최 전에 3개 기관의 기관장이 모여 한·중·일 공동연구 추진, 연구협력 방안, 인적 교류 확대 등에 관해 사전 토의 시간을 가졌으며, 제7회 FANEA 국제심포지엄 테마에 대해 논의하였다. 논의 결과, “농업부문 저탄소 녹색성장(친환경 농업, 바이오매스, 바이오연료, 저탄소 등 포함)”, “세계경제위기가 농업부문에 미치는 영향”, “세계농산물 수급모형” 등 3개 테마가 추천되었다.

제7회 국제심포지엄은 우리나라 서울에서 개최되는데 이 준비의 일환으로 2009년 10월 30일 한·중·일 FANEA 실무자 회의가 있었으며, 회의에서 심포지엄 개최일자를 2010년 6월 9일(수)~12일(토)(3박 4일)로 정하였다. 심포지엄 테마는 지난번 기관장 모임에서 제안한 3가지로 하기로 잠정 합의하였으나, “세계경제위기가 농업부문에 미치는 영향”은 현재 세계경제가 회복세를 나타내고 있어 내년 1월에 재논의하기로 하였다. 심포지엄 발표자 및 토론자는 한·중·일 각각 1명을 원칙으로 하되, 타 기관(또는 타 전문가)이 공동 참여하는 것을 허용함에 따라 발표자 및 토론자 선정 시 각국의 판단으로 타 기관(또는 타 전문가) 참여가 가능하도록 합의하였다.

ABSTRACT

2009 FANEA Annual Report

The sixth FANEA international symposium was held on March 4, 2009 at the Policy Research Institute of Japan's Ministry of Agriculture, Forestry and Fisheries. Six theses were presented and discussions ensued among experts from Korea, China and Japan on two agendas, namely 'Rural Development and Agriculture' and 'Global Supply and Demand of Agricultural Products.'

Participating in the symposium from the Korean side were President Oh Se-Ik of Korea Rural Economic Institute and five researchers from the institute. China and Japan also took part with six panelists each. Among them were Qin Fu, director of the Institute of Agricultural Economics and Development (Chinese Academy of Agricultural Sciences), Saito Noboru, director of Japan's Policy Research Institute (Ministry of Agriculture, Forestry and Fisheries), and Professor Tsubota Kunio of Kyushu University.

Prior to the symposium, the heads of research institutes gathered to discuss issues concerning ways to promote joint research and expand human exchanges among them. Prospective themes for the next FANEA symposium were also on the agenda and they recommended three themes: “Green Growth in Agricultural Sector (which includes environment-friendly agriculture, biomass, biofuel, low carbon, etc.),” “Global Economic Crisis and Its Effects on Agriculture,” and “Supply-Demand Models for Agricultural Products in the World Market.”

On October 30th, 2009, KREI hosted a working-level FANEA meeting. At the meeting, the 7th FANEA international symposium was decided to be held on June 9～12 in 2010 in Seoul. As for the themes of the international symposium, it was tentatively agreed to take up the three themes recommended by the heads of research institutes. However, since the world economy is showing signs of recovery, the decision as to whether or not to include Global Economic Crisis and Its Effects on Agriculture as a theme of the symposium will be discussed again in January 2010.

In addition, the working-level meeting decided that Korea, China, and Japan will, in principle, deliver one presentation each, and since participation by other institutions (or experts) is allowed, member countries will decide, of

their own volition, which non-member institution (or panelist) will take part in the symposium when choosing their presenters and panelists.

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차 례

제1장 FANEA 운영 현황

제2장 2009년도 주요 사업별 추진실적

그 림 차 례

제2장

제 1 장

FANEA 운영 현황

1. 동북아농정연구포럼(FANEA) 운영 개요

○ 동북아농정연구포럼(FANEA; Forum for Agricultural Policy Research in North East Asia)은 한국농촌경제연구원이 일본 농림수산성 농림수산정책연구소(PRIMAFF) 및 중국농업과학원 농업경제발전연구소(IAED/CAAS)와 더불어 동북아 역내 농업·농촌 정책연구 개발과 정보 및 자료 교류, 학술활동 촉진 등을 위해 2003년 10월 발족한 학술포럼임.

○ FANEA는 한·중·일 농업·농촌경제 분야의 공조와 공생을 위한 협력 가능분야 및 전략을 상호 모색하기 위해 3개국 관련 전문가가 참여하는 국제심포지엄을 한국, 중국, 일본에서 매년 개최하고 있음.

- 특히, 국제심포지엄이 금년에 6회째를 맞이하면서 3개국 농업분야 전문가들의 지식과 정보 교류에 기여함은 물론, 3개국 농업·농촌 분야 협력을 강화하는데 커다란 역할을 담당하고 있음.

○ FANEA 국제심포지엄은 당해 연도의 세계적 이슈를 중심으로 주제를 선정하여 발표와 토론을 실시함으로써 보다 현실적 정책연구 추진이 가능하도록

노력하고 있음.

- 그동안 논의된 국제심포지엄 주제는 제1회 “동북아시아지역의 농업협력 필요성과 가능성”, 제2회 “세계화 시대의 식량안보와 식품안전”, 제3회 “세계화와 동북아지역의 지속가능한 농업 발전”, 제4회 “전환기 경제의 동북아 농업”, 제5회 “동북아지역의 농촌금융・농촌개발 및 바이오에너지 개발”, 제6회 “농업・농촌개발 및 국제농산물수급 상황”이었음.

○ FANEA는 매년 개최되는 국제심포지엄 이외에도 3개국 공동연구 수행, 초청세미나 개최, FANEA 홈페이지 관리, 각종 국제세미나 참석 등의 활동을 추진하고 있음.

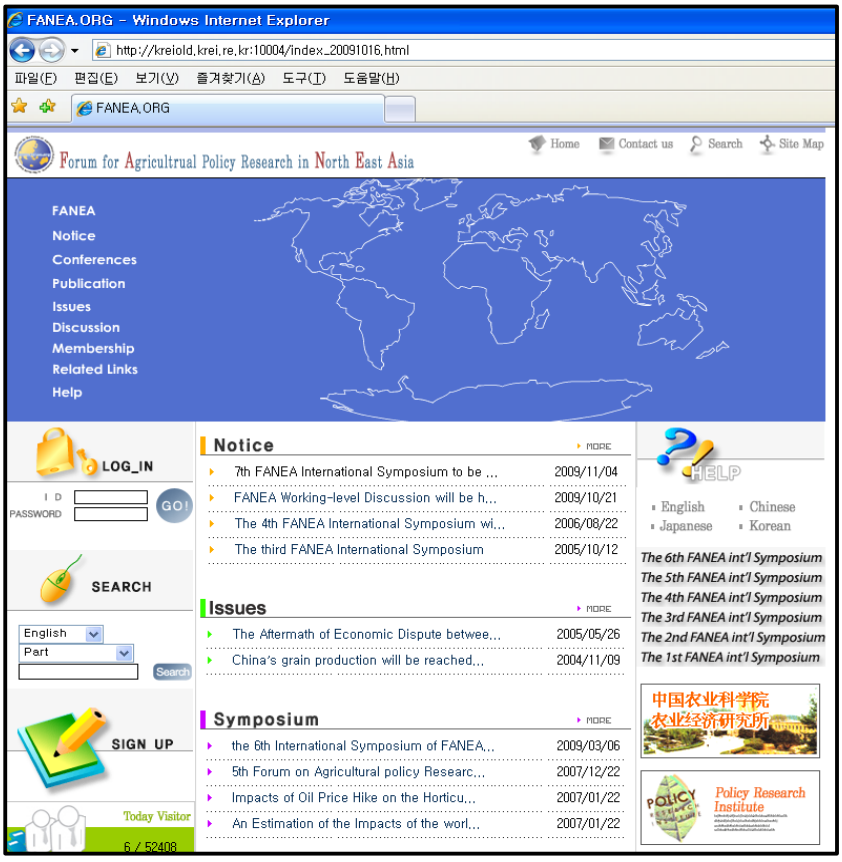
2. 동북아농정연구포럼(FANEA) 연혁

○ 2003. 10 『동북아농정연구포럼』 홈페이지 구축
○ 2003. 10 『동북아농정연구포럼』 창립기념행사(MOU 체결) 및 제1회 FANEA 국제심포지엄 개최(한국 서울)
○ 2004. 5 『동북아농정연구포럼』 TF 설치·운영
○ 2004. 10 제2회 FANEA 국제심포지엄 개최(중국 웨이하이시)
○ 2005. 10 제3회 FANEA 국제심포지엄 개최(일본 동경)
○ 2005. 11 동북아농정연구포럼 TF의 동북아농업팀 이관
○ 2006. 9 제4회 FANEA 국제심포지엄 개최(한국 서울)
○ 2007. 10 제5회 FANEA 국제심포지엄 개최(중국 북경)
○ 2008. 4 FANEA 운영조직 기획조정실로 이관
○ 2009. 3 제6회 FANEA 국제심포지엄 개최(일본 동경), 당초 2008년 6월 개최 예정이었으나, 중국 스촨성 지진 참사로 연기

3. 동북아농정연구포럼(FANEA) 운영조직

○ FANEA의 연구원 담당은 국제농업연구센터 동북아농업팀(현 글로벌협력연구본부 농업통상팀)에서 맡았으나, 보다 효율적이고 전문적인 운영을 위해 2008년 기획조정실 연구조정・평가팀(팀장 박기환)으로 이관되었음.

- FANEA 홈페이지(www.fanea.org) 관리・운영은 우리 연구원 기획조정실에서 담당하고 있으며, 심포지엄 발표 자료, 각종 알림내용 등을 게재하고 있음.



○ 한·중·일 3국의 FANEA 담당은 다음과 같음.

국가	직위	성명	담당 분야
한 국	연구위원	박기환	동북아농정연구포럼 운영 총괄
	3급관리원	강명환	동북아농정연구포럼 실무담당
	책임연구조원	김선경	대외연구협력활동 업무지원
	연구조원	이경미	대외연구협력활동 담당
	전문연구원	한근수	FANEA 홈페이지 관리 및 운영
중 국	과연관리처장	李鎖平(Li Suoping)	동북아농정연구포럼 운영 총괄
일 본	교류정보과장	牧野竹男(Makino Takeo)	동북아농정연구포럼 운영 총괄

제 2 장

2009년도 주요 사업별 추진실적

1. 제6회 FANEA 국제심포지엄 개요

1.1. 개최 개요

○ 제6회 FANEA 국제심포지엄은 당초 2008년 6월 일본 동경에서 개최될 예정이었으나, 중국 스촨성 지진 참사로 공동 주최기관인 중국농업과학원 농업경제발전연구소측의 참여가 불가능해짐에 따라 2009년도로 연기하기로 3개국 대표가 합의하였음.

- 개최국인 일본의 회계연도는 4월부터 시작되므로 2009년 3월 이전에 심포지엄을 개최함으로써 심포지엄을 매년 개최하는 FANEA의 원칙에 어긋나지 않도록 조치하기로 하였음.

○ FANEA 국제심포지엄 개최 일시 및 주제는 다음과 같음.

- 기간: 2009.3.3～3.6(3박 4일)
- 국제심포지엄 개최일: 2009.3.4(수) 10:00～18:00
- 장소: 일본 농림수산성 농림수산정책연구소 세미나실
- Agenda

- · Agenda 1: Rural Development and Agriculture
- · Agenda 2: The Supply and Demand Situations in the International Agricultural Market

- 좌장・발표자 및 토론자 등
  - · 한국농촌경제연구원: 오세익 원장, 이동필 선임연구위원, 최지현 선임연구위원, 박기환 연구조정・평가팀장, 김태훈 부연구위원, 성주인 전문연구원(6명)
  - · 중국농업과학원 농업경제발전연구소: 秦　富(Qin Fu) 소장, 李鎖平(Li Suoping) 과연관리처장, 李先德(Li Xiande) 박사, 王明利(Wang Mingli) 박사, 李　文(Li Wen) 박사, 王濟民(Wang Jimin) 박사(6명)
  - · 일본 농림수산정책연구소: 齊藤登(Saito Noboru) 소장, 鈴村源太郎(Suzumura Gentaro) 박사, 古橋元(Furuhashi Gen) 박사, 中村敏郎(Nakamura Toshiro) 박사(5명)
  - · 일본 九州(Kyusyu))대학 아시아 종합정책센터: 坪田邦夫(Tsubota Kunio) 교수(1명)

1.2. 국제심포지엄 순서

○ 일시: 2009년 3월 4일 10:00～18:00

- 10:00～10:30　개최 인사말씀
  - · 오세익 한국농촌경제연구원장
  - · Qin Fu 중국농업과학원 농업경제발전연구소장
  - · Saito Noboru 일본 농림수산정책연구소장
- 10:30～12:00　Agenda 1 주제발표(좌장: Qin Fu 소장)
  - · 중국측: “Agricultural and Rural Development in China: Situation, Challenges and Policies”(Li Xiande 박사)
  - · 일본측: “Experience-based Education Tours for Elementary and Junior High School Students in Japan”(Suzumura Gentaro 박사)

· 한국측: “Korea’s Rural Areas and Rural Policy”(김용렬 · 성주인 박사)

- 12:00～13:30 점심 식사
- 13:30～14:30 Agenda 1 토론(좌장: Qin Fu 소장, 3개국 발표자 참석)
  · 중국측: Li Wen 박사
  · 일본측: Nakamura Toshiro 박사
  · 한국측: 이동필 박사
- 14:30～15:00 휴식
- 15:00～16:30 Agenda 2 주제발표(좌장: 오세익 원장)
  · 일본측: “World Food Supply and Demand Projections for 2018” (Furuhashi Gen 박사)
  · 한국측: “Impacts of Rising International Grain Prices on Korea”(김태훈 박사)
  · 중국측: “Impact of the Price Increase of Meat Products on Food Security in China”(Wang Mingli 박사)
- 16:30～17:00 휴식
- 17:00～18:00 Agenda 2 토론(좌장: 오세익 원장, 3개국 발표자 참석)
  · 한국측: 최지현 박사
  · 중국측: Wang Jimin 박사
  · 일본측: Tsubota Kunio 박사

1.3. 3개국 기관장 회의

○ 일 시: 2009년 3월 4일 09:20～10:00

○ 참석자

- 한국측: 오세익 원장, 박기환 연구 · 조정평가팀장
- 중국측: Qin Fu 소장, Li Suopin 과연관리처장
- 일본측: Saito Noboru 소장, Endo Yoshihide 교류정보과장

○ 회의 개요

- Promotion of Research Cooperation
  - DGs and President agreed to strengthen the research cooperation among three institutes. In this context, they found it quite useful to establish cooperative relation to develop econometric simulation model for projecting world agricultural supply and demand by incorporating specificity of Asian agriculture and improving technical aspects of the model which had been neglected in models developed by European and/or US researchers. It was also noted that exchange of researchers working on similar research area is effective in pursuing this objective. DGs and President also agreed to exchange lists of researchers with information on their research subjects in order to seek a field of future possible cooperation among three institutes.
- The Next FANEA Symposium
  - It was determined that the next session of the FANEA will be held in May 2010 in Seoul, Republic of Korea. The concrete date will be decided at a later stage through consultation among three countries. Regarding the agenda, Korea proposed that priority should be given to a subject of “green growth of agriculture” whose concept covers a wide range of issues including environmentally friendly agriculture, use of biomass, biofuels, low carbon emission and even organic farming. Korea promised to draft a concept paper which will describe the issue in more detail. The other agenda items proposed to be discussed for the next Symposium were; “the impact of financial crisis on agriculture” and “supply and demand projection using an econometric model”. It is expected the final titles of the agenda will be determined with appropriate corrections and modifications after further consultation among three countries with better understanding of each proposed items.

1.4. 현장 견학

1.4.1. 일본 농림수산정책연구소 주최 현장 견학

○ 일　시: 2009년 3월 5일 09:00～16:30
○ 참석자: 이동필 박사, 김태훈 박사, 성주인 박사, 중국 참가자, 일본 관계자 등
○ 방문기관 1: 築地 수산물도매시장
- 1935년 개장한 일본 최대의 수산물도매시장으로 하루 2,400톤 규모의 수산물을 처리하고 있음(세계 최대 규모).
- 여기서 거래되는 수산물 가격이 일본의 수산물 가격을 결정하는 기준
- 築地 수산물도매시장은 동경 북부의 아다찌(足立) 도매시장, 남부의 오타(大田) 도매시장과 함께 동경권 수산물의 92%를 거래하고 있음.
- 당초 설립 당시에 비해 도매시장 주변이 도심으로 변화되어 향후 부지가 넓고 교통 여건이 양호한 다른 장소로 이전을 추진 중

그림 2-1.　築地 수산물도매시장 전경 및 내부

○ 방문기관 2: 이와테현 안테나숍(Antenna Shop)
- 동경 중심가인 긴자 거리에 소재한 이와테현의 지역특산물 판매점
- 지역 제품 판매 및 관광 안내와 함께 지역 정보를 제공하여 귀농·귀촌 희망자들을 유치하는 활동까지 진행하고 있음

- 주요 시설: 특산물 판매장, 방문객 안내소(이와테현 관광협회에서 운영), 비즈니스지원센터, 귀농·귀촌지원센터, 기업유치사무소
- 이와테현 안테나숍은 전국 30여 개 현들이 개설한 다른 안테나숍들에 비해 가장 큰 규모로 1층 매장 넓이만 약 660m^2
- 현에서 생산되는 1,800여 종의 제품을 판매
- 운영은 제3섹터 방식

그림 2-2. 동경 시내에 위치한 이와테현 안테나숍

○ 방문기관 3: 동경 근교 시설원예 농가

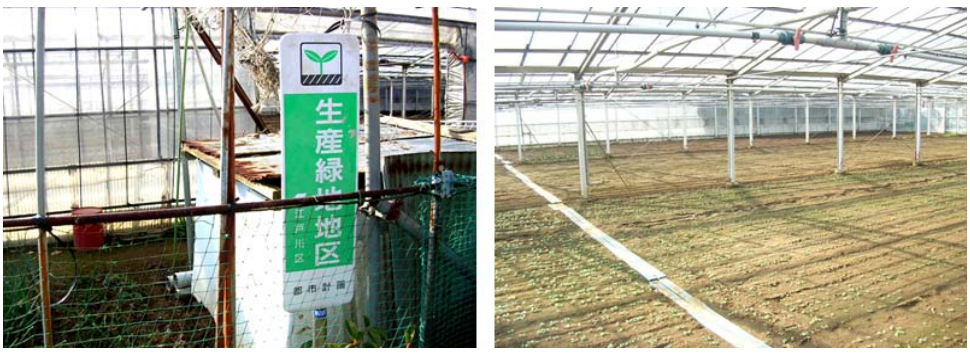
- 동경도 에도가와구(江戸川區)에 소재한 시설원예 종사 농가
- 약 1,980m^2 규모의 하우스 4개를 가지고 있으며, 고마츠나(小松菜)를 생산하고 있음
- 하우스 시설을 이용하여 연 7회 생산하여 집약적으로 토지를 이용하는 도시농업의 특성을 나타내고 있음.
- 주변 학교와 계약하여 생산한 채소의 90%를 급식재료로 판매하고 있음.

- 농가가 소재한 곳은 동경도에 속하여 주변은 농업지역의 경관이 아닌 근교 주거단지 모습에 가까움.

그림 2-3. 에도가와구 시설원예 농가의 주변 주택가 전경

- 그러나 이 지역의 하우스 시설에는 도시계획상 “자연녹지지구”에 해당한다는 안내판을 세워두어 도시농업의 중요성을 알리려는 지자체의 의도를 알 수 있음.
- 도시지역으로서 농업의 비중은 낮지만 에도가와구는 홍보차원에서 이 지역의 선도 농가들을 도시농업을 대표하는 캐릭터로 홍보물에 소개하고 있음.
- 구민농장을 조성하여 농사를 짓고 농업을 체험하는 시설을 지자체에서 지원하고 있으며, 농산물 직매사업도 벌이고 있음.

그림 2-4. 생산녹지 안내판 및 하우스 내부



1.4.1.『FOODEX JAPAN 2009』참관기

○ 일　시: 2009년 3월 5일 09:00～16:30
○ 참석자: 오세익 원장, 최지현 박사, 박기환 박사
○ FOODEX JAPAN 2009 개요
  - 개최기간: 2009.3.3(화)～3.6(금)
  - 명칭: FOODEX JAPAN 2009
  - 개최장소: 치바시 마쿠하리 멧세(1～8홀)
  - 주최: (사)일본능률협회, (사)일본호텔협회, (사)국제관광여관연맹, (사)일본관광여관연맹, (사)국제관광일본레스토랑협회, (사)국제관광시설협회
  - 후원: 외무성, 후생노동생, 농림수산성, 국토교통성, 치바현 치바시, 일본무역진흥기공(JETRO)
○『FOODEX JAPAN 2009/국제식품・음료전』은 아시아・환태평양 지역에서 최대 규모이며, 세계에서 세 번째 규모를 자랑하는 식품・음료의 전문전시회임.
  - 전체 전시관을 대략 둘러보는데만 6시간 정도가 소요되는 대규모
○ 1976년부터 매년 개최되고 있으며, 2009년이 제34회임.
○ 전시에 참가한 회사는 2,400여 개사이며, 약 9만 명 이상이 관람할 것으로 추정
○ 출전 대상
  - 식품: 농산물(신선・냉동・건조), 농산가공품, 곡물, 축산물(냉동・건조), 유제품, 수산물(신선・냉동・건조), 육가공품, 조리제식품, 수산가공품, 건강지향식품, 조미료・향신료, 각종 면류, 디저트 등
  - 음료: 알콜 음료(일본술・소주, 맥주, 와인 등), 소프트 드링크, 커피・홍차, 미네랄 워터, 건강지향음료 등

그림 2-5. FOODEX JAPAN 2009 전시장 배치도

○ 해외 출전 코너를 별도 마련

- 유럽: 이태리, 영국, 호주, 네덜란드, 그루지야, 크로아티아, 스페인, 세르비아, 체코, 독일, 헝가리, 프랑스, 벨기에, 폴란드, 포르투갈 등
- 중동: 이란, 시리아, 터키 등
- 아프리카: 우간다, 이집트, 가나, 마다가스카르, 모로코 등
- 아시아・오세아니아: 한국, 인도, 인도네시아, 싱가폴, 스리랑카, 태국, 대만, 중국, 홍콩, 네팔, 필리핀, 베트남, 말레이시아, 호주, 뉴질랜드 등
- 북중남미: 미국, 아르헨티나, 우루과이, 에콰도르, 캐나다, 브라질, 멕시코 등

○ 해외 출전 코너 가운데 한국관 규모가 가장 크고, 관람인수도 많아 '한류' 영향이 지속되고 있는 것으로 판단

- 한국 코너에는 조미김, 김치, 즉석 가공식품(파전, 비빔밥, 냉면 등), 소금, 음료, 주류 등이 주로 출품되었으며, aT센터와 농협중앙회가 별도의 부스를 운영하고 있었음.

그림 2-6. FOODEX JAPAN 2009 전시관 입구

※ 내부 촬영 금지

2. 제6회 FANEA 국제심포지엄 한·중·일 발표논문 요지

2.1. Agenda 1: Rural Development and Agriculture

2.1.1. Agricultural and Rural Development in China: Situation, Challenges and Policies

○ 발표자: Li Xiande(Institute of Agricultural Economics and Development, Chinese Academy of Agricultural Sciences)

○ 발표논문 요약

- Although the shares of agriculture in national GDP and employment are

decreasing with the economic development, China's agriculture contributes still 11% of total GDP and employs 41% of the total labor forces. The development of rural enterprises has profoundly changed China's rural economy. In 2006, TVEs employ almost one-fifth of total labors, produces nearly half of national industrial production and contribute 28% of national GDP. After years of decline, grain production was recovered gradually due to a series of policy measures introduced in 2004, China realizes 5 consecutive years of bumper harvest with current grain output more than 500 million tons. In the past three decades, the farmers' income grew at six percent. The income sources become more and more diversified, income from agricultural activities is less than half of farmers' total income.

- At present, China's agriculture and rural development faces many challenges: firstly, the urban-rural income gap is widening over time. The urban-rural income ratio increased from 2.6:1 in 1978 to 3.3:1 in 2007. Secondly, the tight supply of major agricultural products. Due to limited land and water resources constraints, China is facing increasing diffculties in achieving grain self-sufficiency. Thirdly, farmers and rural enterprise development has been constrained by financial and credit provision, lots of capital is flowed out of countryside to cities through financial and taxation means. Fourthly, massive imports of certain agricultural products lower the domestic prices, which produce negative impacts on the farmers' income. Fifthly, low level of support to agriculture. On the per unit of arable land and labor basis, support for agriculture in EU were respectively 4.4 times and 92 times than in China in 2005.
- In order to ensure national grain security and to increase farmers' income, the Chinese government adopted a series of policy measures in recent years, including mainly: the abolition of agricultural taxations in 2006;

the implementation of income support policy measures, such as direct subsidies to grain producers, seed subsidies, farm machinery purchase subsidy, and comprehensive subsidies on the purchase of the means of agricultural production; the implementation of minimum procurement price for paddy rice and wheat; substantial increases in the government budget for agriculture and reform of foreign trade policy.

2.1.2. Experience-based Education Tours for Elementary and Junior High School Students in Japan - In the context of the policies to revitalize rural communities

○ 발표자: Suzumura Gentaro(The Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries)

○ 발표논문 요약

- There are various kinds of soft approaches to developing rural communities and revitalizing local areas, and one of the most representative examples of these approaches is Green Tourism. Some farming communities in Japan have been supporting the local revitalization efforts by accepting elementary and junior high students, etc. as part of an Education Tour 1). Education tours are one of the main forms of GT. Also, the government is currently promoting the “Children & Agricultural Farm/ Forestry/Fishing Communities Interaction Project 2)”, which aims to provide the students of approximately 23,000 elementary schools nationwide (1.2 million students per grade) with an opportunity to experience a 1-week stay/interaction in one of approximately 500 farm, forestry, and fishing communities in Japan within 5 years from the year 2008.
- In this report, the series of farming/forestry/fishing experience programs (including home stays) for students has been named “Experience-based Education Tour”, and actual impact of these trips on the agricultural

management and rural coordinating organization, the economic and social benefits to the participating rural communities, as well as the challenges and prospects for the future will be reviewed and examined.

- Japan has an education tour system called the “School Trip”. The main destinations of School Trips in the past have been historical places, landmarks and museums. However, “experience-based tours” are becoming more and more prevalent as the purpose of trips themselves change, i.e. the shift to more personalized, downsized, and specialized trips. In particular, for the “Agriculture/Forestry/Fishing Experience”, which includes a home-stay at the farm household, there is a demand for a “real-life experience” that takes into consideration the educational aspects of the trip. Rural communities are trying various approaches to identify the best method to meet this demand.
- In this report, examples of the Experience-based Education Tour in Iida, located in Nagano prefecture, and Kitakata, located in Fukushima prefecture, are provided. Kitakata mainly focuses on one-day farm experience programs, and it responds proactively to the students’ pre & post-study for the School Trip. On the other hand, Iida focuses on experience programs that include an overnight home-stay with the farmer. Their programs are supported by 500 farm households located in the city and surrounding towns and villages.
- Looking at the ripple effect on the farm households and communities, both economic and non-economic benefits can be observed. Regarding the economic benefits, farm households can make up to 500,000 yen of extra income for participating in experience programs that include an overnight stay(s). Also, an improvement in farm labor efficiency and an increase in direct sales of their products can also be observed in some cases. Regarding the non-economic benefits, many households say that

they “received a present called energy” from the children, through the relationships established during the work in the fields, exchange of letters, and subsequent visits by the children after the trip. Some secondary effects can also be observed such as a sense of togetherness and increased vitality within the community through the exchange of information.

- This being said, the current model for Experience-based Education Tours still faces many issues and challenges, such as seasonal bunching, cooperation within the host family, and the necessary review of the costs of providing food and accommodations for the participants. In terms of the business style of the host farmers, most seem to be engaged in relatively small scale compound farm operations. Therefore the experience programs might have to be provided as a side business along with their main business activities taking advantage of their extra time. The most important thing is for host farmers to create a good mechanism for allowing sustainable agricultural production, which is necessary for providing “real” experiences to the students.

2.1.3. Korea’s Rural Areas and Rural Policy

○ 발표자: Kim Yong-Lyoul, Seong Joo-In(Korea Rural Economic Institute)

○ 발표논문 요약

- Rural population in Korea has continued to decrease over the years. However, its rate in decline has started to slow down and the size of rural population has reached a marginal level. Rural population has decreased from 25.6% of total population in 1990 to 18.5% in 2005, falling significantly over the past 15 years.
- Aging population is rapidly expanding in Korea’s rural areas. The percentage of aging population of 65 or older in total population increased

around 2.7 times over the past 30 years from 3.5% in 1975 to 9.3% in 2005.

- International marriages were very rare in Korea prior to the 1990s. According to the Korean National Statistical Office data, the number of marriages between male Koreans and female foreigners in 2005 increased 21.8% from 2004 with international marriages in rural areas also rising 8.5%.
- There exist still infrastructure gaps (education, medical, culture, etc) between urban and rural areas. Rural development in Korea originated from regional society development projects, developing into the New Village (Saemaul) Movement by the 1970s. Rural development projects in the 1980s and 1990s focused on achieving quantitative-oriented results. During the 2000s, over 10 central government agencies pursued a wide variety of rural development projects to fit to their respective characteristics to facilitate such activities as rural community hardware maintenance, basic service improvement and urban-rural exchange promotion.
- Korea's rural industrialization policies have been implemented to increase non-farming income. Initial policies are rooted in the government's rural avocation complex development plan pursue in the late 1960s during the initial stages of industrialization. During the 1973~1982 period, the new village ("Saemaul") factory construction program was extensively implemented in the rural areas. In 1983, the Farming & Fishing Village Income Source Development Promotion Act was legislated to establish the framework for rural area industrialization policies centering on the objective of increasing non-farming income. Coming into the 1990s, policy concerns on non-farming income declined as discussions on restructuring of agricultural industry became imminent amidst controversy surrounding market liberalization. Subsequent to 2002, the Korean economy

entered into a soft-landing phase, having undergone an adjustment period since the financial crisis. The current period is an era in which industrialization in rural areas needs to be approached from a new perspective in line with the emergence of views that attempt to promote active exchanges between urban and rural areas.

- Recent issues in rural policy are new government's New Town Projects in rural areas, promotion of rural tourism, and local resource-based industry development.

2.2. Agenda 2: The Supply and Demand Situations in the International Agricultural Markets

2.2.1. World Food Supply and Demand Projections for 2018

○ 발표자: Furuhashi Gen(The Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries)

○ 발표논문 요약

- The tight world food supply-demand gap looks set to continue over the medium to long term with prices likely to remain at high levels.
- Globally, tight food supplies are expected to continue over the medium and long term. Grain stock levels will remain low as population increases and rising income levels accelerate demand for food and animal fodder, primarily in Asia, and the demand for biofuel raw materials continues to grow. Food prices, meanwhile, will remain higher than their pre-2006 levels and are forecast to continue rising.
- Features of the World Food Model for Predicting Supply and Demand
  · The newly developed World Food Supply and Demand Model is a restructured version of the model used by the Ministry of Agriculture,

Forestry and Fisheries (MAFF) in making world food supply and demand projection estimates following the exhaustive revisions detailed hereunder, which have been made in light of the rapid changes in global agricultural market realities of recent years.

- Since the analysis should be performed from a net food importer's standpoint, the emphasis is placed on countries within Asia that, like Japan, are net food importers. The data and information gathered by the MAFF Policy Research Institute was fed into models simulating the food supply-demand situations of the major Asian countries.
- The predicted increases in Asian net imports of meat, for example, are found to be considerably higher than the OECD-FAO projections when changes in the dietary habits of the respective countries of Asia are reflected on the model.
- The impact on food supply and demand of demand for biomass fuel crops is reflected on the model as an exogenous value, and projections were made using the latest findings from MAFF Policy Research Institute research. For example, projections for net North American (primarily US) corn exports reveal a decrease, versus the increase predicted by US Department of Agriculture (USDA), when the impact on the supply and demand of corn for US bioethanol production is reflected on the model and bioethanol consumption is set at the target figure of 15 billion gallons (per year).

- Key Points on World Food Supply and Demand Projections

- Grain consumption is expected to increase by 500 million tons in the twelve years to 2018, to reach 2.6 billion tons. Consumption of wheat and rice will increase primarily as the result of growth in demand for food. Consumption of corn will increase primarily as the result of growth in demand for biofuel raw materials.

- Growth in consumption will outstrip production of the various crops, lowering term-end inventories.
- Grain prices will rise by 34-36% in nominal terms and by 7-17% in real terms over 2006 levels.
- The trend towards maldistribution in grain trade will become increasingly marked.
- Consumption growth will outstrip production in Asia, Africa and the Middle East, resulting in increases in net imports. Net exports will increase in Europe, South America and Oceania in response to the growth in net imports. Net exports in North America will continue to decline, while Latin America will switch from being net importers to net exporters.
- Meat consumption will increase as the result of growth in annual per capita consumption. Meat prices are expected to increase by 31-41% in nominal terms or 5-13% in real terms.

- [Ref.] Future Developments in World Food Supply and Demand Projections
  - Accurately reflecting the impact of expanding demand for biofuels
    ; Growth in the demand for biofuel crops is one factor that cannot be negated in projecting world food supply and demand. This factor was thus fed into this World Food Supply and Demand Model as an exogenous value and the latest findings from MAFF Policy Research Institute research were utilized in making world food supply and demand projections for 2018. For future projections, equations relating to biofuel supply and demand will be incorporated into the model, which is to be developed using this factor as an endogenous variable.
  - Scenario analysis
    ; The current world food supply and demand projection estimates are

natural (i.e. baseline) predictions that give no consideration to shifts in national policy or future climate variations. For future projections, baseline predictions will be updated from year to year and attempts will be made to forecast several possible scenarios, including climate-triggered tight supply-demand scenarios and the impact of the policies of major world nations.

2.2.2. Impacts of Rising International Grain Prices on Korea

○ 발표자: Kim Tae-Hun(Korea Rural Economic Institute)

○ 발표논문 요약

- Korea's self-sufficiency rate of grains dropped to under 30% in the 2000s to remain at 26.2% in 2006/07. In terms of self-sufficiency rate by commodity, soybean was 9.8%, corn 0.7%, wheat 0.2% and rice 95.5% based on 2006/07. Coming into the 2000s, grain imports in Korea were maintained at stable levels on the basis of volume. However, total import values have been increased in line with rising import prices. In terms of the share of grain import value by commodity in 2007, corn accounted for the highest at 56.3%, followed by 26.3% for wheat and 13.2% for soybeans. Accordingly, Korea's grain markets are structurally very sensitive to changes in international grain prices with the exception of rice.
- The rise in international grain price may affect rice market, food industry and livestock industry in Korea. Despite the rise in international rice prices, Korea in the rice market has not been directly affected because it maintains self-sufficiency on rice. As rice is imported by MMA quotas, there were hardly impacts of surge in the prices of international rice because rice import volumes this year had been already contracted in the previous year. Substitution demand for rice has recently started to arise

with increasing price of processed grains stemming from rising international grain prices. Per capita consumption of rice fell 2.4% in the previous year and is estimated to drop by 1.5% in 2008. However, the impacts of the rise in international grain prices do not seem to have a significant impact on Korea's rice markets. The rise in rice price in 2008 can be attributable to the 5.8% fall in domestic rice production, regardless of rising international grain prices.

- Rising international grain prices also affect domestic food prices. However, the increase rates of domestic grain food for 2007.1~2008.11 were higher than the corresponding figures in the analysis. The differences between the actual price changes and analysis figures can be attributed to the time lag of international grain price changes being reflected in actual consumer prices. According to Kim(2009), the change in international wheat price is reflected to domestic wheat flour price with the time lags of 5~6months. There are time lags of 3~4months between international soybean price and cooking oil price. As a result, there are rooms for further decreases in such domestic prices in the future.
- Impacts of rising international grain prices on total producer and consumer prices are relatively low because the weights of agricultural products in consumer or producer price index are small. Despite the low weight of processed grain products in the indices, appropriate measures need to be taken as they are consumed mainly by people in the low income class.
- Rises in international grain prices are acting as a direct factor in increasing feed prices. As feed costs account for a high portion of livestock operating costs, rising feed prices are deteriorating the profitability of livestock farm households.
- Therefore, several measures are needed, and in fact are being reviewed,

to prepare against rising international grain prices. First, an early warning system must be introduced to secure a stable supply of needed grains. Second, food security reserve stock should be implemented for other grains. Third, as expansion of domestic grain production can only be limited due to excessively high labor and land capital service costs, arrangements with other countries should be instituted through overseas agriculture development so as to secure a stable supply of grain in emergencies. Fourth, income support measures are need for people with low incomes as food price hikes stemming from rising international grain prices affect these people significantly. Finally, feed cost support measures are needed in the short-term, while efforts should be focused on developing alternative sources of animal feeds in the mid-term to lower the dependency on feed grain imports.

- However, as rises in international grain prices are brought about by external factors, such measure will only be partial and passive actions. In order to resolve the problems related to increasing international grain prices, global grain production must be expanded at the international organization level, while grain trade and reserves should also be coordinated internationally.

2.2.3. Impact of the Price Increase of Meat Products on Food Security in China

○ 발표자: Wang Mingli(Institute of Agricultural Economics and Development, Chinese Academy of Agricultural Sciences)

○ 발표논문 요약

- Since the reform and opening-up, China's meat production has been growing rapidly and the per capita availability of meat started to surpass that of the world average level from the mid-1990s which make the sig-

nificant contribution to improving people's living standard. It also has been playing the leading role in increasing the farmers' income, optimizing agriculture structure and improving the structure of meals. Since the year of 2007, the price of meat product kept going up rapidly, which become the leading factor that result in the rise of CPI. This cause many people concern on the food security of China even more. This thesis analyzed the reasons of meat price rising rapidly, the Great Potential Of China's Consumption of Meat in Future, and the main factors of restricting the future supply of meat products in China. Finally, it gave the viewpoints of taking into account the policy of food security, and of small influence to international meat market.

3. 제7회 FANEA 국제심포지엄 준비 실무자 회의

3.1. 회의 개요

○ 일시 및 장소
- 일시: 2009년 10월 30일(금) 10:00～12:00
- 장소: 한국농촌경제연구원 소회의실

○ 참석자 및 안건
- 참석자
  · 한국측: 강창용 기획조정실장, 박기환 연구조정·평가팀장, 전형진 박사, 강명환 3급 관리원, 이경미 연구조원
  · 중국측: 중국농업과학원 농업경제발전연구소 李銷平(Li Suoping) 과

연관리처장

· 일본측: 일본 농림수산정책연구소 牧野 竹男(Makino Takeo) 교류정보과장, 樋口 倫生(Higuchi Tomoo) 박사

- 안건: 제7회 FANEA 국제심포지엄 개최시기(한국 개최 예정), 제7회 FANEA 국제심포지엄 주제, FANEA 포럼 참가기관 확대 여부 등

3.2. 회의 결과

○ 제7회 FANEA 국제심포지엄 개최기간

- 한국측 의견
  · 제6회 FANEA 국제심포지엄(금년 3월, 일본 개최) 기관장 모임에서 제7회 국제심포지엄을 2010년 5월 중에 개최하기로 합의한 바 있음.
  · 5월 초는 일본이 Golden-week 기간으로 불가능할 것으로 보이며, 5월 중순은 KREI에서 중간검토세미나가 예정되어 있어 불가
  · 4월로 앞당기는 안을 제안
- 중국측 의견
  · 개최국이 결정하는 시기에 따르도록 하겠으나, 발표자 및 토론자 섭외와 자료 작성 등을 고려할 때 4월은 다소 시간이 촉박
- 일본측 의견
  · 5월 초는 일본이 연휴(Golden-week)이기 때문에 참석이 불가능
  · 한국측이 제안한 4월은 발표자 및 토론자 섭외, 자료 작성 등을 고려시 시간이 촉박

➡ 중국과 일본측의 요구를 받아들여 6월로 연기하기로 합의한 후 일정 조율 결과, 2010년 6월 9일(수)～12일(토)(3박 4일)로 결정

○ 제7회 FANEA 국제심포지엄 주제

- 한국측 의견
  · 제6회 FANEA 국제심포지엄 기관장 모임에서 제안한 3가지를 주제

(농업·농촌부문 녹색성장, 세계경제 위기 상황이 농업부문에 미치는 영향, 계량경제학 모형을 통한 농업부문 수급)로 하되, 일본과 중국측의 새로운 제안이 있을 경우 논의

- 중국측 의견
  · 한 주제당 국가별로 한 명씩 발표하면 좋겠으나, 이 경우 1일로 심포지엄을 개최하기에는 시간이 부족하므로 심포지엄을 하루 반으로 하는 것이 바람직
  · 만약 1일 행사로 진행할 경우 테마 2와 테마 3은 합치는 것을 고려해도 되겠으나, 심포지엄 볼륨에 있어 문제
  · 1일 행사 시 심포지엄 시간을 앞으로 당기면 시간문제 등은 해결 가능
- 일본측 의견
  · 제6회 FANEA 국제심포지엄 개최 이후, 가장 많은 불만은 토론시간 부족이었으므로 내년도 심포지엄은 하루 반을 하거나 세 개 테마당 발표자를 2명으로 하는 것을 제안
  · 상기 제안이 어렵다면, 테마 2와 테마 3을 합치는 것을 고려
  · 2개의 테마만으로는 심포지엄 볼륨감이 다소 미약하므로 3개로 하되, 심포지엄 토론이 충분이 이루어질 수 있도록 시간 조절 필요

➡ 중국과 일본측의 의견을 종합하여 심포지엄 주제는 지난번 기관장 모임에서 제안한 3가지로 하기로 잠정 합의
단, 테마 2(세계경제 위기 상황이 농업부문에 미치는 영향)는 현재 세계경제가 회복되는 기미를 보이고 있어 내년 1월에 재논의

○ 제7회 FANEA 국제심포지엄 시간
- 한국측 의견
  · FANEA 국제심포지엄을 하루 반으로 하기에는 여러 가지로 무리이므로 시작 시간을 앞당겨 충분한 토론이 이루어지도록 조치하는 것이 바람직
- 중국측 의견

· 발표 시간을 20분으로 제한하면, 토론시간이 부족하지 않을 것으로 판단

- 일본측 의견

· 심포지엄 종료 후 계속 문제가 되었던 것이 토론시간 부족 문제였으므로 이 문제 해결이 필요

➡ 국제심포지엄 시작시간을 앞당겨(오전 09:30) 각 주제별로 2시간 20분간 발표 및 토론이 이루어지도록 조정하는데 합의

※ 일정(안): 2010.6.10(목)

· 09:30～09:45 한·중·일 기관장 인사말
· 09:45～10:00 기조발제(농림수산식품부 장관)
· 10:00～12:20 제1주제 발표 및 토론
· 12:20～13:30 오찬
· 13:30～15:50 제2주제 발표 및 토론
· 15:50～16:10 휴식
· 16:10～18:30 제3주제 발표 및 토론
· 18:30～20:30 만찬

○ 제7회 FANEA 국제심포지엄 발표자 및 토론자

- 한국측 의견

· 심포지엄 주제가 3가지로 확정될 경우 각 국에서 주제별 발표자 및 토론자 각 1명을 원칙

- 중국측 의견

· 동의

- 일본측 의견

· 동의

➡ 국제심포지엄 발표자 및 토론자는 한·중·일 각 1명을 원칙으로 하는데 합의

○ 제7회 FANEA 국제심포지엄 기관장 인사말 및 기조발제

- 한국측 의견

· 한·중·일 기관장 인사말 실시, 가능한 한 한국의 농림수산식품부 장관이 기조발제하는 것을 제안

- 중국측 의견
  · 인사말을 각 5분씩하도록 하고, 기조발제는 주최측에서 결정
- 일본측 의견
  · 한국과 중국측 의견에 동의

➡ 국제심포지엄 한·중·일 기관장 인사말은 각 5분씩 배정하고, 기조발제는 주최측에서 결정 후 통보하는데 합의

○ FANEA 포럼 참가기관 확대 여부

- 한국측 의견
  · FANEA가 출범한지 7년째를 맞이하고 있어 구성 멤버의 확대 필요성에 대한 요구가 확대
- 중국측 의견
  · FANEA 포럼의 구성원 확대 필요성에 동의
  · 경쟁력과 영향력 강화 측면을 고려하면, 기관을 확대하는 것이 필요하며, 더욱이 새로운 학술을 접할 기회가 증대
- 일본측 의견
  · FANEA 포럼의 구성원 확대에 대한 내부의견 조율 결과 곤란
  · FANEA 포럼은 기본적으로 한·중·일 3개국의 정부기관 연구소가 중심이 되어 운영되고 있는데, 대학교 등 민간부문 참여 시 오히려 세력 약화 우려
  · 기존 3개 기관의 의견 조율에도 여러 가지 문제가 있는데, 확대 시 의견 조율이 더욱 어려워질 가능성 존재
  · FANEA 포럼이 아닌 국제심포지엄에 타 기관이 공동 참여하는 것은 용인 가능

➡ FANEA 포럼 구성원 확대 문제는 각 국간의 이견이 있어 이번 회의에서 확정하는 것은 곤란하므로 내년도 국제심포지엄 이전 기관장 모임에서 재

논의하는 것으로 합의
단, FANEA 국제심포지엄에 타 기관(또는 타 전문가)이 공동 참여하는 것을 허용하기로 하고, 내년도 심포지엄 발표자 및 토론자 선정 시 각국의 판단에 따라 타 기관(또는 타 전문가) 참여 가능

부록 1

FANEA 국제심포지엄(2003~2009) 분야별 발표논문 제목

1. 농산물 유통 및 가공: 산지유통, 소비지 유통(도매・소매)

○ 「한중일 농촌경제 협력의 선택: 1차 상품 유통조직 혁신」, 우시우웬(길림성 정부 농촌경제정보센터, 제1회)
○ 「일본의 채소수입 동향과 수입채소 유통의 특징」, 고바야시 시게노리(PRIMAFF, 제1회)

2. 식량안보・식품수급

○ 「중국의 식량안보 정책과 유통체제 개혁」, 슈사오칭(국무원 발전연구중심, 제2회)
○ 「일본의 식량안보 문제와 정책방향」, 마사토 이토(PRIMAFF, 제2회)
○ 「한국의 식량안보 문제와 정책반응」, 임송수(KREI, 제2회)

○ 「중국의 곡물 수급 균형 분석」, 주시강(IAED/CAAS, 제2회)
○ 「2018년 세계 식료수급 전망」, 후루하시 겐(PRIMAFF, 제6회)
○ 「세계 곡물가격 상승이 한국에 미치는 영향」, 김태훈(KREI, 제6회)
○ 「육제품 가격상승이 중국 식료안전보장에 미치는 영향」, 왕밍리(IAED/CAAS, 제6회)

3. 농가경제와 소득 문제

○ 「농가계층 변동의 특징과 요인」, 하시즈메 노보루(PRIMAFF, 제1회)
○ 「중국의 농촌빈곤과 빈곤 경감 정책」, 왕상구이(IAED/CAAS, 제3회)
○ 「농촌 불균형」, 싱리(IAED/CAAS, 제3회)
○ 「한국 농업의 구조변화와 양극화 실태」, 김정호(KREI, 제3회)
○ 「한・중・일 농민 소득문제와 정부정책」, 리센더(IAED/CAAS, 제3회)
○ 「신 핵심농가경영 안정화제도에 대한 예비연구」, 요시이 쿠니히사(PRIMAFF, 제4회)
○ 「한국 농정의 최근 변화」, 박성재(KREI, 제4회)

4. 식품안전: 유전자 변형, 검역

○ 「중국의 농업표준화 개발 현황과 쟁점」, 슈샤오준(중국 농업부, 제2회)
○ 「유전자변형 곡물: 국제 식품체계에의 영향」, 타치카와 마사시(PRIMAFF, 제2회)
○ 「한국의 식품안전 체계」, 최지현(KREI, 제2회)

5. 환경농업: 다원적 기능, 유기농, 지속가능성

○ 「농업의 다원적 기능에 대한 논의와 정책과제」, 고다모토 유키(PRIMAFF, 제3회)
○ 「농업의 다원적 기능에 관한 경제적 조망」, 김창길(KREI, 제3회)
○ 「농업의 다원적 기능과 지역개발」, 후즈췐(IAED/CAAS, 제3회)
○ 「농업의 지속가능성 평가」, 다카하시 요시푸미(PRIMAFF, 제3회)
○ 「순환경제 메커니즘을 통한 농업의 삼차원적 오염 관리」, 주리즈(IAED/CAAS, 제3회)

6. 농업기술: 연구개발, 생산성

○ 「한·중·일 간 농업경제 연구방향 설정」, 쑤에구이씨아(IAED/CAAS, 제1회)
○ 「동북아지역 농정연구 협력의 필요성과 과제」, 이동필(KREI, 제1회)
○ 「PRIMAFF 내의 연구협력 활동 개괄」, 치바 오사무(PRIMAFF, 제1회)

7. 농업생산요소: 농지, 용수, 노동력, 농기계, 농자재

○ 「일본 농지이용의 구조적 변화: 차지/대규모화 진행과 농지이용의 후퇴」, 오노 도모야키(PRIMAFF, 제1회)
○ 「일본 농촌사회의 인구문제」, 하시주미 노보루(PRIMAFF, 제3회)
○ 「일본의 산지마을과 고령자 생활」, 아이카와 요시히코(PRIMAFF, 제3회)
○ 「중국의 현행 농지제도: 정립과 평가」, 시아잉(IAED/CAAS, 제4회)

○ 「급등하는 국제 원유가격이 일본의 농식품 분야에 미치는 영향 평가」, 요시다 타이지(PRIMAFF, 제4회)
○ 「유가급등이 시설원예 경영과 생산에 미치는 영향」, 이용선(KREI, 제4회)
○ 「일본 농촌의 연령구조 실태와 요인」, 마쯔히사 쭈토무(PRIMAFF, 제5회)
○ 「한국 농촌 노인의 생산 활동과 관련 변수」, 마상진(KREI, 제5회)
○ 「중국 농촌 인구 고령화의 경제적 영향」, 쟝쯔웨이(IAED/CAAS, 제5회)

8. 농산물 무역: 수출입, 관세, 원산지 규정, 지적재산권

○ 「한・중・일 농업 및 무역정책 분석을 위한 모형 및 데이터베이스 구축」, 리우샤오허(IAED/CAAS, 제3회)
○ 「동북아 국가의 농업무역 흐름과 쟁점들」, 권오복(KREI, 제2회)
○ 「동북아 농산물 교역문제 연구와 토론」, 리우샤오허(IAED/CAAS, 제2회)
○ 「세계 쇠고기 무역의 구조변화와 영향: Aglink 모형에 의한 시나리오 분석」, 우에바야시 아쓰유키(PRIMAFF, 제2회)
○ 「DDA 이후 한국 농업 전망: 쌀 산업을 중심으로」, 서진교(KREI, 제1회)
○ 「도하 개발 의제 이후 중국의 농업통상」, 리우샤오허(IAED/CAAS, 제1회)
○ 「한・중・일 3개국 역내 농업교역에 관한 연구」, 리우샤오허(IAED/ CAAS, 제4회)
○ 「협조적 게임이론에 따른 FTA 분석」, 후쿠다 류이치(PRIMAFF, 제4회)
○ 「한・미 FTA가 한국 쇠고기 시장에 미치는 영향」, 김윤식(KREI, 제4회)

9. 국제협력: 역내 협력(동북아, APEC), 국제기구(OECD, FAO)

○ 「한・중・일 농업구조 분석: 역내 농업협력 가능성」, 어명근(KREI, 제1회)

10. 농촌개발

○ 「주민참여를 기반으로 한 농촌개발」, 유경희(PRIMAFF, 제3회)
○ 「한국에서의 도농간 발전격차 실태」, 박시현(KREI, 제3회)
○ 「도농간 교류 프로그램의 새로운 단계」, 에가와 아키라(PRIMAFF, 제3회)
○ 「중국의 신농촌 건설과 한·일 양국의 농촌발전 경험이 주는 시사점」, 리센더(IAED/CAAS, 제5회)
○ 「중국의 농업·농촌 진흥: 상황, 과제, 정책」, 리센더(IAED/CAAS, 제6회)
○ 「일본 소중학생을 대상으로 한 체험교육여행: 농촌사회 부흥 정책」, 스즈무라 겐타로(PRIMAFF, 제6회)
○ 「한국의 농촌지역과 농촌정책」, 김용렬·성주인(KREI, 제6회)

11. 농촌금융과 보험

○ 「한국 농업금융의 현재와 미래」, 정호근(KREI, 제5회)
○ 「중국의 곡물생산 및 위험지역 등급화와 농업보험 정책」, 리싱(IAED/ CAAS, 제5회)
○ 「일본의 농업·농촌 금융 현황」, 하세가와 고세이(PRIMAFF, 제5회)

12. 바이오에너지

○ 「바이오에너지 개발과 중국 농업에 미치는 영향」, 류샤오헤(IAED/ CAAS, 제5회)

○ 「브라질 바이오에탄올의 대일 수출: 세계 설탕 시장의 계량경제적 시뮬레이션」, 고이즈미 다쯔지(PRIMAFF, 제5회)
○ 「한국의 바이오 연료 생산 동향과 전망」, 이상민(KREI, 제5회)

부록 2

제6회 FANEA 국제심포지엄 발표논문

1. Agenda 1: Rural Development and Agriculture

1.1. Agricultural and Rural Development in China: Situation, Challenges and Policies

Li Xiande(Institute of Agricultural Economics and Development,
Chinese Academy of Agricultural Sciences)

1.1.1. Situation

Agriculture in the national economy

With Chinese economic development, the shares of agriculture in GDP and in total employment are decreasing. In 1990, the agricultural share in GDP was 27%, falling to 15% in 2000. In 2007, this ratio is further reduced to 11%. The share of agriculture in total employment fell from 60% in 1990 to 50% in 2000 and further to 40.8% in 2007 (Table 1). The comparison of the agricultural shares in GDP and in employment reveals that the agricultural labour productivity is very low compared to industry and service sectors, equal to only

1/7 of industry and a little more than 1/5 of service sectors. The result also implies a high pressure for the agricultural labours to move out of the countryside and agriculture.

In 2005, China has 503.87 million rural labours, out of which 300 million are agricultural labours, accounting for 59.5% with the remaining 40.5% working in industry and service sectors. Those non-agricultural labours were mainly absorbed by the township and village enterprises (TVEs), the rural community-based enterprises. According to the Second Agricultural Census conducted in 2007 (for the data of 2006), China has about 200 million farm households which cultivate 122 million hectares of land, i.e. with average farm size of about 0.6ha.

In terms of the agricultural production structure, cropping sector accounts for 50.4% in 2007, livestock sector 33%, fishing 9.1% and forestry 3.8%, the remaining 3.7% for agricultural services.

In 2007, the agricultural import and export account for 4.3% and 3.0% respectively of national total import and export. 6.8% of government budget is spent on agriculture. Among all the social retail sales of consumer goods, only 32.3% are in the countryside, while 55% of Chinese populations are still rural.

Table 1 Agriculture in National Economy

Year	Agriculture in National GDP (%)	Agriculture in total employment (%)	Rural consumers goods sale in national total (%)	Expenditure on Agriculture in national financial Expenditure (%)	Agricultural Import in total import (%)	Agricultural Export in total export (%)
1990	27.1	60.2	48.5	10.0	16.1	17.2
1995	19.9	52.2	43.2	8.4	9.3	9.4
2000	15.1	50.0	38.2	7.8	5.0	6.3
2005	12.2	44.7	32.8	7.2	4.3	3.6
2006	11.3	42.6	32.5	7.9	4.0	3.2
2007	11.3	40.8	32.3	6.8	4.3	3.0

Source: China Agricultural Development Report 2008.

Rural industry

The rural industry in China refers to the township and village enterprises (TVEs), those enterprises, frequently collectively owned, are rooted in the countryside, and supported strongly by the local governments, especially during the first stage of development in the 1980s. Since the mid-1990s, collective TVEs are gradually transformed into shareholding companies and private enterprises, their performance is greatly improved. From 1978 to 2006, the numbers of TVEs have increased by more than 10 times, from 1.5 million enterprises to 23 million enterprises. From 1985 to 2006, TVE added value increased more than twenty-folds in real terms, with annual growth rate of 15%. The rapid growth of TVEs has facilitated the structural transformation of the Chinese rural economy. In total, TVEs created 118.5 million new jobs from 1978 to 2006, i.e. more than 4 million per year during this period of time.

Table 2 TVE performance in China, 1985-2006

	Numbers of TVEs (million)	Employment (million)	TVE Share in National Employment (%)	TVE value added (billion) (1)	TVE Share of National GDP (%)	TVE Share of National Industrial Production % (expressed in value added)	TVE Share of National Exports % (2)
1985	12.23	69.8	14.0	248	8.6	15.0	
1990	18.73	92.6	14.3	483	13.4	27.1	16.3
1995	22.03	128.6	18.9	1,610	24.0	43.3	43.3
2000	20.85	128.2	17.8	2,716	27.4	47.0	43.0
2001	21.16	130.9	17.9	2,856	26.8	46.6	43.6
2005	22.50	142.7	18.8	4,692	27.5	46.4	33.0
2006	23.14	146.8	19.2	4,980	27.5	45.2	40.1

Notes: (1). Nominal values deflated by Ex-Factory Price Indices of Industrial Products, 2000 price. (2)TVE export delivery value related to the total value of export.

Source: ChinaTownshipandVillageEnterpriseStatisticalYearbook, China Statistical Yearbook, various years.

After almost thirty years of development, TVEs change fundamentally not only China's rural economy, but also the Chinese economy as a whole. As a main driving force of rural economy, TVEs provide channels for the rural labors to find non-agricultural jobs and new income-earning opportunities, enhance substantially farmers' income, and change greatly landscape of Chinese countryside. In 2006, TVEs employ almost one-fifth of total labors, produces nearly 50% of national total industrial production and contribute more than a quarter of national GDP and about 40% of China's export (Table 2).

Grain production

The grain security was and remains the top priority of policy objectives in China. In the late 1990s (1996-1999), China experienced several consecutive years of bumper harvests, with the output of grain (includes soybean) more than 500 million tons. Since then, grain production reduced year by year. In 2003, the output was only 430 million tons, the gap between supply and demand was quite large. The sharp increase of grain price in the autumn of 2003 made the Chinese government to adjust its agricultural policies. Since 2004, very positive results were achieved. In 2004, the grain production increased by 9% (while the sown area increased by only 2.2%); in 2005 and 2006, the growth rates were 3.1% and 2.8% respectively. In 2007, the grain output in China reached again more than 500 million tons (502 million exactly), with growth rate of 0.8%. Thanks to the consecutive years of grain increase, China ensures sufficient domestic supply by its own production. In recent years, China is the net exporter not only for rice, but also for wheat and maize (Table 3 and Figure 1). But China is a big importer for soybean in the world.

Table 3 Supply and demand of major cereals in China: 2005-2007

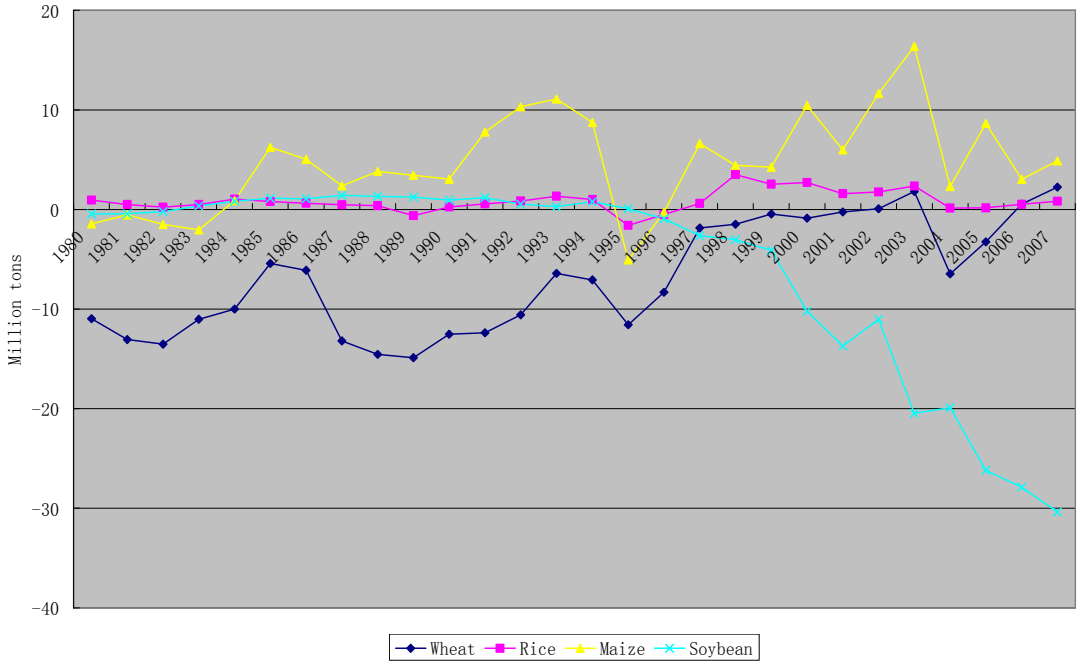
Unit: 1000 tons

	2005/2006	2006/2007	2007/08
Production	417,409	432,512	440,500
Import	2,426	1,143	630
Supply	419,835	433,655	441,130
Human consumption	244,100	240,000	239,000
Feed consumption	113,300	112,100	116,300
Industrial consumption	35,900	41,350	43,000
Seed	12,100	11,930	12,000
Waste	15,100	12,900	12,650
Domestic consumption	420,500	418,280	422,950
Export	5,700	8,466	4,300
Total consumption	426,199	426,746	427,250
Ending carryover	- 6,364	6,908	13,880

Note: Marketing year is from October to September. The major cereals in the table refer to only rice, wheat and maize.

Source: National Grain and Oils Information Centre.

Figure 1 China'snettradestatusformajorgrainproducts:1980-2007



Farmers' Income

In nearly three decades, farmers' per capita net income in China has increased greatly. In real terms, the farmers' income has increased by nearly five times since 1980, with annual growth rate of 6%, out of which the highest rate occurred in the first half of 1980s (with growth rate of 14%) and in the mid-1990s (with growth rate of over 10%). But since 1997, the income growth rate slowed down and even stagnated. In 2000, the growth rate was only 2%. In recent four years, the Chinese government has taken a series of policy measures to tackle income issue and the growth rate of farmers' income recovered, with annual rate of more than 6%. In 2007, the farmers' per capita net income is 4140 Yuan, with growth rate of 9.5% (NBSC, 2008).

Farmers' income in China comes from four channels: on-farm agricultural activities, household non-agricultural activities, wages, and transfer & property income. With the development of rural industry and diversification of productive activities, the income sources have changed significantly. Now more and more farmers are engaged in the non-agricultural activities, farmers' income relies on them. In 2007, agricultural activities provide just 42.1% of farmers' income. 38.6% of farmers' income is from wages, 10.8% of income is from household non-agricultural activities. The remaining 8.5% of farmers' income is from the transfer and property source.

Agricultural trade

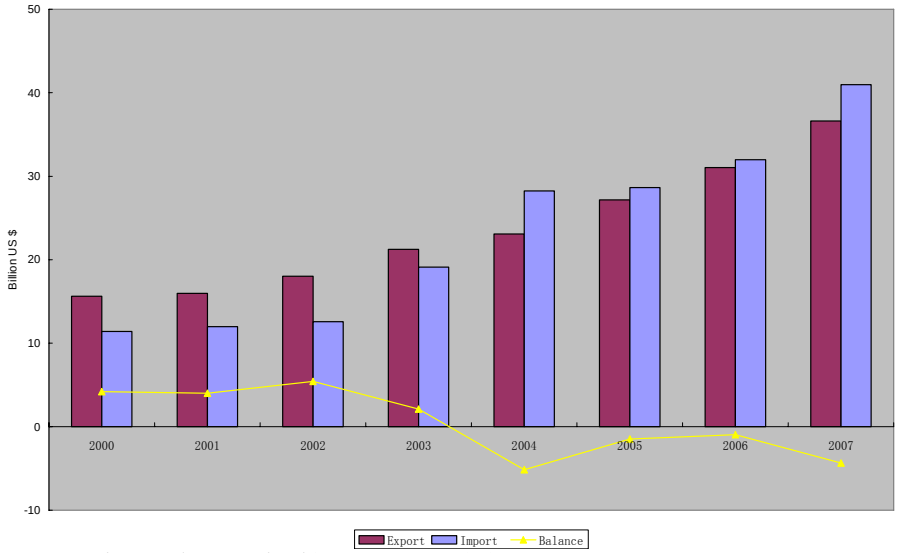
After China's WTO accession in 2001, agricultural trade increased greatly both in terms of export and import, the growth rate for the post-WTO period is much faster than for the pre-WTO period. The total value of agricultural trade increased from 28 billion US$ in 2001 to 77.6 billion US$ in 2007, with a growth rate of 18.6%, high than 6% for the period of 1992-2001. Of which,

China's agricultural import increased from 12 billion US$ in 2001 to 41 billion US$ in 2007, with growth rate of 22.7%, agricultural export increased from 16 billion US$ to 36.6 billion US$ for the same period, with growth rate of 14.8%.

The faster growth of import than export resulted in the radical changes of China's agricultural trade status. In 2004, China became a net deficit country for its agricultural trade, the deficit amounted to more than 5 billion US$, the years 2005 and 2006 continued the deficit status, but the amount reduced substantially. The agricultural trade remains the deficit status in 2007, with negative balance to more than 4 billion US$ (Figure 2).

Regarding the export destination, China's main market is Asia, accounting for 60.2% of China's total agricultural export, of which Japan 22.8%, South Korea 9.8%, followed by Europe (19.2%) and North America (13.5%), other continents' shares are quite small: South America 2.4%, Africa 3.1% and Oceania 1.6%. China's import sources are as follows: Asia 24.6%, Europe 11%, North America 25.4%, South America 28.2%, Africa 2.3% and Oceania 8.5%.

Figure 2 Agricultural trade in China, 2000-2007



Source: Comtrade Database and ChinaCustomsStatistics

In general, China imports mainly land intensive products, such as: soybean 11.47 billion Yuan (30.82 million tons), accounting for 28% of total import in 2007, palm oil and soy oil 5.34 billion US$ (7.21 million tons), cotton 3.48 billion US$ (2.46 million tons) and sugar 0.38 billion US$ (1.19 million tons). China exports mainly labor intensive products, such as: apple juice 1.24 billion US$ (accounts for 3.4% of total export), onion 1.08 billion US$, canned mushroom 0.64 billion US$, meat and poultry products 3.8 billion US$, etc.

1.1.2. Challenges

Enlarging income gap

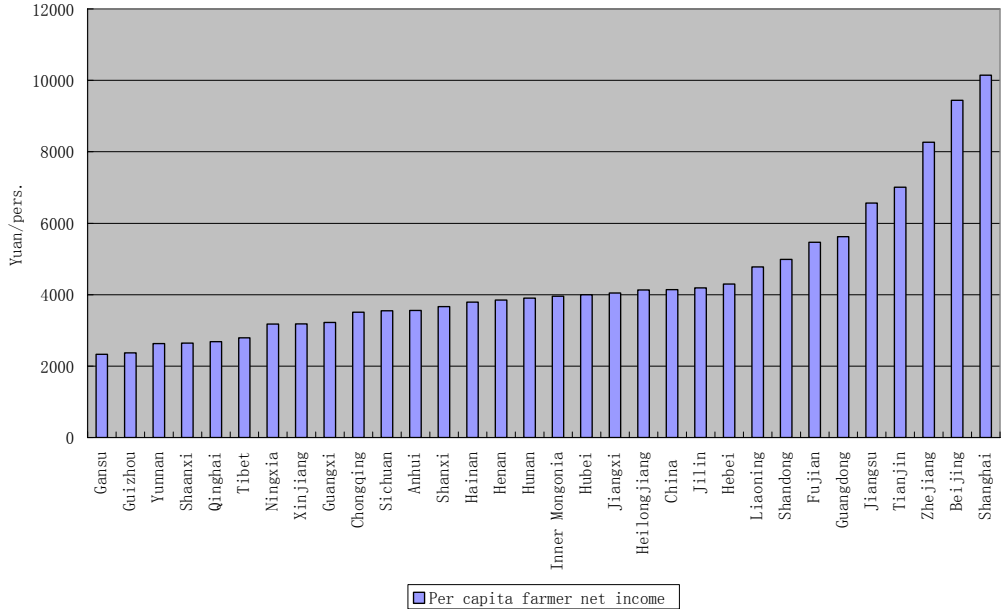
Even though Chinese economy keeps nearly a two digital growth rate in the past three decades, the economic results are not evenly distributed between rural residents and urban residents. In contrast, the urban and rural income gap is continuously to widen. In 1978－the year of China's economic reform, the ratio of urban to rural income is 2.6:1, then declined to 1.8:1 in 1985. But in the following years, the urban-rural income gap showed a rising tendency, in particular, the gap becomes wider and wider since the late 1997. In 2007, urban-rural income ratio reached an historical record level of 3.3:1. If the welfare and benefits enjoyed by the urban residents are included, the income gap would be much higher.

The urban-rural income gap comes partly from the uneven access to public services (mainly education and healthcare). For example, in 2005, public expenditures per primary school student and per junior secondary school student in rural areas were 1573 Yuan and 1820 Yuan, equivalent to only 69% and 68.5% respectively to their urban counterparts. With regard to the investment on healthcare, in 2004, 58% of rural population used only 35% of financial resource. On per capita basis, the expenditure on the urban citizens is more than

4 times higher than their rural counterparts. Urban areas occupy 80% of total sick bed in hospitals while rural areas have only 20% (Li, 2007a).

The income gap among different regions is also very high. Farmers' income in the developed provinces is much higher than that in the undeveloped provinces. This point can be illustrated by the ratio of farmers' income in the highest province to the income in the lowest-income province. In 1980, the ratio of highest-income province (Shanghai) to lowest-income province (Shaanxi) was 2.8:1. In 1990, this ratio was over 4 to 1 (4.4:1, Shanghai vs. Gansu), in 2007, the income gap of Shanghai to Gansu gap still maintains at that level (Figure 3).

Figure 3 Income gap among provinces in China, 2007



Tight supply of agricultural products

Even though China meets its basic food needs by domestic production, it still faces more and more difficulties to achieve this goal because of limited land

and water resources. In the 11th Five-Year Plan, the grain output goal is set at around 500 million tons by Chinese government (roughly current level) while the domestic demand will increase in the future. There may be a gap between production and demand. Moreover, the grain production will encounter new pressures and be influenced by new emerging factors. Firstly, the development of global biofuel production creates the competitive utilization of land. According to a report, around 100 million tons of cereals (or nearly 5% of world's total cereal production!) are used to produce bio-ethanol, US alone uses 81 million tons of maize (FAO, 2008). Brazil uses sugarcane to produce bio-ethanol, and EU utilizes oilseeds to produce biodiesel, which changes fundamentally the cropping structure in the world. More and more lands are used for producing biofuel instead of food.

Secondly, also closely related to the development of biofuels, the domestic and world grain price relation changes greatly. In general, the domestic prices of corn and rice are higher than world price for the majority of the years in the decade of 1996-2006 (Table 4), for example, the corn price is 21% higher, and the rice 32% higher in 2006. The higher price in China contributed partly to the increase of grain production in recent years. But in the past months, this domestic-world price relation reverses, the world prices increase tremendously, for example, the wheat (US Hard Red Wheat) world price increases by 115% from Dec. 2006 to March 2008, to 439.7 US$/ton (3078 Yuan/ton). Rice (Thailand, 5% broken) world price increases by 197%, from 305 US$/ton in Dec. 2006 to 907 US$/ton (6350 Yuan/ton) in April 2008, maize world price increases by 79%, from 160.4 US$/ton in Dec. 2006 to 287 US$/ton (1980 Yuan/ton) in June 2008. Under this situation, the Chinese government made a decision in early Feb. and late March 2008 to increase twice the minimum purchase prices for wheat and rice. With the decrease of world price in very recent months, the wheat and rice world prices are moving close to China's domestic

prices (Figure 4 and 5).

Table 4 Comparison of domestic price and world price

(Yuan/ton)

	Wheat			Corn			Rice		
	Domestic price	World price	D/W (%)	Domestic price	World price	D/W (%)	Domestic price	World price	D/W (%)
1996	1,620	1,690	96	1,140	1,340	85	2,810	2,530	111
2000	1,200	970	124	880	730	121	2,260	1,500	151
2001	1,140	1,060	108	910	740	123	2,230	1,280	174
2002	1,070	1,240	86	930	820	113	2,130	1,420	150
2003	1,080	1,200	90	960	870	110	2,220	1,460	152
2004	1,470	1,310	112	1,160	930	125	2,750	1,850	149
2005	1,470	1,270	116	1,050	800	131	2,770	2,060	134
2006	1,410	1,550	91	1,170	970	121	2,860	2,170	132

Source: Zhu, 2007.

Figure 4 Comparison between international price and domestic price: Rice

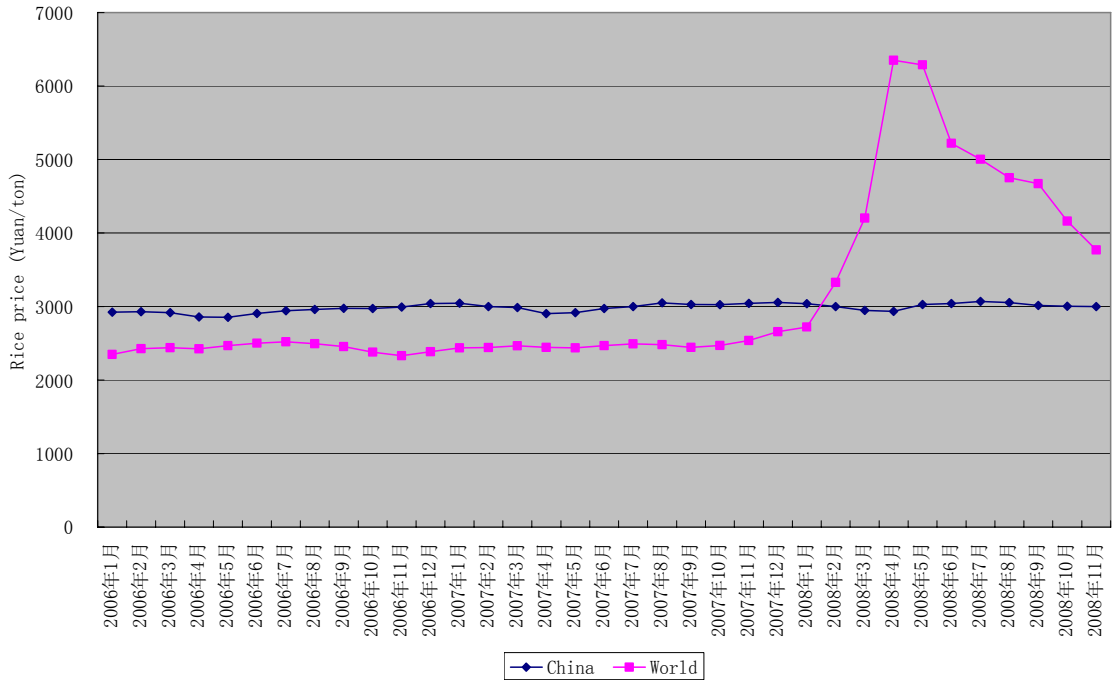
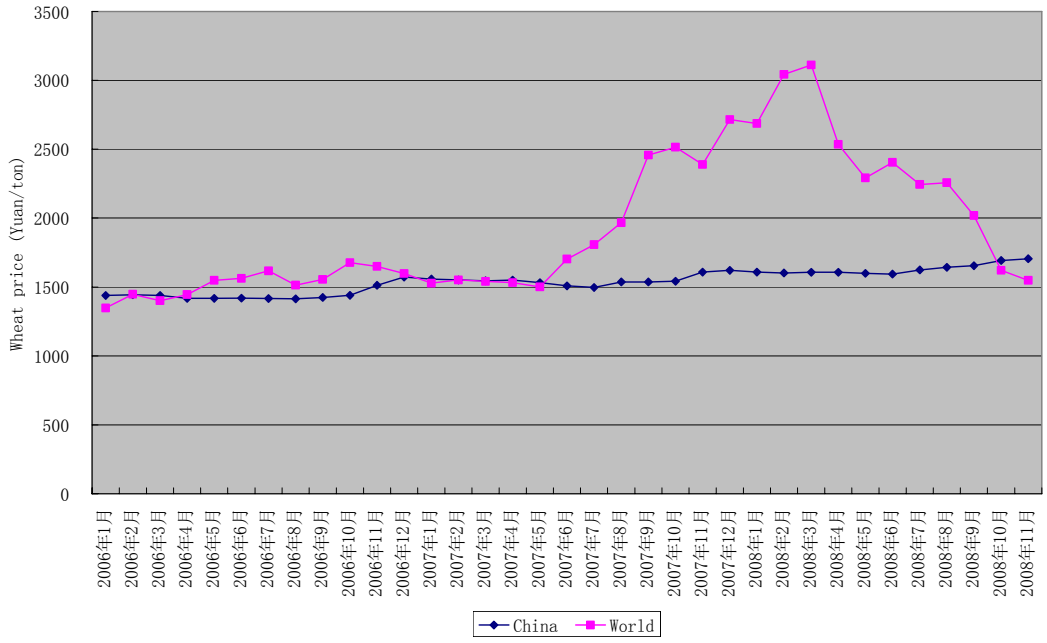


Figure 5 Comparison between international price and domestic price: Wheat



Negative impacts of massive import

The massive import of certain products in recent years affects strongly relevant sectors and farmers' interests. Take soybean as example, from 2001 to 2007, the import quantity increased from 13.94 million tons to 30.82 million tons, up by 121%. Among China's total import of 40.97 billion US$ in 2007, soybean alone accounts for 28%. The massive import of soybean exerts strong influences on the Chinese soybean producers and the whole sector. Firstly, the soybean import is monopolized by the foreign companies. Because the importers of soybeans are mainly the large-scale crushing enterprises, those enterprises actually are controlled by some multinational companies such as Cargill, ADM after several years of consolidations. Under this situation, it's difficult for the Chinese government to regulate the market effectively. Secondly, the domestic market relies heavily on the world market, and the prices show strong

fluctuations. Thirdly, farmers in Northeast China suffer greatly from the massive import. According to a research, the massive import of soybeans lowered the domestic price by 6.9% or farmer loss by 3.5 billion Yuan, much higher than government support of 0.1 billion Yuan (Li, 2007b).

Financial and credit constraints

After the economic reform, Chinese government has increased budget expenditure on agriculture, but on the other hand, government took lots of financial resources through agricultural taxations. Globally, government's net transfer to agriculture is positive, especially after the tax-for-fee reform in 2000, the government increased the input to agriculture, which made the net inflow to agriculture for the period 2001-2005 double than that for 1996-2000. However, if the TVEs are taken into account, the government net transfer to rural areas is negative since the mid-1980s, which implies that lots of capital flows out of countryside towards urban sectors. The outflow becomes bigger and bigger over time. For example, the total outflow for the period 1991-1995 was 457.1 billion Yuan (1999 price), in 1996-2000, the outflow increased by more than 100 billion Yuan, to 564 billion Yuan. By the period of 2001-2005, the outflow increased by nearly 500 billion Yuan, to 1059 billion Yuan. Since 2001, the outflow averaged more than 200 billion Yuan.

Rural capital also demonstrates the outflow status through credit channel. For example, the outflow of capital of Rural Cooperative Credit (RCC) (the difference of rural saving minus rural credit) increased from 12 billion Yuan in 1978 to 673 billion Yuan in 2003 (Cai, 2006). Sharply in contrast to the outflow of rural credit, the agricultural and non-agricultural activities in the rural areas get less and less credit in the national loans (expressed in share in total loans). By the end of 2005, agricultural loans and TVEs loans account for only 5.9% and 4.1% respectively of total loans of all Chinese financial institutions, while their

contributions to GDP are much higher, with 12.5% and 27.5% respectively (Table 5).

Table 5 Credit constraints for Agriculture and TVE (%)

	TVE share of GDP	Agricultural share of GDP	TVE share of total lending	Agricultural share of total lending
1990	13.4	28.4	n.a.	6.2
1995	24.0	20.8	n.a.	4.9
2000	27.4	16.4	6.1	4.9
2001	26.8	15.8	5.7	5.1
2002	26.9	15.3	5.2	5.2
2003	27.0	14.6	4.8	5.3
2004	26.2	15.2	4.5	5.5
2005	27.5	12.5	4.1	5.9

Source: China TVE Yearbook; China Statistical Yearbook; China Agricultural Development Report; various editions.

Low level of support to agriculture

Even though the Chinese government increases the investment in agriculture in recent years, the overall level is still very low compared to the developed countries. In 2005, China's total support to agriculture amounts to 52.4 billion US$ (or 428.9 billion Yuan), much lower than EU, USA, also lower than Japan. On the per hectare or unit labor basis, the gap is still larger. For example, per hectare support and per labor support in EU are respectively 4.4 and 92 times higher than in China (Table 6). Agricultural support accounts for very important part of farm gross receipts in those countries, for example, this ratio is 55% in Japan, 33% in EU and 16% in USA, but only 8% in China (Li, 2008).

Table 6 International comparison of agricultural support, 2005

	China	EU	USA	Japan
Total support (billion US$)	52.4	153.1	105.4	54.8
Support by unit land (US$/ha)	366	1560	604	12569
Support by unit labour (US$/ha)	175	16048	46473	37924
PSE% (producer support/ farm gross receipts)	8	33	16	55

Source: OECD, 2007a, 2007b.

1.1.3. Policies

To ensure the national grain security and increase farmers' income, Chinese government has implemented a series of policy measures, including elimination of agricultural taxes, provision of income support to grain farmers, introduction of minimum purchase price, increase of budgetary outlays to agriculture, and reforming foreign trade policies, etc.

Elimination of agricultural taxations

China began the pilot reform of agricultural taxations in 2000 in Anhui province; the new unified consolidated tax rate (to replace the previous formal taxes and various fees and charges to farmers) of 8.4% was formulated in 2003; then different provinces implemented different percentages reduction of tax rate in 2004 and 2005. By 2006, China has totally eliminated the agricultural taxes which existed in Chinese history for 2600 years. According to the official figure, this measure can reduce 125 billion Yuan of taxations for Chinese farmers.

Income support policy

In 2004, China started to implement the direct payment to grain producers. This policy marked the radical changes, shifting from taxing farmers to providing them subsidies. Just from the central government's budget, the direct payment amounted to 11.6 billion Yuan in 2004, then increase to 13.2 billion Yuan in 2005, 14.2 billion Yuan in 2006 and 15.1 billion Yuan in 2007 and 2008, which shows clearly an upward tendency.

Subvention of the purchase of improved seeds: this policy was also implemented since 2004, the amounts are as follows: 2.85 billion Yuan in 2004, 3.87 billion Yuan in 2005 and 4.07 billion Yuan in 2006, 5.57 billion Yuan in 2007.

Subvention of the purchase of agricultural machines: the financial support of this policy is quite small in the first three years: 70 million Yuan in 2004, 300 million Yuan in 2005 and 600 million Yuan in 2006. But from 2007, the subsidies doubled to 1.2 billion Yuan in 2007, and in 2008 the subsidy amount increases by more than 3 times, to 4 billion Yuan (all the counties in China will be covered).

Subvention of the purchase of agricultural inputs: this policy is used mainly for the purpose of compensating the price rise of agricultural inputs (especially chemical fertilisers, diesel, pesticides, etc.) in recent years, the subvention amounts are as follows: 12 billion Yuan in 2006, 27.6 billion Yuan in 2007 and 63.8 billion Yuan in 2008 (increased by 131% to previous year).

Premium for the major grain producing counties (around 800 counties in China): this policy was implemented only in two years, 2005 and 2006, with funds of 5.5 billion Yuan and 8.5 billion Yuan respectively. The objective of this policy is to mitigate the financial difficulties in the grain producing counties and to provide incentives for farmers to produce more grains.

In 2007, China implemented some other new policy measures, such as: cotton

seed subvention first introduced; insurance for pig production and pilot crop insurance, etc.

Minimum purchase price

In May 2004, the Chinese government liberalized the grain marketing, the price and procurement are determined by market. Government regulates the market through the China Grain Reserves Corporation and local government reserves. To ensure the market stability and to protect farmers' economic interests, government sets minimum purchase prices for major grain varieties: only for rice in 2004 and 2005, and extended to wheat in 2006. After the operation of three years' unchanged minimum purchase price, the Chinese government decides to increase twice in 2008 (Feb. and March) the levels of minimum purchase price, in order to provide more incentives for Chinese farmers. The price levels are as follows: 1540 Yuan/ton for white wheat, 1440 Yuan/ton for red wheat and mixed wheat; 1540 Yuan/ton for early Indica rice, 1580 Yuan/ton for late Indica rice and 1640 Yuan/ton for Japonica rice (NDRC, 2008). For the Japonica rice, the coverage of minimum purchase price will extend from previous two provinces (Heilongjiang and Jilin) to three provinces (Heilongjiang, Jilin and Liaoning). After the price increase in 2008, wheat price increased by 4 to 7% compared to 2007, rice price increases by 9 to 10%.

Increase of investment on agriculture and rural development

In recent years, Chinese government increased the investment on agriculture and rural development. For example, the budget expenditure on agriculture in 2005 was 297.5 billion Yuan, increased by 13.3% to the previous year; the expenditure in 2006 was 339.7 billion Yuan, up by 14.2%. The expenditure on agriculture in 2007 increased to 431.8 billion Yuan. Expenditure on agriculture in 2008 is expected to increase by another 130.7 billion Yuan, to 562.5 billion

Yuan, up by 30% (Xinhua net, March 29, 2008).

To promote the rural development, the Chinese government pays high attention to rural education and rural healthcare system in recent years. After the tax-for-fee reform, the responsibility of investment on education shifts mainly from farmers to various levels of governments. In 2005, central government shoulders the financial responsibility of compulsory education for central and west China. In 2007, the free education (no school fees, no fees for text books, etc.) was implemented in whole China. 150 million rural students and 7.8 million pensioners from poor rural families benefit from this policy (Wen, 2008). The budget on rural education was 184 billion Yuan in 2006, it increased to 223.5 billion Yuan in 2007, up by 21%.

Rural cooperative healthcare reform was entered into government agenda in 2003. 304 counties were selected for the pilot reform. By the end of June 2005, 163 million of rural population in 641 counties have conducted cooperative healthcare system reform, government provided 10 Yuan of subsidy for each rural people, in 2006, the subsidy provided by central government increased to 20 Yuan per head (provincial and county governments provide another 20 Yuan for each rural people), around 40% of rural population benefited from this reform (Song, 2008). By the end of 2007, 86% of counties in China undertook this reform, 730 million rural populations participates in the new cooperative healthcare scheme (Wen, 2008). Since 2008, the rural cooperative healthcare reform will extend to the whole country.

In addition, to resolve effectively the rural credit constraint problems, the central government held Financial Work Meeting in Jan 2007 and decided to establish multi-layers, wide coverage and sustainable rural financial systems. The government relaxed greatly the conditions for establishing financial institutions in the countryside. For example, the government allows the establishment of village bank and township bank, with capital from 0.1 million (credit

institution established in the village) to 3 million Yuan (bank established in the county headquarter). Foreign capital is also authorized to enter into rural China.

Reforming trade policies

Since the early 1990s, China has progressively reduced import tariffs on agricultural products, from 54% in 1992 to 23.1% in 2001. After China's accession into WTO, the tariffs on agricultural products reduced to 15.35% in 2005. In 2006, the average import tariff is further reduced to 15.23%, equal to only one fourth of world average (62%). Currently China becomes one of the countries with lowest agricultural import tariffs.

In line with the common practices in the world, China implements the tariff rate quotas (TRQs) management since mid-1990s. TRQs apply to major agricultural products, such as: wheat, maize, rice, soybean oil, palm oil, rape oil, sugar, wool, wool tops, cotton, and chemical fertilizers. The National Development and Reform Commission (NDRC) and Ministry of Commerce (MOFCOM) are jointly responsible for administering tariff rate quotas for rice, maize, wheat, and cotton, and MOFCOM is solely responsible for fertilizers, wool, and other agricultural products.

In 2002, the TRQ on soybean was abolished, with only single tariff of 3% applied. The above quota tariff rates for grains are also reduced greatly, from 114% in 2001 to 65% in 2005. After several years of transition period, the TRQs for vegetable oils are also abolished in 2006. Currently, there is only 9% of single tariff applied for them.

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1.2. Experience-based Education Tours for Elementary and Junior High School Students in Japan - In the context of the policies to revitalize rural communities

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1.2.1. Introduction

There are hard and soft approaches to developing rural communities and revitalizing local areas. One of the most representative examples of the soft approach is Green Tourism (hereinafter referred to as "GT"). Currently, as a part of GT, some rural communities in Japan accept elementary and junior high school students as part of the school's education tours, such as a "school trip" (extended field trip) , in an effort to the revitalize the local area.

The Ministry of Agriculture, Forestry and Fisheries, the Ministry of Education, Culture, Sports, Science and Technology, and the Ministry of Internal Affairs and Communications are all currently promoting the "Children & Farming/Forestry/Fishing Communities Interaction Project" in an effort to provide elementary school children experience in agriculture, forestry and fishing. This project is also related to the above efforts to revitalize local communities. The project aims to provide children in approximately 23,000 elementary schools nationwide (1.2 million students per grade) with an opportunity to experience a one-week stay/interaction in one of approximately 500 farming/forestry/fishing communities in Japan within five years from the year 2008. This project is in accordance with government-driven initiatives to revitalize rural communities by focusing on actual experience in farming/forestry/fishing. In this paper, the series of farming/forestry/fishing experience programs

(including homestays at farming households) for students has been named the "Experience-based Education Tour", and the actual situation of these trips will be revealed by focusing on their business mechanisms and the profit structure for the farmers that accept students. Also, the economic and social benefits to the participating rural communities and the challenges and prospects for the future will be reviewed and examined.

To begin with, we will first look at the progress of GT and the current status of experience-based education tours in Japan. When most people hear the word GT, they think of GT as it's known in the European Union. The background of GT in Japan is different from that of the EU, which is why the term "Japanese GT" is often used.

GT in the EU started in the 1970s as a side job for farmers and for the purpose of shifting away from a production-oriented farming economy to a more diversified way of agricultural management. Accommodations for GT were provided at private houses or B&Bs, which are famous in the UK. Also, we cannot overlook the fact that European society's acceptance of long vacations and their general work practices enabled the preconditions for their success with GT. Furthermore, from a farmer's point of view, GT in the EU can be seen as a well-positioned policy to develop rural communities and revitalize local areas, while at the same time providing a means of new business.

However, the direct application of the EU-type GT has not always been successful in Japan, where it is often difficult for people working in the cities to take long vacations. The fact that the vacations of people who work in the city －the largest customers of GT－are rather short, means that their stay in rural communities often tends to be short (one or two nights) as well. It is natural for people who lead a busy life to think: "If I only have a short vacation and have to return to my daily routine soon, I want to do something really enjoyable and out of the ordinary." That is why Japanese-style resorts, such as hot springs

or gorgeous hotels with extravagant dinners, were prevalent at the beginning of the 1990s. However, the boom ended when the bubble economy burst in the early 1990s, and vacations shifted to more personalized, downsized and specialized trips. It was at this point that the Japanese-style GT entered the scene.

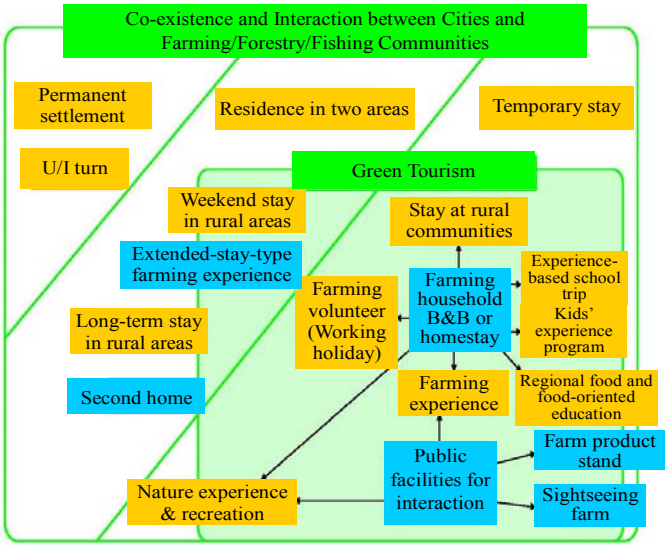
One example of a Japanese-style GT is the experience-based education tour, which is the subject of this paper and represented in the form of school trips. According to the below statistics, the length of these trips is usually two or three days. Historically, during this short time, the main destinations were historical places and landmarks, museums and other significant places. However, as customized private trips became more prevalent and as there was an increased interest in experience-type trips, more and more school trips now focus on "education through experience". One of the main approaches of these experience-based tours is the "farming/forestry/fishing experience", which involves an overnight homestay at a rural farming household. Recently, taking into consideration the educational aspects of these trips, many schools prefer to have a "real-life" aspect within the "farming/forestry/fishing experience" that focuses on the "culture", "landscape" and "feelings, thoughts and attitudes" specific to the region, which is unlike the "virtual experience" seen in resort areas and theme parks (Fujisawa [13]). This has led the hosts (i.e. the local communities who accept the students during the school trip) to try various approaches in order to identify the best method of providing this type of "real-life experience".

1.2.2. The Position of the Farming Experience-based Education Tour in GT

First of all, the position of farming/forestry/fishing experience-based education tours may have to be clarified, taking into consideration city/rural community interaction projects. Chart 1 shows the overall rank of GT and related projects within the concept of co-existence and interaction defined by the Ministry

of Agriculture, Forestry and Fisheries.

Chart 1 Concept of Co-existence and Interaction between Cities and Farming/Forestry/Fishing Communities



Source: Rural Development Bureau, the Ministry of Agriculture, Forestry and Fisheries

In Chart 1, the various stages of co-existence and interaction, from GT to permanent settlement, are displayed dimensionally. According to the chart, the "experience-based school trip" and the "kids' experience program", which are equivalent to the farming experience-based education tour mentioned in this paper, are ranked as part of the GT program within the major framework of the "co-existence and Interaction between cities and farming/forestry/fishing communities". Included in the framework are the related programs of "farming household B&B" and "farming household homestay". However, we must keep in mind that the number of communities that participate in the farming experience-based education tour and that offer farming household B&B and a homestay are still relatively few in number, and many communities only offer a day

program (a few hours to one day).

It should also be noted that the “experience-based school trip” and “kids’ experience program” are ranked next to “regional food and food-oriented education”. Actually, schools—the driving force behind farming experience-based education tours—have very high expectations of the educational benefits of “food-oriented education”. According to Ogura [7], teachers are very concerned about the effect of an “unhealthy dietary lifestyle” and other “lifestyle changes” on children. According to a survey of school teachers conducted by the Tourism Association of Fukushima Prefecture, many respondents stated that they often focus on “food” as the theme of the “General Study Class” conducted in the school curriculum.

When a farming experience-based education tour is conducted as a part of a general study that is focused on food-oriented issues, pre-study often starts six months before the trip, and in some cases, children ask various questions in letters or e-mails during this pre-study period. It is important for the local communities that will participate in a farming experience-based education tour to aid consideration during this pre-study education.

1.2.3. Changes in the Objectives and Style of Education Tours

1) Education Tours: Shifting Away from Sightseeing-focused Trips

The farming experience-based education tours in Japan are conducted mostly as part of school trips, which are the most common form of educational trip, having been widely conducted by junior high and high schools for many years. However, the history of education tours that actively involve a farming experience may be shorter than what many people probably think they should be. In terms of school trips—the representative form of the education tour in Japan—

the trend shows that in the past the major destinations of schools in the Kanto area (Tokyo and surrounding areas) were Kyoto and Nara, and those in the Kansai area (Osaka and surrounding areas) were predominantly Tokyo. However, this trend, which has been going on for half a century now, has recently begun changing.

Chart 2 Trends of Experience-based Studies

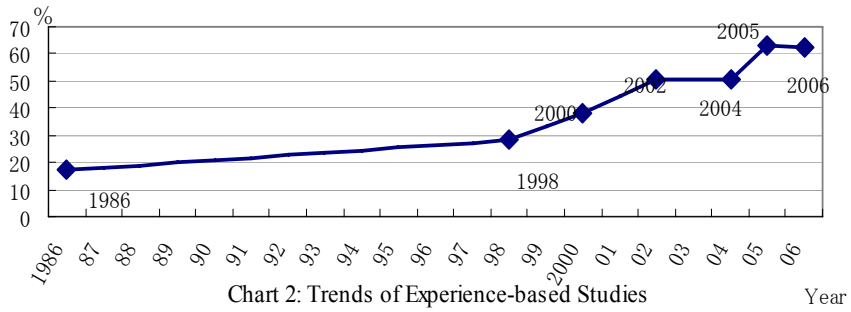


Chart 2: Trends of Experience-based Studies
(Percentage of total school trips)

Source: "White Paper on Education Tours2008 –Focused on School Trips –" by Japan School Trips Bureau

Although school trips to Tokyo are still important to students in other areas as a way to collect information in preparation for higher education and to gain social understanding, trips to Kyoto and Nara has been less welcome by schools, mainly due to a lower interest in history among students and the fact that trip itineraries have remained largely unchanged over the years. The more actively a school pursues opportunities to provide a new type of trip, the less it is interested in trips to old and historical destinations (Ogura [7]).

In recent trends, school trips to historical sites are being replaced by farming experience-based education tours (Chart 2). Several reasons for this trend are that these types of school trips contain many educational factors in areas, such as "food-oriented education", mentioned above, as well as "contact with a different culture", i.e. exposure to the "farming community", which is rarely expe-

rienced by city children. It is believed that these factors contribute to the growth and education of children more than anything else.

Table 1: Percentage of School Trips During each Month

(%, number of schools)

Month	3-semester system	2-semester system	Total
April	19.8	17.2	19.2
May	43.5	40.3	42.8
June	15.2	16.7	15.5
July	1.2	3.0	1.6
August	0.6	0.4	0.5
September	4.5	3.4	4.3
October	4.2	4.3	4.3
November	4.1	3.9	4.1
December	1.6	4.3	2.1
January	0.9	1.3	1.0
February	2.2	2.1	2.2
March	2.2	3.0	2.4
Number of schools	895	233	1,128

Source: "White Paper on Education Tours 2007 – Focused on School Trips –" by Japan School Trips Bureau, 2007

Table 2 : Average Length of School Trip of Schools in Each Region (Junior High School)

(length of stay, number of schools)

Region	2 nights	3 nights	4 nights	5+nights	Total number of schools	Average overnight stay	YOY trend
Hokkaido	6.1	85.7	2.0	6.1	49	3.2	0.2
Tohoku	73.9	25.2	0.0	0.8	119	2.4	0.0
Kanto	85.1	9.2	1.4	4.3	282	2.4	0.1
Chubu	92.9	6.3	0.4	0.4	224	2.1	0.0
Kinki	84.2	11.7	2.0	2.0	196	2.3	0.2
Chugoku	93.3	6.7	0.0	0.0	90	2.1	0.0
Shikoku	15.7	80.4	3.9	0.0	51	2.9	0.1
Kyushu	58.8	32.8	5.0	3.4	119	2.7	0.0
Japan Total	76.6	19.6	1.6	2.2	1,130	2.4	0.1

Source: 백서 hite Paper on Education Tour 2007 ? focused on School Trips- by Japan School Trips Bureau, 2007

2) Trends within Farming Experience-based Education Tours

Now, we will look at the recent trends within farming experience-based education tours and how this type of trip has been developed. However, before

looking at these trends, let's look at the overall trends of school trips in general. In the case of junior high schools, school trips are implemented by 96.1% of the schools nationwide, and there is no regional variance (Japan School Trips Bureau [10]). Regarding the timings of such tours, the highest percentage of tours are held in May (42.8%), followed by April (19.2%) and then June (15.5%). 77.6% of school trips are held during this three-month period in the spring (Table 1).

Also, according to Table 2, most of the school trips are relatively short: 76.6% are for only two nights, 19.6% are for three nights (the total of two- and three-night trips account for 96.2% of the total trips surveyed) and trips for four nights or more only account for 3.8% of the total. However, the trend is dramatically different when comparing different regions. The percentage of two-night trips is the lowest in Hokkaido (6.1%), followed by Shikoku (15.7%) and Kyushu (58.8%). On the other hand, the percentage is high in Chugoku (93.3%) and Chubu (92.9%). The reason for this seems to be that most schools in Chugoku visit the Kansai area, and schools in Chubu area tend to go to the Kanto area, both of which are within 300km. On the other hand, Kanto (85.1%) and Kansai (84.2%) schools are positioned in the middle of both groups. It seems that many schools travel approximately 600km (schools in the Kanto area visit the Kansai area and vice versa), and for this reason they have a slightly higher percentage of three-night trips.

Table 3: Type of Accommodation

(number of schools, %)

Type of Accommodation	Number of schools	%
Hotel	1,410	62.2
Japanese-style inn	657	29.0
Pension	55	2.4
Home stay in the local community	25	1.1
Public facilities	20	0.9
Commercial B&B	14	0.6
Holiday park	6	0.3
Others	80	3.5
Total	2,267	100.0

Source: "White Paper on Education Tour 2008 – focused on School Trips–" by Japan School Trips Bureau, 2008

Table 4: Breakdown of the Number of Schools Participating in the Various Types of Trips

(number of schools, %)

Type of Trip	Number of schools	%
Visit shrines, temples, and local landmarks	773	21.1
Visit museums and art museums	536	14.6
Experience of traditional craft making	412	11.2
Peace education	269	7.3
Visit companies/ workplace experience	258	7.0
Nature experience	248	6.8
Others	235	6.4
Art experience	225	6.1
Cooking and food preparation experience	222	6.0
Sports experience	177	4.8
Environmental study	147	4.0
Interaction with other schools/ international exchange	80	2.2
Stay in farm/ forestry/ fishing communities	61	1.7
Social work/ volunteer activities	28	0.8
Total	3,671	100.0

Source: 방 hite Paper on Education Tour 2007 ? focused on School Trips-? by Japan School Trips Bureau, 2007

Putting the various regions aside, the average length of school trips nation-wide has been slowly increasing. In fiscal 2005, it was 2.4 nights, 0.1 nights

longer than fiscal 2004. Kinki and Hokkaido were 2.3 nights and 3.2 nights respectively, both up 0.2 nights, while Kanto grew to 2.4 nights (up by 0.1) and Shikoku was 2.9 nights (also up by 0.1 from the previous year). The reason for the increase in the Kinki and Kanto regions, which have more schools than any other region, is unclear, but if experience-based education, including the farming experience type, becomes increasingly prevalent, the average number of overnight stays may increase further.

Looking at the types of accommodations, hotels account for the majority with a 62.2% share, followed by Japanese inns (29.0%, see Table 3). Although the variety of accommodations is expected to increase with the diversification of the contents and destinations of school trips, homestays at private residences in farming/forestry/finishing communities are still low at 1.1%. This means that homestays at farming households, etc., are still limited statistically.

Regarding the contents of school trips, the shift from conventional sightseeing trips (in which the whole class has the same itinerary and visits the same places) to experience-based trips and small group activities, including sightseeing, is rapidly progressing. This causes us believe that trip contents are becoming more and more diversified (Japan School Trips Bureau [10]). The number one activity during a school trip is: “visiting shrines, temples and local streets” (21.1%), followed by “visiting a museum and an art museum” (14.6%). These are rather conventional activities. However, “experiencing traditional craftmaking” is ranked third at 11.2% (Table 4). Experience-based activities also include: the “nature experience” (ranked 6th at 6.8%) and the “cooking and food preparation experience” (ranked 8th at 6.0%), while “stays in farming/forestry/fishing communities” accounts for 1.7% of the total, even though it is still a low ranking. Although “craftmaking”, “nature experience” and “cooking experience” seem to include activities held in locations that are not related to farming/forestry/fishing communities, the total of these three experi-

ences plus “stays in farming/forestry/fishing communities” brings the total to 25.7%. These numbers seem to be proof that school trips participating in various experience programs are making further progress in the involvement of farming/forestry/fishing communities. This can provide good opportunities for students.

Next, we will look at the contents (and themes) of the experience-based programs (Table 5). The most prevalent experience theme is: “traditional craft/glass works” (22.9%), followed by the “cooking experience (making buckwheat noodles, etc.)” (16.3%) and the “sports experience” (12.8%). The percentage of “experience in farming/forestry/fishing communities” is 7.9%. When looked upon year on year, “traditional craft/glass works” increased by 3.0%, the largest increase of any theme. The “cooking experience” (+2.8% points) and the “experience in farming/forestry/fishing communities” (+2.3% points) are also making solid growth.

Table 5: Recent Trends and Average Expense of the Various Types of Experience-based Studies (Junior High School)

(%, yen)

Type of Experience	Percentage of Schools			YOY trend (percentage points)		Average Expense	
	2006	2007	2008	2006-2007	2007-2008	2007	2008
Traditional craft/glass works	13.7	19.9	22.9	6.2	3.0	1,878	1,702
Cooking (making buckwheat noodles, etc.)	13.6	13.5	16.3	▲ 0.1	2.8	1,525	1,647
Sports experience	21.0	18.4	12.8	▲ 2.6	▲ 5.6	4,464	5,973
Making ceramic ware (including glazing)	11.6	11.7	10.6	0.1	▲ 1.1	1,843	1,419
Experience in farming/forestry/fishing communities	6.7	5.6	7.9	▲ 1.1	2.3	2,757	2,184
Dyeing & textiles	7.2	4.1	6.5	▲ 3.1	2.4	1,562	1,729
Nature experience	2.5	3.6	5.3	1.1	1.7	2,710	2,505
Art experience	6.7	4.3	5.0	▲ 2.4	0.7	2,410	2,163
Temple services (Zen sitting meditation, listening to sermons & lectures)	4.9	4.7	4.0	▲ 0.2	▲ 0.7	1,067	764
Work experience	4.8	5.3	3.9	0.5	▲ 1.4	1,825	2,279
Disaster prevention / social work experience	0.4	1.2	1.2	0.8	0.1	562	1,033
Others	6.9	7.9	3.5	1.0	▲ 4.4	2,422	2,667
Total	100.0	100.0	100.0	–	–	2,400	2,330

Source: “White Paper on Education Tours 2007, 2008 – Focused on School Trips –" by Japan School Trips Bureau, 2007, 2008

Table 6: Breakdown of the Costs of a School Trip (Junior High School)

(yen, %)

Expense item	2007		2008	
	Amount	%	Amount	%
Transportation	26,188	42.4	25,490	41.8
Accommodations	20,733	33.6	20,728	34.0
Program fee	3,845	6.2	3,764	6.2
Other expenses	10,934	17.7	11,011	18.1
Total expenses	61,700	100.0	60,993	100.0
Cost of accommodation per night	8,431		8,314	

Source: "White Paper on Education Tours 2007 – Focused on School Trips –" by Japan School Trips Bureau, 2007

Finally, the average cost of the experience-based programs against the total cost of the trip is 6.2% for both 2007 and 2008 (the amount is 3,845 yen in 2007 and 3,764 yen in 2008) for junior high school trips (Table 6). The number does not seem to take a large portion of the total expenses.

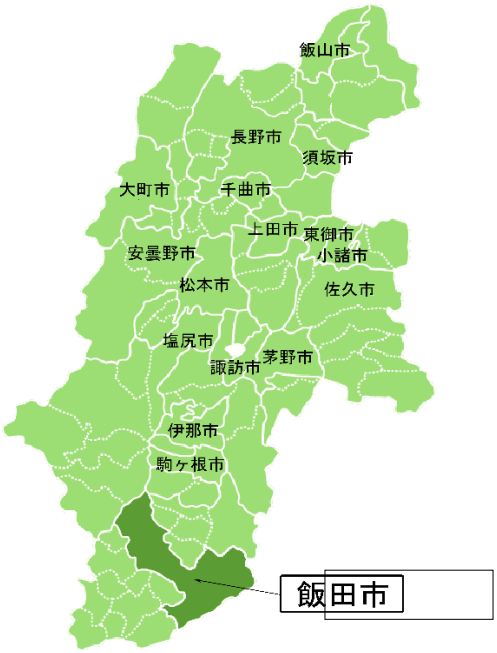
1.2.4. The Current Status and Future Challenges for the Acceptance of Students on School Trips

1) Case Examples

In this paper, among the regions that accept students during their farming experience-oriented school trips, the cities of Iida in Nagano Prefecture and Kitakata in Fukushima Prefecture are noted as places where a distinctive approach is taken in such programs.

The city of Iida in Nagano is one of the regions that accept the largest number of students for experience-oriented programs in the nation and is believed

to have one of the most advanced programs introducing overnight homestays at farming households. On the other hand, while the program in Kitakata does not involve as many students as Iida does and does not provide overnight homestays at a farming household, the number of students accepted by the city is rapidly increasing with the introduction of a wide variety of interesting programs. In the following section, the focus of the analysis is on how students are treated during the trip with an overnight stay in Iida and without an overnight stay in Kitakata, with a description of both of their current situation and future challenges.



第３図　飯田市の位置

Chart 3: The Location of IidaCity

2) The "Experience-based Education Tour" in Iida, Nagano Prefecture

Regional Overview

Iida, the major city in Shimoina-gun, is located in the southernmost area of Nagano Prefecture. It has a population of 107,000, enjoys great seasonal wonders, is rich with nature and has outstanding scenery (Chart 3). The Tenryu River runs through the center of the city, and the city is bordered by the Southern Japanese Alps and Ina mountain range in the east, and the Central Japan Alps lie to the west. There is rice paddies located around the Tenryu River, and dry fields and orchards can be found on the terrace of the river banks. The surrounding area and the highlands in the south are covered by extensive forests (farmland accounts for 9.7% of the total land, and forests account for 71.4%). The main

transportation to the city is the Chuo Expressway and the JR Iida line. It takes three hours by expressway from Tokyo and 1.5 hours from Nagoya.

Looking at the local agriculture, various types of products are produced, as yearly seasons allow the production of many kinds of agricultural products. Most prevalent are: fruits, including apples, persimmons, pears, plums and blueberries; vegetables, including cucumbers and asparagus; flowers, including cyclamen; cattle; and dairy products. However, the percentage of farming households, the number of farmers and the total area of commercial farmland are all declining, thereby reducing gross agricultural production. The mountainous areas in particular are faced with shrinking communities and an aging population. Also, the lack of farm labor (especially at orchards) is becoming more and more serious.

The Background of the Acceptance of Experience-based Education Tours and the GT Framework

The experience-based education tour supported by Iida is ranked as one of the most important extended-stay type of GT promoted by the city. With growing demand for "real-life experience" in recent years, Iida, which has a tradition of proactive interaction between certain mountainous areas and metropolitan residents, has been accepting school trips for junior high and high school students, as well as for general study programs (i.e. experience-based education tours) since fiscal 1996. At the beginning, the city's Commerce and Tourism Section served as the organizer for the acceptance of participants. However, they started to suffer from too large of a workload due to the expansion of the farming experience program. Then, the Southern Shinshu Sightseeing Corporation, a joint venture established between the government and private sector in 2001, became the coordinator for experience-based trips , and thus, the planning and operation functions of the Commerce and Tourism Section

(mainly for school trips) were transferred to them.

The Southern Shinshu Sightseeing Corporation plays a very important role in accepting school trips in the region. It coordinates with the farming households that can accept the students and can understand the annual farming schedule of such households, and the company functions as a single contact to accept applications from the school made via travel agents. They also allocate students among farming households according to the number of participants of each school and handle short-notice cancellations by farmers. Also, they are connected to farmers 24 hours a day during the school trips so that they can respond to any injuries and/or sudden illness of students by cooperating with the teachers of the school.

Iida has almost 200 experience-based programs using the motto of “human interaction”. The programs are led by resident instructors, who are residents of the city, and this group includes farming families. The objective of the programs is to provide “real” memories and impressions. As a growing number of agricultural/farming experience options were incorporated into the program, more and more schools began to request homestays at farming households. In response to this demand, the farming experience option including a homestay was implemented in 1998. The number of host farmers has increased with the growing number of participants in experience-based education tours, and now almost 500 farming households in the Southern Shinshu area accept students.

In addition to experience-based sightseeing, such as experience-based education tours, Iida also provides a farm support program, an eco tour, and a human resource development program in agricultural areas (Table 7). There is also an interesting trend in the working holiday program that was launched around the same time as the experience-based education tour. In many cases participants of the working holiday program are accepted by farming households that also accept students.

Table 7 Tourism Options Provided by the Southern Shinshu Area

Menu		Target	Contents
Experience - type sightseeing	Experience-based Education Tour	Junior high/high school students	"Self-searching" trip, customized trip
	Kids' Interactive Village Kids' Adventure Village	3rd graders in elementary schools – 3rd graders in junior high schools	· Recommendation for general study and environmental study · Making a second home
	Learning Holiday	Adults	Life in rural communities (dual life recommendation)
Farm support	Working holiday	Adults	Farm support ® Training as farmers and migrating to rural communities
Eco tour	Acorn Woods Elementary School	Elementary school students	The students of city schools plant trees in parks
	Preserving cherry trees	Adults	Discover the natural resources by preserving cherry trees
	Tasting Japanese sweets		Learn the Japanese tea culture in Southern Shinshu, which rivals that of Kyoto
	Historical walking		Learn the culture and history of the castle town
	Snow shoe trekking		Discover and preserve the natural environment in the mountains during winter
Human resource developme nt	Agri GraduateSchool	Adults	Human resource development by corporations; learning opportunities for baby boomers
	Tourism education		Develop leaders for experience-based activities and community development
Inbound		High school students, etc.	Accept tourists from TaiwanandKorea

Source: Agricultural Section of the Iida Municipal Government

It can be said that the city office, which launched the experience-based education tour at the same time as the working holiday program, offered two options for the farmers to choose from depending on each farmer's model. Small-scale farmers tend to accept students from experience-based education tours, whereby the farmers can receive compensation for providing farming experience, accommodations and food for students during their stay. On the other hand, medium-sized farmers tend to prefer working holiday participants, to whom the farmers will provide food and accommodations in return for their help on the farm. Originally, most of the farmers accepted one of the two groups, but now they are more flexible in accepting participants from either group based on the progress of their annual farming activities. Out of approximately 500 farmers accepting participants from experience-based education tours (200 are in Iida) and 90 farmers accepting people on working holidays,

about 60 farmers accept participants from both types of programs. Experience-based education tours promoted by the Tourism Section and the working holiday projects of the Agricultural Section have found their own niche, so their objectives do not compete with each other.

The Structure and Contents of Experience-based Education Tours

The standard experience-based education tour program provided in Iida typically involves an overnight homestay at a farming household. Many schools request to stay several nights at farming households, but a combination of an overnight homestay and other accommodations in the region is usually recommended as a means to also promote the existing tourism industry in the region.

Regarding the contents of the experience programs, approximately 50% is agriculture-related, such as the farming/forestry experience (how to grow fruit, rice, mushrooms and vegetables, as well as experience on a dairy farm), interaction/exchange with farming and mountain communities, and country life experience. 20% of the programs provide outdoor experience, such as nature studies and trekking. 10% of programs involve making buckwheat noodles and 5% involve craftmaking. The number of programs was originally 55 but has now increased to almost 200 and focus mainly on small group activities. The experience programs such as farming, craftmaking, and horseback riding all require elaborate preparation and are generally implemented for groups of 4 – 5 participants. There are also large-scale experience options (for 200 – 300 people) available to meet the needs of schools. These options include mountain climbing and an experience tasting program. For large group programs, the experience program and accommodations are customized to the needs of each case.

The experience programs in Iida are also very focused on being “real”. The length of the programs is set for as long as possible, and in the case of farming programs, seasonal features are fully incorporated into the program. For exam-

ple, they do not have any “unrealistic” programs that ignore the natural life-cycles of the plants and cattle, such as planting rice in late June or milking cows during the daytime. This sincere and consistent approach, which has been a part of the program from the start, has deeply impressed students on these school trips. Incidentally, the “homestay” plays a significant role in the mechanism of the experience-based education tours provided at Iida. Overnight homestays that include dinner helps to develop a sense of affinity between students and farmers and creates a base on which to build empathy between them. On the other hand, as farmers must be involved in the personal experience of the student through the preparation of dinner and accommodation in the experience-based education tours, it is difficult to accept students without full understanding of the wives of farmers who must inevitably be engaged in this aspect of the education tour.

According to the model plan recommended by the Southern Shinshu Sightseeing Corporation, the following is a standard itinerary that includes an overnight homestay at a farming household (Chart 8). On the first day, the students attend a welcome ceremony in each district after lunch. The students are then split up into small groups and assigned to a host farmer. The students do two to three hours of farm work and then have dinner with the host farmer and stay overnight. On the second day, students do approximately two hours of farm work and attend the district’s farewell party, which is followed by lunch. In the afternoon, they participate in the program of their choice and stay at a Japanese inn in the city. On the third day, they participate in a tasting experience program, during which lunch is provided. According to this standard itinerary, in addition to the homestay with the farming household and the two experience programs, an additional two extra programs are needed in the afternoon of the second day and during the morning of the third day. One of the reasons Iida has as many as 200 programs all the year round is to be able to flexibly meet

the requirements of the school trips.

Table 8 Standard Itinerary of the Experience-based Education Tour (Homestay Course) in Iida

First day	Second day	Third day
	9:00 Start the farming experience	9:00 Leave the accommodation facility
	11:00 Finish the farming experience	9:30 Tasting experience, etc. in Iida
	11:30 Farewell party in each district	11:00
	12:00 Lunch	12:00 Finish the tasting experience
13:30 Arrival	13:00 Travel through the city	13:30 Lunch
14:00 Welcome ceremony in each district	13:30 Participate in one of the experience programs offered in Iida	Departure
14:30 Start the farming experience		
	Finish the experience program	
	16:00 Travel through the city	
17:00 Finish the farming experience	16:30	
	Dinner at the accommodation	
18:00 Dinner	18:00 Overnight stay at the	
Homestay at a farming household	accommodation	

Source: "Exciting & Moving Experience in Shinshu", the brochure issued by the Southern Shinshu Tourism Corporation, and research through interviews

Table 9 Number of Student Groups Accepted in the Southern Shinshu Area

(Number of schools, participants, and programs)

	2001	2002	2003	2004	2005	2006	2007
Number of groups	84	107	101	109	109	105	110
Number of participants	9,500	15,000	15,000	16,500	17,000	15,500	16,000
Number of programs	21,000	32,500	35,500	45,000	46,000	44,000	45,000

Source: Documents from the Southern Shinshu Tourism Corporation

The price for the program is 10,000 yen per student, which includes the farm-

ing household homestay. After commission, approximately 8,000 yen is paid to the farmer. The breakdown is, approximately 5,000 yen is for the accommodations and 3,000 yen for the farming experience. For farming experience programs without an overnight homestay, the price is slightly higher at 2,000 – 3,000 yen per person since the program is designed to spend relatively long hours on the experience (two to three hours). However with this amount of fee, some farmers have to bear too many food expenses as there is an agreement that they must provide a beef barbecue for dinner. Some farmers buy 500 grams of beef per student and the mere cost of the meat is 2,500 yen, which is almost 50% of the fee they receive by accepting students. They may use some home-grown vegetables, but there are other things they must buy, such as barbecue sauce. At any rate, the cost incurred by farmers for student dinners seems to be a big challenge for the future program.

Chart 9 shows the number of schools and students that have participated in experience-based education tours in the area. Before the establishment of the Southern Shinshu Sightseeing Corporation, the number of schools was one in 1998, three in 1999 and 20 in 2000. From this data, it is evident that the number of schools has grown significantly after the establishment of the Southern Shinshu Sightseeing Corporation. However, it can be said that the number has not grown since 2004, due to seasonal factors, such as the bulk of experience-based education tours being held in the spring months. According to an official of the Southern Shinshu Sightseeing Corporation, with the current system in Iida, it is estimated that 110 schools and 16,000 to 17,000 students per year is the maximum that can be accepted.

Chart 4 The Location of Kitakata City

第5図　喜多方市の位置

3) The “Interactive Farming Experience” in Kitakata, Fukushima Prefecture

Regional Overview

The current city of Kitakata, located in the north part of the Aizu region in Fukushima Prefecture, was founded in 2006 when the former cities of Kitakata, Shiokawa, Yamato, Atsushio Kano and Takasato merged into the present-day Kitakata (Chart 4). The city’s major industry is agriculture, and its main products (in 2006) are rice (7.94 billion yen), vegetables (2.01 billion yen) and cattle (340 million yen). The city is famous for Kitakata ramen and Miyako buckwheat noodles and has a large tourism industry, attracting 1.8 million people per year. The city’s population is 55,000, of which 6,419 people are involved in agriculture. The decline in the number of farmers from the year 2000 has slowed slightly to 3.6%. Commercial farming households account for 3,755 out of a total of 17,472 households living in Kitakata. Among these households, on-

ly 560 are dedicated to farming (14.9% of the households engaged in farming). It takes 3.5 to 4 hours by expressway from the Tokyo area via the Tohoku Expressway and Ban-etsu Expressway, and 3.5 hours by Shinkansen from Tokyo to the nearest station of Koriyama.

Regarding tourism, the area is rich with nature, as evidenced by the Nikko Kisuge (Hemerocallis) at Oguni-numa and the alpine plants and gregarious Hime Sayuri (Lilium rubellum) in Iide Renpo. The area also has many historical sites, including the Shingu Kumano Shrine (Nagadoko), Gannjouji and Chuzenji, proof that it is one of the most famous Buddhist cities in Japan. Kitakata is also famous for its streets, which are dotted with historical storehouses, and Kitakata ramen, both of which attract tourists from all over the country. Also, the Atsushio Kano district is famous for the Atsushio and Hinaka hot springs, and the Santo district is known for its Aizu Santo buckwheat noodles. As we can see, the whole area is focused on promoting tourism.

The Development of GT-related Industries and the History of the Initiatives to Provide Experience-based Education Tours

The city of Kitakata is focused on the revitalization of its communities through GT, and it was the first city in Japan to declare itself the "Town of Green Tourism", doing so in 2003. In the same year, one of the Japan Agricultural Association's commercial farming instructors was employed by the city as a "special instructor of Green Tourism". Also, the "Farmhouse Stay Study Group" established in the city was the first such group in the prefecture. In 2005, four farming households began "Nohaku" (farmstay), which was also the first in the prefecture. Furthermore, the Japan Green Tourism Networking Session was also held in Kitakata.

Previously, the city's GT was managed by the farmers' associations created by a village in the former city of Kitakata. They included the "Kitakata

Interactive Farming Experience School", "Oguni no Sato", "Iwatsuki Hoyukai", "Keitoku/Kumano no Sato" and "Kamisangu Inaho Kai". Trans-regional programs were also operated mainly by these five associations. Later, the "Kitakata Green Tourism Support Center" was established in April 2005 as a volunteer organization to provide information and perform administrative work for accepting school trips, and the planning and coordination functions related to GT have now been consolidated there.

GT options expanded along with these developments. There were only two programs offered in the first year of the program (1999): the "Interactive Farming Experience School" (for junior high school trips) and the "Oguni no Sato Regular Event". The "Oguni no Sato Noodle Owner" joined in 2002, and the "Iwatsuki Hoyukai Four Seasons Vegetable Farm" and "Keitoku/Kumano no Sato Mushroom Owner" were created in 2003. All of these programs are initiatives that reflect the recent growth in demand for regional characteristics and the local expectations for GT in Kitakata.

The "Interactive Farming Experience" was inspired by a request made by the representative of a pension association in the Ura-Bandai region who had been accepting school trip students. The Japan Agricultural Cooperatives (JA) in Kitakata received a request to provide a one-day farming experience program to students on school trips who spend three nights in the area. The request was originally made by a junior high school that was planning a school trip, but since it was difficult for the host district to provide such a program, the request was passed to the JA in Kitakata (Kumakura branch) with whom the district had conducted a joint study session before. The Kumakura district had extensive experience in programs providing farming experience to university students majoring in agriculture, so they agreed to accept the junior high school students. The program received support from 25 farming households, who were placed under the supervision of the person in charge at JA.

Since it began as a trial program, only two schools (288 students) participated in the program in the first year. The participants steadily increased to 2,074 (15 schools) in the second year, 2,402 (23 schools) in the third year and 3,208 (34 school) in the fourth year. In 2007, the ninth year of the program, as many as 7,008 students have participated in the program (Chart 5). The concentration of demand during springtime (through school trips) is also a challenge in Kitakata, where the staff that coordinate these programs are suffering from seasonal workload variance.

The Mechanism and Features of the Interactive Farming Experience

The Interactive Farming Experience was originally designed to provide a one-day or half-day farming experience, but some of the programs began to provide overnight homestays in fiscal 2006.

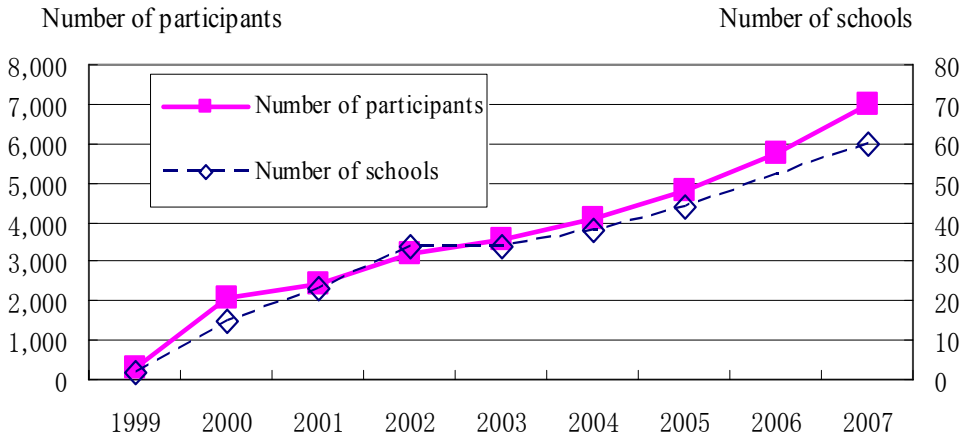


Chart 5: Trends of the Interactive Farming Experience

Source: Agricultural Section of Kitakata Municipal Government

Table 10 Standard Itinerary of Interactive Farming Experience

(One-day and Half-day Courses)

One-day course		Half-day course	
9:00	Arrival by bus	9:00	Arrival by bus
9:10	Opening ceremony	9:10	Opening ceremony
9:20	City journey	9:30	City journey
9:30	Farming experience		Prepare lunch
11:00	Prepare lunch	11:00	Lunch
12:00	Lunch	12:00	Farewell to host
13:00	Farming experience	13:30	farmers
15:00	Farewell to host		Departure by bus
15:30	farmers		
	Departure by bus		

Source: Brochure of "Interactive Farming Experience" issued by Kitakata City.

In the one-day experience, students are split up into small groups of 4 – 5 people and they experience farming at one of the approximately 70 registered farming households. In order for the students to experience "real" farming, "event-type" activities, such as planting rice in the wrong season, are not provided. The students are provided an opportunity to help with the ordinary day-to-day farm work performed at that time of the year. The specialty of each farming household varies, from growing rice and vegetables to greenhouse horticulture and dairy farms, and the schools are notified in advance that the tasks provided to the students will vary according to the household and season. The purpose of the farming experience is not only to understand the objectives and methods of farming but also to gain insights into daily life from the life of farmers, as well as to also obtain a deeper understanding of food and agriculture.

For the standard one-day program, students perform 1.5 hours (9:30 – 11:00) of farm work in the morning and then prepare lunch for one hour (11:00 – 12:00), which is also considered a cooking experience. They then return to farm work after lunch for two hours (13:00 – 15:00) (excluding travel time) (Chart

10). During a half-day course, they perform 1.5 hours of farm work in the morning, then experience cooking for 30 minutes and finally leave the farmhouse around 12:30.

The price of the one-day farming experience program is 3,675 yen per student, and the price of the half-day program is 3,150 yen per student. This rate is high compared to the ordinary market price for farming experience programs. In 1999, at the beginning of the farming experience program, the price was 3,150 yen and 2,625 yen respectively, but these rates were increased in 2004 by 500 yen each to their current levels. The reason for the relatively high prices is that they are set at a level high enough to encourage the host farmers to continue the program. For the one-day program, after 5% of consumption tax, the 15% commission of the travel agent and the 10% commission of the Support Center, approximately only 2,581 yen will be given to the farming household. Assuming each household accepts around five students, they will receive 13,000 yen for providing a one-day farming experience.

4) The Non-economic Benefits of School Trips for the Farming Households and Regional Agriculture Industry

Finally, we will summarize the ripple effects of school trips on the farming households and regional agriculture industry.

First of all, the direct economic impact on the farming household is of course the income received for providing accommodations and the farming experience. This direct income is detailed above, along with various examples of the experience programs. In this section, we will look at the non-economic benefits (benefits other than direct income) that can be observed in farming households that accept students on school trips. This may be referred to as the “emotional impact” on the farmer, which was noticed in almost every household that ac-

cepted students.

In Iida, several farmers said that they enjoyed the programs because the students worked more seriously than they had expected and that the students were open and shared their feelings honestly. Some farmers also said they were very impressed to see many students cry when it was time to leave, even though it was just an overnight stay.

The farmers also said that the interaction with the students is not just one night－many have received post cards or New Year's greeting cards after the trip. Some farmers have even said that receiving letters from the students has brought great joy to their lives.

In some cases, in addition to the Thank You letters mentioned above, groups of former participants or their families visit the host farmer a few months or years after the program. If the visit is by the family of a participant, they tend to book other accommodations. However, when a group of former participants visit, many host farmers allow them to stay, as if they are relatives. Some farmers say they cannot stop accepting students because this kind of long-lasting relationship is such a wonderful experience. Also, some of the host farmers receive orders for their agricultural products from the families of the students, and there are even some farmers whose direct-sales are entirely orders received from the students.

In the example of Kitakata's program, many farmers said the program energized the region and helped create a sense of togetherness through information exchange and other related activities. In the district studied by Mr. I, where five farming households accept more than 30 school trips a year, the host farmers say junior high students are always in the district during May to June and the non-host farmers have friendly conversations with the students every day.

From the farmers' perspective, students increase the efficiency of farm work, which helps during the busy season. One example is the transplanting of aspar-

agus and Taranoki (Aralia elata). With the students' help, it is possible to transplant 2,000 seedlings in a 40-acre field in two days.

As mentioned above, experience-based education tours provide not only direct income but also various non-economic benefits that are qualitative and not possible to be directly measured. In some cases, even economic benefits, such as the chance to increase direct sales and improvements in labor efficiency, were derived from these non-economic benefits, so the overall ripple effect must be quite large.

1.2.5. The Issues and Challenges of the Experience-based Education Tour and Future Prospects for the Revitalization of Farming Communities

1) Issues and Challenges of the Experience-based Education Tour

In this report, the current status of experience-based education tours was analyzed by focusing on actual examples of school trips in two areas. First, I would like to summarize the issues and challenges present in accepting students on school trips based on an analysis of the results.

The first challenge is the fact that a very detailed study of the effective local resources is needed before developing an experience program similar to the programs currently implemented by Iida and Kitakata. This means that full consideration must be given as to what kind of experience program can be provided as well as to what kind of innovative ideas are needed to make this experience "real". This can be done through discussions with local representatives and interested farmers, or a third party can also be invited to provide an objective overview of the region.

These tasks require the wisdom of people who have lived in the area for a long time. However, as often said, sometimes the people that can bring success

to regional revitalization are “strangers (yosomono), youngsters (wakamono) and fools (bakamono)” (Fujisaki [12]), which means success cannot be achieved only by the local people; it often requires the innovative ideas of young strangers. It could be said that communities merely followed the successful examples of other regions, and without innovative ideas, local revitalization through the farming experience program would never have been implemented. There are several reasons why a local coordinating organization’s involvement is needed to implement an experience-based education tour. One reason is that the role played by the coordinating organization in the planning stage of the program is very important.

Another challenge is “seasonal bunching”, which is always a concern as long as the communities focus on school trips as their main customer of experience-based education tours. As statistically shown above, almost 80% of school trips are made during three months in the spring, so the number of schools that can be accepted by a particular region is limited. In the case of Iida, the maximum number of schools they can accept during this three-month period is 48, and during the students’ stay, the city has staff on call 24 hours a day to respond to any injury or illness. Furthermore, in order to alleviate this seasonal bunching, some communities are recommending a summer school experience program to the travel agents and schools, in an effort to cultivate demand for experience-based education tours during a different season.

The third challenge is that it is difficult for an interested farmer to participate in the program without the full support of the women in the farming household. There have been cases when the decision to accept the students was made during a community meeting attended by only men but was cancelled the following morning because it was made without the understanding of their wives. Instruction during the farming experience can be provided by men and they can also have conversations with the students, but the meals and practical service

during the homestay are provided by women in most of the cases.

In this regard, the women must do extra work during experience programs that involve an overnight stay, such as those offered by Iida. Their burden is more than doubled when they must provide two meals (lunch plus dinner). During the overnight stay, although the students handle their own futon mattresses, women who participate in the program for the first time are often very concerned about their responsibility to take care of children from other families. As a result, they often think the workload is heavy considering the additional cleaning, etc., thus it can be said that whether a certain household continues to accept children on school trips depends on what degree the woman, who actually takes care of the children, enjoys the program.

So what kinds of benefits do the women of farming households that continue to accept school trips feel they receive? According to interviews, they love to see the children enjoy the farm work, and several women responded that they no longer feel tired after hearing how much the students enjoyed their stay. One of the big challenges is to help the women in the farming household find this kind of value in the programs.

The fourth challenge is expense. Host farmers both in Iida and Kitakata said the actual cost of the farming experience is low and net income ratio is high, but it's a problem if the cost of food makes up a large proportion of the total costs in the case of overnight homestays. In the case of programs in Iida, in many cases 2,500 yen out of the 5,000 yen given to the farmer is spent on food. This is because there was an original guarantee in the district that barbecued beef would be served for dinner, but 50% of the total income being spent on food is extremely high. In this case, the financial benefit of the participating household is small. Efforts must be made by the farmers themselves to reduce the percentage of purchased food items and thereby avoid food costs from becoming too big of a burden on the households. This can be done by reaffirming

that, while the household fully welcomes the students, they will not treat the students as “special guests”.

The fifth point is the style of business the host farmer runs. Although this hasn’t been fully covered in the case study, it seems that some households are suited to the farming experience program and some are not, due to their business model and target management style. For example, it would not be possible for a large-scale farmer who focuses on a single rice crop to accept students because farm work must be done at specific times using special machinery. Also, it would not be practical for a vegetable farmer who must perform various tasks and employs workers to assist with these tasks to accept elementary/junior high students, after considering the impact on quality and labor productivity. This means that, among potential host farmers, there are a relatively small number of young farming-oriented households and those households with a relatively small farm and diversified business will be the central players. Therefore, rather than high production areas with large fields, areas that are not suited for large-scale agriculture, such as in mountainous areas, seem to be prime location for farming experience programs.

Also, when recruiting host farmers, it is common for the coordinating associations to focus more on whether the farmer can properly take care of the children, and they often think it is better not to dramatically increase the number of households over a short period of time. This attitude can be observed in comments such as “If we focus too much on money, the whole program will go in the wrong direction” or “Households who count money first are not appropriate for receiving children.” This means that, while the relationship between the students on a school trip and the farmers is that of participant and instructor, in the end the key to a successful program is how well a human relationship can be established.

In extreme examples, there seem to be some households that try to push their

products on the students or force them to do hard work, as if the students are part-time labor. Households who demand a certain compensation for accepting students are not appropriate as host farmers for experience-based education tours.

2) Future Prospects for the Revitalization of Farming Communities

Finally, I would like to review the future prospects of experience-based education tours in the context of the revitalization of the host community. In the case of Kitakata, where the inclusion of the overnight accommodation to the program is being extensively discussed, they plan to provide an experience program with an overnight homestay at a farming household by getting a license for a farmstay (simple accommodation) in the future. These initiatives derive from the opinion of some farmers who provide “day experience” that it would be more attractive if an overnight homestay is included so they can receive a higher unit income per day. Plus, they can also provide a flexible time schedule for the farming experience.

However, an approach would be too aggressive if it recommended every farming household to provide an overnight homestay or insist that the farming experience should save the local economy. While a portion of the participating households may focus on the farming experience as their core business, in general, it should be a side business to support the main farming business, and is to be performed only if farmers have spare time after finishing their main farming activities. In Iida’s case, where the overnight homestay was implemented several years ago, there are farming households who accept groups of four junior high students 14 - 15 times per year. Even in this case, the total income is only 480,000 yen per year, assuming they receive 32,000 yen for each group. This is not a small amount, but it is still not enough to support the household. Of course, it must be noted that the providers of a farming experience program

do receive a certain amount of income for the service they provide. Also, households that have extra labor, such as an elderly family member who can help taking care of the students, are better suited to the program.

To provide a "real" experience, the ideal setting for an experience-based education tour must be provided by farming households that have a strong production base. Such farming households may continue to accept elementary/junior high school students as a side business or they may accept students on a volunteer basis to have an opportunity to interact with such students. If such farming households increase, even gradually, experience-based education tours will be a very effective method for revitalizing local communities. These programs may also provide an additional "reason to live" to the small-sized farming households consisting mainly of elderly people.

Notes

1 The word "Green Tourism" was formed by combining "Green (referring to agriculture or forest)" and "Tourism". It began in the early 1990s, and although sightseeing trips to farming communities has a long history in Japan, GT, which "belongs to a category that does not include trips to famous resorts" (Inoue, Nakamura and Yamazaki [2]), is based on the concepts of "Alternative Tourism (AT)". Alternative Tourism is based on a certain deficiency of the resort boom during the bubble economy in the 1980s, which led to the establishment of the farming experience-based sightseeing tours available today, which has then in turn given momentum to the personalization, downsizing and specialization of trips in general.

Having said that, however, there is long-standing criticism directed at AT that questions whether there is personality in the subject of the tour and whether there is a 50/50 relationship and 50/50 interaction between its various parties. The original precondition for AT is: "sustainable and environmentally friendly tourism with minimum burden on the host communities that are the subject of the tour". However, there is the risk that tourists could "one-sidedly experience the host communities" by demanding human interactions with members of the local community and by pushing city-based environmental concepts on the local community, based solely on their own

selfish beliefs (Furukawa and Matsuda [14]).

Incidentally, AT is a concept that was born in Europe during the 1970s and 1980s, and according to Furukawa and Matsuda [11], it "focuses on the personalization of the relationship between the tourist (guest) and the host, by shifting away from the one-sided and non-flexible relationship that existed between them in the past". In other words, "the host is not just a subject of interest that does not have any personality, but rather he/she is a partner who is involved in the human interaction". Also, "the non-personal nature of economic-oriented human relationships, that has been prevalent in modern society, can be stopped with this kind of concept change". For details, refer to Aoki [1] pp.20-28, or Furukawa and Matsuda [14] pp.17-21.

2 The "education tour" referred to in this paper refers to a tour incorporated into the ordinary school curriculum that entails at least one overnight stay.

3 The Children & Farming/Forestry/Fishing Communities Interaction Project plans to promote one-week interactions and stays in approximate 500 rural communities nationwide and has a target of accepting 23,000 elementary schools (1.2 million students in each grade) within five years from fiscal 2008. In this project, it is a rule that children must stay overnight with a local farmer during their trip to the farming/forestry/fishing community. High educational benefits are expected since the children will stay at the farmers' houses in small groups and spend their time in the community as if it is their own "hometown".

4 Although the various stages of co-existence and interaction in Chart 1 (GT as "temporary stay", "residence in two areas" with extended stays in the country side and "permanent settlement" represented by U/I-turn) seem to all be connected, the attributes and recognitions of the participants of each project are considered to have substantial gaps.

5 We calculated the gross margin received by farmers providing a farming experience accompanied by a homestay. First, the average fees paid to the farming/forestry/fishing experience program is 2,184 yen. The average accommodation fee is 8,314 yen, but as it includes hotels, the 60% of the average (this is based on the comparison between the average fee of hotels and Japanese inns and that of B&B-type inns), 4,988 yen, seems to be close to the accommodation fee that is paid to the farmers. The total (4,988 + 2,184 = 7,172 yen) is the average fee per junior high school student paid to the farmers. On the other hand, the gross margin of the farmer is considered to be approximately 5,021 yen (30% reduction from the above amount, after 15% commission for the travel agent [in the case of Kitakata], 10% commission for

the local coordinating association [see {7}] and 5% consumption tax).

6 Please see Fujisawa [13] for details.

7 The Southern Shinshu Sightseeing Corporation has received investments from various entities, such as JA, the Chamber of Commerce, transportation companies, local financial institutions, and local media companies, as well as from one city, three towns, and 11 villages. Even now, it receives many new offers from local companies and organizations.

8 The "coordinating association" refers to the body that organizes host farmers and plans/operates experience-based education tours. Negotiation with travel agents is also handled solely by such associations. The Southern Shinshu Sightseeing Corporation in Iida and Green Tourism Support Center are categorized as such associations.

9 There are three types of accommodation facilities in Iida. The first one is the "Farmers' B&B", at which the guest room is 33 square meters or larger. This type of accommodation requires the same license as ordinary B&Bs. The second is a "Simple Accommodation", in which the guest room is less than 33 square meters and is operated by a farming/forestry/fishing household. It is exempt from the Hotel Business Law. The third type of accommodation is a non-licensed farming household that accepts only homestays. The non-licensed household may not receive direct compensation for providing accommodations. The city has three Farmer's B&Bs and less than 100 Simple Accommodations, and the remainder are non-licensed households. Seeking to improve the situation, the city is now encouraging non-licensed households to obtain a Simple Accommodation license.

10 During the working holidays provided in Iida, Nagano Prefecture, an ordinary participant helps the farmer as a volunteer. In return for providing labor, the participant receives meals and accommodations for the length of the stay. The original purpose was to borrow the human resources of large cities to solve the labor shortage faced by farming households. An incidental "interactive" impact has also been observed. Households accepting working holiday participants are larger than those that accept school trips, and these households have a relatively high demand for labor. In Iida, approximately 80 households accept working holiday participants.

11 The "Nohaku" in Fukushima Prefecture is the abbreviation of "Norin Gyogyo Taiken Minshuku Gyo" (farmstay), which is licensed to provide simple accommodations, at which the guest rooms are less than 33 square meters, and the hosts are exempt from the Hotel Business Law. Incidentally, simple accommodations

were permitted after the operational procedures of the Hotel Business Law were partly revised in April 1993. In addition, by revising the Operational Rules for the Hotel Business Law in Fukushima (March 2005), the prefecture deregulated the following two items: 1) non-application of the toilet flushing requirements for "Nohaku" with guest rooms less than 33 square meters, and 2) removal of the regulations on the types and numbers of toilets (Agricultural and Forestry Village Maintenance Group in Fukushima Prefecture [11]).

12 The Green Tourism Support Center in Kitakata is a voluntary institution with three workers and is situated above the operating institutions of Kumakura Farming Experience School, Oguni no Sato, Iwatsuki Hoyukai, and Keitoku/Kumono no Sato, in the hierarchy. The Support Center mainly focuses on: processing applications for experience-based education tours, arranging the tours, serving as a point of contact and information provider, creating programs for various local events and providing support to the operating institutions during the program. The center plans to be incorporated and plans to obtain a travel agent license in the future.

13 The Green Tourism Support Center, along with the Southern Shinshu Sightseeing Corporation in Iida, is functioning as the contact for travel agents and representing farming communities as the coordinating organization. It is the sole organization, involved in such important activities as: negotiations with the school, adjustment of the number of students accepted and the securing of host farmers.

14 Mr. T, the president of the Southern Shinshu Sightseeing Corporation in Iida, was recruited from his previous job at a hotel where he demonstrated high sales and planning capability. In the case of Kitakata, it seems the success of GT in the city is owed to the many years of great contribution by Mr. Y (in his 30s) who is in charge of GT at the municipal office (involved in the agricultural area).

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1.3. Korea's Rural Areas and Rural Policy

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1.3.1. Korea’s Rural Areas Today

1) Decreasing, aging and diversifying rural population

Decrease in Rural Population

Rural population in Korea has continued to decrease over the years. However, its rate in decline has started to slow down and the size of rural population has reached a marginal level. In terms of administrative districts, rural population in Eups and Myeons combined has continued to fall, remaining at 18.5% of total population on the basis of 2005 statistics. This can be viewed as a “rural outmigration phenomenon of urban concentration” in which rural population decrease as population concentrate on urban areas. A number of various factors are behind such migration including deteriorating income sources stemming from weakening competitiveness of the agricultural sector and poor environment for education and medical services.

Rural population has decreased from 25.6% of total population in 1990 to 18.5% in 2005, falling significantly over the past 15 years. However, the magnitude of the decline has fallen in terms of time periods from 3.7% during 1990~1995 to 1.4% during 1995~2000 and 2.0% over 2000~2005.

It is noteworthy that the population at the Myeon level has decreased significantly. On the basis of Myeons, which are typical rural areas, population has declined at an annual average rate of 2.9% from 17.3% of total population in 1990 to 10.2% in 2005. In the case of farm households, population has also fallen by 29.3% over the past 10 years from 10.8% of total population in 1995 to 7.1% in 2005.

Population in rural areas located near large cities have either increased or levelled out amidst population falling significantly in bona fide rural areas. In addition, non-farming population is gradually increasing in the rural areas with steadily rising number of people living in rural areas who do conduct farming activities.

Table 1 Rural population

Unit: thousand persons

	1990	1995	2000	2005	Annual average growth rate (%) (1990-2005)
Eup·Myeon total	11,102	9,572	9,381	8,764	△1.6
- Eup	3,604	3,484	3,756	3,944	0.6
- Myeon	7,498	6,088	5,625	4,820	△2.9
Share of Eup·Myeon (%)	25.6	21.5	20.3	18.5	-

source: Korea National Statistical Office, Population and Housing Census, each year.

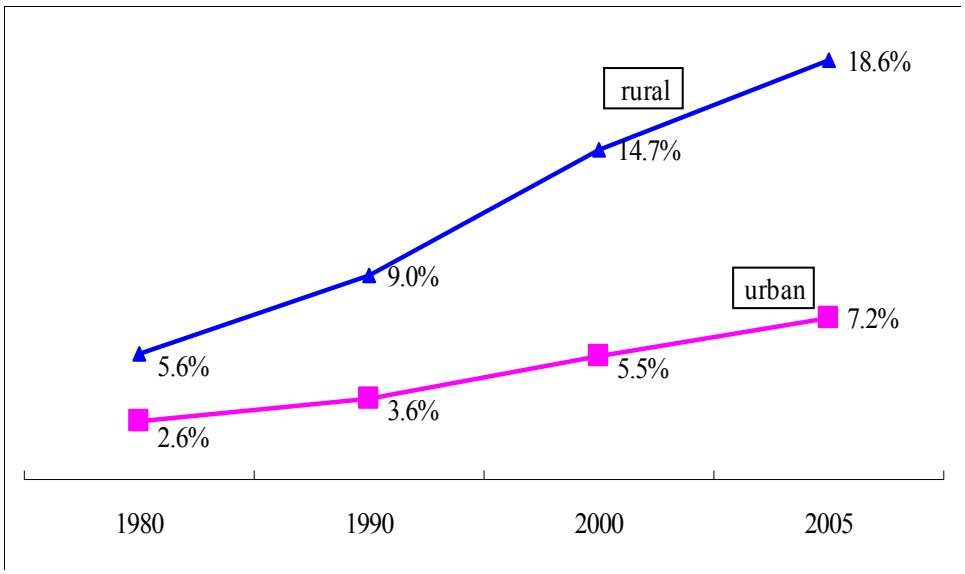
Aging Population

Aging population is rapidly expanding in Korea's rural areas. The percentage of aging population of 65 or older in total population increased around 2.7

times over the past 30 years from 3.5% in 1975 to 9.3% in 2005. Such trends have become even more severe as younger generation in the rural areas has migrated to the cities. In addition, aging farmers, who account for the majority of the rural population, are the main factors behind the aging population in the rural areas.

Aging population in the rural areas is unfortunately expanding at a faster rate. Myeon areas have already entered into super aging societies with the percentage of 65 or older population exceeding 20% of total population in Korea. On the basis of 2005, the percentage of aging population of 65 or older in the Eup areas was 11.8%, while recording 24.2% in the Myeon areas, which is a five-fold increase from 4.9% in 1975. Among the 209 Eups in 2005, 52 or 25% are classified as super aging societies, while 82% or 991 out of a total of 1,208 Myeons nationwide have over 20% of aging populations (Mi-ryung Song and Ju-in Sung, 2007).

Figure 1 Aging Population Trends in Rural Areas



Diversity

International marriages were very rare in Korea prior to the 1990s. However, while the number of total marriages in Korea has declined subsequent to 1990, international marriages have been on the rise. In the case of rural areas, increasing number of unmarried men in the rural areas emerged as a serious social problem subsequent to the late 1980s. As a solution to the problem, international marriages started to increase with the boom in marriages with Korean-Chinese women. To date, this trend continues to be on the rise.

As a result, the concept of ethnic purity is recently changing in the Korean society due to international marriages expanding as a new culture (Sun-mi Yang, 2006). According to the Korean National Statistical Office data, the number of marriages between male Koreans and female foreigners in 2005 increased 21.8% from 2004 with international marriages in rural areas also rising 8.5%.

The total number of immigrant females residing in Korea due to international marriages is 29,140 nationwide with 72.3% or 21,071 and 27.7% or 8,069 residing in the urban and rural areas, respectively. In 2007, the number of international marriages in Korea was 38,491, accounting for 11.1% of total marriages. In particular, the percentage of marriages between male Koreans and female foreigners centering on rural areas have surged with 3,172 male farm workers being married to female foreigners in 2007. Accordingly, 40.9% of the total number of marriages in rural areas was international marriages with female foreigner, implying that 10 out 4 males residing in rural areas are married to foreign women (Korean National Statistical Office, 2007).

In line with the large inflow of foreign women into rural areas in Korea, a variety of problems are expected to surface for both the women and their children including problems associated with education, language, adapting to the culture and family ties.

Table 2 Marriages between Male Korean Farm Workers and Female Foreigners

(Unit: Persons, %)

Year	Total Marriages	Marriages between Male Koreans and Female Foreigners	Marriages between Male Korean Farm Workers and Female Foreigners (D)	Number of Married Farm Workers (C)	D/C
2005	316,375	31,180	2,885	8,027	35.9
2007	245,592	29,140	3,172	7,930	40.0

Source: http://www.kosis.kr/

2) Infrastructure Gaps between Urban and Rural Areas

With regard to education environment, the number of students per teacher and number of elementary, middle and high schools per km2 are compared to examine public education infrastructure. In terms of the number of students per teacher, it is significantly lower in the rural areas (17.4 persons for Gun district and 14.0 persons for combined urban & rural cities in 2005) than cities (21.6 persons for large cities and 22.2 persons for general cities in 2005). It can be said that, ceteris paribus, lower number of students per teacher provides better education environment. However, it is difficult to say that smaller number of students per teacher in rural areas than cities provides better environment for pubic education as it is generally known that significant gaps actually exists between the two areas.

The number of elementary, middle and high schools per km2 provides a measure for geographic accessibility of public education services. It can be said that the higher the number, the better the geographic accessibility since it means that the distance between residence and school are relatively shorter. Based on 2005, the number of schools per km2 in the Gun districts was 0.054, 0.113 for combined urban & rural cities, 0.629 for general cities and 0.692 for large

cities. From this perspective, accessibility to public education is very low in the rural areas as there are around 6 times more schools per unit area in urban areas.

In terms of private education services, the number of instructors per private academy provide for a good measure of specialty and size of private academies, while the number of kindergartens per km2 represent geographic accessibility of preschool education. On the basis of 2005, the number of instructors per private academy was higher in urban areas than rural regions with 1.8 persons for the rural area of Gun district, 2.4 persons for combined urban & rural cities, 2.7 persons for large cities and 2.6 persons for general cities. Accordingly, the figures imply that private academies in urban areas provide higher quality education in terms of both size and specialty.

Meanwhile, figures for geographic accessibility of kindergarten education reveal that urban areas have 7 times better accessibility than rural areas with the number of kindergartens per unit area based on 2005 reaching 0.036 for Gun districts, 0.095 for combined urban & rural cities, 0.527 for large cities and 0.633 for general cities. However, the task of accurately measuring the qualitative and quantitative environment of education in rural areas remains to be done as there are limitations in reflecting the quality of education and services in education environment.

With respect to living environment, water supply rate remains significantly lower for rural areas, while rural areas also have 4-5 time more pollutant generating facilities than urban regions. What is more concerning is the fact that the number of pollutant generating facilities in the rural areas increased in 2005 compared to 2000. Accordingly, public awareness on the increase in installation of hazardous environment facilities in the rural areas needs to be heightened.

Table 3 Comparison of Living Infrastructure between Rural and Urban Areas

(Unit: Persons, number, %)

Infrastructure		Rural				Urban			
		Gun district		Combined urban & rural cities		Large cities		General cities	
		2000	2005	2000	2005	2000	2005	2000	2005
Education	Number of students per teacher	39.7	17.4	53.6	14.0	25.3	21.6	26.2	22.2
	Number of instructors per private academy	1.5	1.8	2.6	2.4	2.4	2.7	2.4	2.6
	Number of kindergartens per km2	0.038	0.036	0.089	0.095	0.584	0.527	0.632	0.633
	Number of elementary, middle & high schools per km2	0.055	0.054	0.101	0.113	0.638	0.692	0.541	0.629
Living Environment	Water supply rate	46.8	55.0	69.8	78.0	96.3	97.9	96.3	98.1
	Sewage supply rate	14.9	36.6	48.4	68.3	80.4	89.5	85.8	93.7
	Number of pollutant generating facilities per 1,000 residents	4.1	4.7	4.4	5.2	0.6	1.0	1.7	1.4
Medical	Number of residents per medical personnel	437.0	360.5	255.7	187.1	175.6	133.6	230.1	166.5
	Number of medical facilities per km2	0.064	0.077	0.268	0.367	4.585	5.709	3.034	4.227
Culture	Number of leisure facilities per 1,000 residents	0.11	0.14	0.05	0.06	0.05	0.05	0.05	0.09
Dwelling	Percentage of housing of 20 year or older	35.9	38.3	22.0	23.3	14.5	18.0	11.2	16.3

While the number of residents per medical personnel continues to fall in rural

areas, the environment for medical services in the rural areas is inferior by far compared to urban regions when taking into account the slower decline in such figures and decrease in rural population. When looking at the geographical accessibility of medical services as depicted by the number of medical facilities per km2, the number per unit area based on 2005 was 0.077 for Gun districts, 0.367 for combined urban & rural cities, 5.709 for large cities and 4.227 for general cities. This means that large and general cities have 74 times and 54 times more medical facilities per unit area than rural areas of Gun districts, respectively, and 15 times and 54 times more than combined urban & rural cities, respectively. Such figures reveal that a significant gap exists in the accessibility of medical services between the two regions. As a result, while it is crucial to increase the number of medical facilities in the rural areas to alleviate such gaps, measures are urgently needed to be implemented to allow for the people in the rural communities to receive medical services within a short period of time in an emergency or when desired.

Gun districts possess the most cultural facilities over urban regions. However, it would be excessive to say that its cultural environments are better than urban areas as its utilization, accessibility and quality have not been considered. Rural areas also have poorer dwelling environment with the percentage of housing of 20 years or older highest in Gun districts, followed by combined urban & rural cities.

1.3.2. Rural Policy

1) Historical Changes in Rural Development Policies

Recently, rural communities are experiencing difficulties overall due to the acceleration of declining and aging population, along with agricultural market

liberalization through WTO multilateral negotiations and FTAs with the U.S. and EU. During the process, the recognition that "agriculture equals rural communities" or "improvement of agricultural productivity equals agriculture development or rural development," which acted as the underlying rationale of Korea's rural development, are no longer valid has started to spread.

Rural development in Korea originated from regional society development projects, developing into the New Village (Saemaul) Movement by the 1970s. Despite the limitations of top-down approach during the period, it is notable to address the fact that rural development policies focused on fostering citizen organization and leaders beyond physical development of establishing production infrastructures and improving living environments.

The 1980s and 1990s were periods in which rural policies expanded quantitatively and changed rapidly qualitatively. During the 1980s, the scope of rural development expanded from villages to the Gun level to include rural center cities in line with the expansion in the living boundaries of rural residents due to the industrialization and urbanization of the Korean society. Rural development policies included linked development of center cities and underlying rural villages, development of regional industries to promote regional economies and local employment, and improvement of dwelling environment at the Gun level including education, culture and medical services.

In the 1990s, rural settlement living zone development and rural living environment improvement were pursued backed by the enactment of the Special Act on the Development of Rural Villages and Rural Village Improvement Act so as to complement problems of comprehensive rural area development in the 1980s. Overall, rural development projects in the 1980s and 1990s focused on achieving quantitative-oriented results, neglecting the development of citizen organizations or leaders.

Table 4 Changes and Key Activities of Rural Area Development Policies by Period

Policy	Period	Key Activities	Leading Entity	Method of Development
Regional Development	1950 ~ 1960	-Citizen organization establishment -Leadership development -Resource development & income increasing activities -Production infrastructure improvement -Living environment improvement	Regional development centers Citizens	Bottom-up Development
Rural New Village (Saemaul) Movement	1970	-Saemaul leader development -Citizen organization establishment -Living environment improvement -resource development & income increasing activities -Production infrastructure improvement	Government officials Saemaul leaders Citizens	Top-bottom Development (Mixed with bottom-up development)
Comprehensive Rural Area Development	1980	-Combined development of urban & rural areas -Development of center cities -Development of underlying villages -Regional industry development -Development of dwelling environment including education, culture, medical services -Environment development	Local governments Citizens	Reflection of Resident Opinions
Settlement Living Zone Development	1990	-Development of center cities -Housing & road development -Water supply & sewage development -Environment development -Public & convenience facilities development	Local governments Citizen agencies	Reflection of Resident Opinions
Improvement of Quality of Life	2000	-Innovation capacity reinforcement -Software program support -Living environment improvement -Information infrastructure support -Urban-rural exchange reinforcement -Amenity support activities	Local governments Rural communities	Bottom-up Development Reflection of Resident Opinions

During the 2000s, over 10 central government agencies pursued a wide variety of rural development projects to fit to their respective characteristics to facilitate such activities as rural community hardware maintenance, basic service improvement and urban-rural exchange promotion.

Table 5 Major Rural Area Development Policies by Ministry

Supervising Ministry	Project	Period	Characteristics
Ministry for Food, Agriculture, Forestry and Fisheries	Comprehensive farm village development program	2004-2009	Financial assistance within W4~W7 billion range according to village size over 3~5 years
	Farm village settlement infrastructure establishment program	1990-2013	770 *Myeons*withsettlementzonedevelopment plans subject to program Size of support<Subsidy: up to W3 billon per *Myeon*
	Countryside village development program	2004-2014	Targeting improvement of 1-2 countryside villages per city and*Gun*
	Green farm experience village development program	2002-2013	Agreements with villages concluded for farm tours. Establishment of 1,000 farm experience villages by 2013
	Farm village multifunctional living space development program	2006-2013	Development of farm villages into spaces for enjoying leisure life. Policy support for settlement of urban residents
	Comprehensive development program for underdeveloped regions	1990-	Establishment of basic welfare and production infrastructure facilities in underdeveloped rural areas
	Revitalization program	2005-	Provision of growth drivers and vitality to 70 underdeveloped cities and districts through injection of W819.8 billion by 2007. Second phase of program commenced since 2008.
	Fishing village comprehensive development program	1994-2013	Establishment of production infrastructure in underdeveloped fishing villages. Development of fishing incomes. Improvement of quality of life of fishing village residents
Ministry of Public Administration and Security	Small province & district development program	1972-	Development of region-specific resources. Establishment of economic, social and cultural centers for rural areas.
	Information village development program	2001-2014	Establishment of IT systems for small (50~100 households) and mid-sized (100~300 households) villages
	Loving village development trial program	2003 Suspended	Provision of diverse information to secluded regions to increase information accessibility
Ministry of Culture and Tourism	Cultural history village program	2004-2009	Establishment of 1 trial villages in each of 9 provinces, excluding metropolitan cities, through investment of W25.5 billion during 2004~2009.
	Living-friendly cultural environment development program	2004-2009	Establishment of living-friendly cultural space corresponding to the demands of residents in culturally-secluded regions
Rural Development Administration	Traditional theme village development program	2002-2009	Development of resting and cultural experience villages for urban dwellers based on traditional culture, living customs and natural environment
Korea Forestry Service	Mountain village comprehensive development program	2005-2010	Environment-friendly development of forest and recreation resources. Provision of recreation space for urban dwellers. Development of mountain villages.
Ministry of Environment	Natural ecology excellence village program	2001-	Selection of environment-friendly villages that have undamaged ecosystems and scenery or promote recycling

Noh Moo-hyun's participatory government set balanced development as a crucial government target, while also emphasizing the expansion of regional autonomy and the transfer of authority to local governments in its rural policies. Behind such policies lies the participatory government's critical view that local governments simply carried out the rural development policies initiated by the existing central government.

The Special Act on the Improvement of Quality of Life of Farmers & Fishermen and Promotion of Rural Area Development was enacted with the objective to 1) improve the quality of life of citizens living in relatively underdeveloped farming and fishing villages, and 2) systematically pursue fragmented farming and fishing village regional development policies, which were previously implemented individually by each ministry of the central government, at the government-wide level.

2) Past and Future Rural Industry Policies

Korea's rural industrialization policies have been implemented to increase non-farming income. Initial policies are rooted in the government's rural avocation complex development plan pursue in the late 1960s during the initial stages of industrialization. During the period, focus was placed on ways to eliminate poverty through the productive use of idle labor force in the rural areas. Most of the work was in homemade handicrafts, producing agricultural materials using agricultural by-products or daily necessities.

During the 1973~1982 period, the new village ("Saemaul") factory construction program was extensively implemented in the rural areas. However, the factories were not able to overcome their limitations as small- and medium-sized companies since they were dispersed in their locations as labor intensive home industry procuring raw materials from their respective regions.

In 1983, the Farming & Fishing Village Income Source Development Promotion Act was legislated to establish the framework for rural area industrialization policies centering on the objective of increasing non-farming income. Through the law, various policy measures were established for the development of income sources such as rural industry complexes, specialty product complexes and tourism farms. In particular, new demand for tourism in farm villages were generated in this period.

Table 6 Changes in Rural Industry Policies

	Period 1 (1967~1972)	Period 2 (1973~1982)	Period 3 (1983~1989)	Period 4 (1990~2001)	Period 5 (2002~2007)
Major Programs	Avocation complexes	Saemaul factories Avocation complexes	Agricultural industry zones Avocation complexes	Agricultural industry zones Specialty product complexes Traditional foods Local processing	Agricultural industry zones Regional specialized industries Local resource-based industries Agricultural product processing industries
Policy Background	Resolve poverty issues through the utilization of idle labor and by-products	Individual disperse location-type industrialization Expansion of non-farming income centering on agricultural & livestock product production complexes	Collective location industrialization Pursue core task of avocation complex development as non-farming income policy	Search for new directions in developing regional specialty products Renaming of farming & fishing village specialty product complex (1991)	Renewed perception of the value of local resources Utilization of amenity resources Development of traditional food industry Development of regional specialty businesses
Economic & Social Conditions	Full-scale economic development Extensive idle labor force	High growth period Relatively stable period for rural economy Development of heavy chemical industry	High growth period Expansion in liberalization of agricultural product imports Need for expansion in non-farming income	Decreasing & aging population Severe shortages in farming labor and limitations in rural industry complex development	Korea-US FTA Entry into super aging society Emergence of new perspectives on rural areas including amenity and scenery

Coming into the 1990s, policy concerns on non-farming income declined as discussions on restructuring of agricultural industry became imminent amidst controversy surrounding market liberalization. However, it was a period in which the need for new non-farming income policy were raised as population declined sharply and aging population deepened in the rural areas

Subsequent to 2002, the Korean economy entered into a soft-landing phase, having undergone an adjustment period since the financial crisis. Recently, discussions on a secondary liberalization in agricultural policy are being conducted in line with changing international environment such as expansion of FTAs. In addition, both negative aspects of depopulation, aging population and deepening urban-rural income disparities, and concepts that view rural areas and rural resources from a new perspective have started to emerge. The current period is an era in which industrialization in rural areas needs to be approached from a new perspective in line with the emergence of views that attempt to promote active exchanges between urban and rural areas.

Rural Industrial Complex Development Program

Rural industrial complexes started to be pursued subsequent to 1984 to provide employment opportunities and stimulate the depressed regional economies in the rural areas by establishing small- and mid-sized industrial complexes. As a policy measure to promote manufacturing industries in rural areas by providing cheap land, tax reduction and exemption, simplified approval procedures and financial support, rural industrial complexes attempted to secure competitiveness by collectively attracting businesses that were previously scattered individually.

In 2005, a total of 324 rural industrial complexes were created with a lot out rate of 98.1%. The number of companies in the complexes reached 4,705, employing a total of 112 thousand workers, of which 71 thousand (63.4%) were

rural area residents to fall from 72..6% in 2000. The number of farm workers employed at rural industrial complexes also fell by approximately 2 thousand from 21 thousand in 2000 to 19 thousand in 2005. Operation rate was higher than national and regional industrial complexes increasing from 75% in 1998 to 89% in 2001 and 90.4% in 2005. Rural industrial complexes play an important role in the economy of rural areas as nationwide production and exports of rural industrial complexes reached W23,566.3 billion and US$5,071 million, respectively, as of the end of 2004.

Specialty Product Complex Development Program

Specialty product complex development program is based on the avocation complex program that was started in 1967. In 2006, a total of 673 complexes were in operation, but has reduced to 600 in 2005. Based on 2004, key products produced by businesses in these complexes are comprised of 60% folk craftwork products including wood craftworks and bamboo ware, 13% fabrics and textiles including ramie cloth and hemp cloth, 11% agricultural materials including vinyl and paper boxes, and 8% building stone.

In 2004, total sales amounted to W123.3 billion, while average sales per complex reached W19.2 million. Exports from these complexes temporarily declined in 2003 to pick up once again in 2004, totaling W11.2 billion or 9.0% of total sales. Total income in 2004 increased from W42.3 billion in 2003 to W36.6 billion, while income per complex fell from W6.4 billion in 2003 to W5.7 billion in 2004. However, income per household increased from W0.82 billion in 2003 to W0.87 billion in 2004.

Agricultural Product Processing Industry Development Program

Agricultural product processing industry development program is a necessary program for improving non-farming income as it brings about both regional ag-

riculture development and increased employment by producing processed goods using materials produced in the rural areas.

The traditional food development program is implemented to 1) develop income sources for farming and fishing households by newly developing domestic agricultural products and improving its value-added, 2) stabilize prices through purchasing and processing of raw agricultural products, 3) pass on and develop native eating habits and culture, and 4) inhibit westernizing eating habits.

Meanwhile, local general processing program aims at 1) developing new demand and improving value-added for domestic raw material agricultural products, 2) stabilizing price through processing treatment of raw material agricultural products, and 3) increasing income in rural areas through increased employment, and 4) stimulating regional economies.

As of 2006, a total of 1,111 businesses are in operation comprised of 813 traditional food development businesses and 298 local general processing businesses.

1.3.3. Recent Issues in Rural Policy

1) New Government's New Town Projects in Rural Areas

New town projects in rural areas aims at attracting young farming labor by inducing people in their 30~40s who are from the rural areas but reside in cities. The new towns are planned to be created to allow people to live together in a fixed area that provides major improvements in the currently weak dwelling and education environments in the rural areas.

The project also aims to create synergies by utilizing existing financial resources to the fullest extent through consolidation and linkage of various proj-

ects implemented for rural area development. Young urban dwellers who intend to take over their family farms are to be selected through demand surveys initiated by the mayor or district governor. Trial projects are scheduled to be conducted in cities and districts that have verified demand for such new towns with 10 towns planned to be created in 2009.

The rural new towns are to be created as countryside rental housing estates with a size of 100~300 households per city or Gun district. Comprehensive education including theory, practice and overseas study in different areas and development stages will be provided to the people settling in the new towns. In addition, funds for new farm start-ups and farm improvement will also be supported gradually to allow the resident to develop into leading farmer and fishermen.

For the children, high quality education environment will be provided from baby care to college. As such, the government plans to provide high quality environment for public education by establishing nurseries and kindergartens, providing infant nursing costs and attracting public boarding schools.

2) Promotion of Rural Tourism

Programs related to rural tourism can be classified into rural tourism & recreation program, rural tourism village program and regional development program. Rural tourism & recreation program aims to promote urban-rural exchanges, increase rural income and stimulate regional development by preserving and developing the abundant tourism and recreation resources in rural areas in connection with agriculture. The program is comprised of rural tourism & recreation complex program, tourism farm program, weekend farm program and rural home-stay program.

The number of rural tourism villages designated by the rural tourism village development policy beginning in 2002 reached 380 as of 2006. A total of 190

villages have been selected as Ministry of Agriculture and Forestry's (MAF) green rural experience village, starting from 18 selections in 2002 to 67 additional selection in 2006. The number of Rural Development Administration's (RDA) rural traditional theme villages the totals 97 with 9 being initially designated in 2002 and 21 in 2006. The Ministry of Marine Affairs and Fisheries (MMAF) have chosen 58 villages as fishing experience villages, while the Ministry of Culture and Tourism (MCT) has designated 12 villages as cultural & historic villages. The National Agricultural Cooperative Federation's (NACF) farm stay program is operated by the private sector with 243 villages participating in the program in 2006 from the initial number of 32 villages in 1999.

Table 7 Tourism Villages Developed through Government Support (as of 2006)

Total	Arum Village ('01-'02)	Green FarmVillage ('02-'06)	Traditional ThemeVillage ('02-'06)	Fishing Experience Village ('02-'06)	Cultural & Historic Village (-'06)
	MGAH	MAF	RDA	MMAF	MCT
380	23	190	97	58	12

Source: Internal reports of respective ministry

A turning point for rural tourism has recently been provided with respect to exchanges between urban and rural areas. A good model of urban-rural exchange is the "One Company and One Rural Village" campaign in which a company, organization or public institution in urban areas forms a sisterhood relationship with a rural village. The campaign is being led by the private sector including the National Agricultural Cooperative Federation and Federation of Korean Industries. As of December 2006, a total of 14,498 relationships have been formed.

Table 8 One Company-One Rural Village Campaign (as of the end of 2006)

Total	Companies	Consumer Organizations	Social/ Religious Organizations	Government & Public Offices	Agricultural Cooperative	Schools	Others
14,498	6,316	1,082	820	1,967	1,523	860	1,937

Meanwhile, the number of rural tourism villages designated has increased every year, along with the significant rise in the number of its visitors. In the case of green farm experience villages, the number of visitors increased sharply by 6.5 times from 157,500 in 2002 to 1,037,700 in 2005. Visitors to traditional theme villages and farm stay villages have also increased significantly. Such rise in the number of visitors to rural tourism villages reveals the rising demand for rural tourism generated from the increase in the number of tourism villages selected or designated by the government or private-sector organizations.

Table 9 Number of Visitors to Farm Experience Villages

Unit: persons

	2001	2002	2003	2004	2005
Green farm experience villages	-	157,500	295,400	626,500	1,037,700
Traditional rural theme villages	-	12,581	55,780	133,091	259,796
Fishing experience villages	172,000	414,000	2,528,000	5,030,000	5,445,000
Arum villages	44,555	208,192	227,130	260,582	316,444
Farm stay villages	101,795	250,000	360,067	620,000	938,743

Note: 1) Many of the farm stay villages overlap with government-support tourism villages including green farm experience villages, traditional theme villages and fishing experience villages.

2) The figures above are not official statistics, but data aggregated by respective ministries or corresponding institution.

Source: Internal reports of respective ministry

3) Local Resource-based Industry Development

The Ministry for Food, Agriculture, Forestry and Fisheries pursues the native industry development program based on the Special Act on the Improvement of Quality of Life of Farmers & Fishermen and Promotion of Rural Area Development and Special Act on the Balanced National Development.

Initially pursued as a trial program since 2007, the native industry development program aims to stimulate rural economies and increase the incomes of farm households by combining the primary, secondary and service industries using native resources of regional societies. Since 2008, the program provides comprehensive assistance of W3 billion per business over a period of 1~3 years.

The Ministry for Food, Agriculture, Forestry and Fisheries established the native industry development plan and has formed the native industry development committee to select a total of 49 businesses (19 in January 2006 and 30 in December 2006) for trial operations starting in 2007. In December 2007, 30 additional businesses were selected for operations in 2009.

The Ministry for Food, Agriculture, Forestry and Fisheries also conducts other programs that are directly or indirectly related to the development of native industries such as regional specialty product development program, regional agriculture cluster program and geographical indication system.

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2. Agenda 2: The Supply and Demand Situations in the International Agricultural Market

2.1. World Food Supply and Demand Projections for 2018

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2.1.1. Overview of the World Food Supply and Demand Model

1) Model characteristics

(1) The World Food Supply and Demand Model (World Food Model) is a simultaneous equations model (SEM) of the supply-demand balance that applies certain assumptions on future population and economic growth rates, where the demand and supply of each commodity is aligned annually at the global level. There are approximately 5,000 simultaneous equations in the model system.

(2) This model is a reconstructed version of the World Food Model used by MAFF to make world food supply and demand projection estimates. The re-constructed model adheres to the basic precepts of the former model but in-corporates a drastic review of the various equations and parameters used in light of the changes that have occurred in the environment surrounding world food supply and demand in recent years.

2) Model outline

(1) Model structure

This model has been constructed on the basis of the concepts outlined hereunder (see Ref. 1).

(a) Consumption levels

Commodity consumption levels are set on the basis of population, real economic growth rates and the prices of the relevant commodities and rival commodities.

(b) Production levels

Grain crop production levels are set on the basis of harvest area and unit yield, where unit yields are set on the basis of trends and harvest areas on the basis of the real net producer prices (i.e. the prices the producers get for their produce on commodity markets plus any financial subsidies, whether direct or indirect) of the relevant commodities and rival commodities for the previous year.

Livestock production levels are set on the basis of production per head and herd (flock) size, where per head production is set on the basis of trends and herd (flock) size on the basis of previous year herd (flock) size and the real net producer prices of the relevant commodities and rival commodities.

(c) Prices

International prices are set at the point where demand and supply are equal, while the prices within individual countries and regions are set using international prices and the gap between domestic and foreign prices.

(2) Commodities included in the model

The new World Food Model includes 20 commodities in total: six grain crops (i.e. wheat, corn, other coarse grains, rice, soybeans, and other oil seeds), five edible meats (i.e. beef, pork, chicken, lamb and hen eggs), four processed grain crops (i.e. soybean meal, other oil meal, soybean oil and other vegetable oils), and five raw milk and dairy products (i.e. raw milk, butter, non-fat milk powder, cheese and whole milk powder) (the previous model dealt with 14 com-

modities).

(3) Base year / target year

The target year for these projections was set as 2018 in order to project for ten years into the future, while 2006 was used as the base year being the year that preceded the spiraling of grain prices. Note that, where no specific explanation is provided, base year figures represent the 3-year average for the years 2005 through 2007.

(4) Projected factors

This model was used to project the following factors: consumption volumes, production volumes, net imports and exports for the respective commodities and regions, and international prices (both nominal and real) for each of the commodities included.

(5) Model scope and region classifications

This model is global (i.e. it includes all the countries of the world) and the date used for projections are classified into eight regions (sub-divided into 30 countries and regions), which were delineated according to standard geographical classifications (see Ref. 2).

Note, however, that since this model is intended to project underlying trends in supply and demand for food, projections have not been made for individual countries and only the predictive values for the eight regions are presented for reference.

(6) Population / economic growth rates

(a) The world's population in 2018 is estimated at 7.6 billion on the basis of the United Nations' World Population Prospects: The 2006 Revision.

(b) Real economic growth rate estimates are based on the gross domestic product (GDP) and real economic growth rate projections given in the World Bank's World Development Indicators 2008 (based on these estimates, global average GDP per capita is expected to reach US$ 9,303 in 2018, as compared

to US$ 7,234 in 2006).

2.1.2. Projection Results

1) Model assumptions

Projections were made using the aforementioned World Food Model based on the assumptions that current growth in unit grain crop yields will continue and that there will be no particular constraints on expansion in crop acreage. Further, in light of the passage of the US Energy Independence and Security Act of 2007, US demand for corn-based bioethanol (i.e. demand for biofuel crops) in the target year is taken as 15 billion liquid gallons for the basis of these projections.

2) Projection results

(1) International price projections

(a) Grain crops

The rapid escalation in grain prices of 2007 and 2008 will blow over. However, growth in demand for corn fodder accompanying population growth in Asia and Africa as well as increasing consumption of animal products in emerging economies combined with mounting demand for biofuel crops mean that international corn prices are forecast to remain above 2006 levels from 2009 onwards and to maintain their upward trajectory. Moreover, international prices of wheat, rice and soybeans are expected to remain bullish as the result of the rise in international corn prices.

(b) Livestock

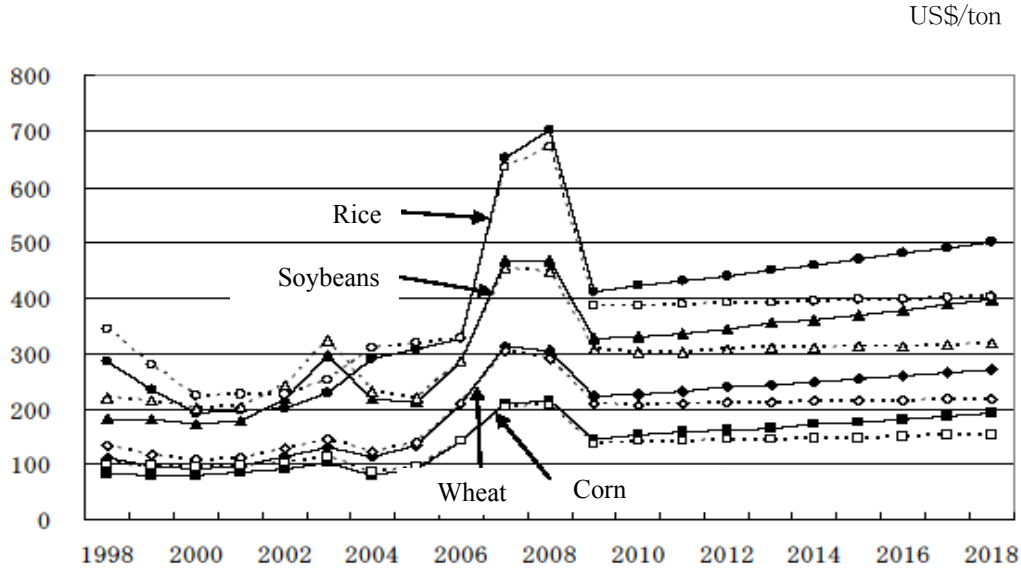
While there are commodity-based differences in the rate at which international livestock prices are increasing, the upward trend is expected to continue

due to population growth in Asia and Africa, and the increased consumption of animal products together with the rise in international fodder prices that are attendant upon qualitative changes in food consumption patterns in emerging economies.

(c) Dairy produce

Demand for dairy products, such as butter, non-fat milk powder and cheese, is expected to increase and the upward trend in international prices to continue due to population increases and economic growth in emerging economies.

Figure 1 Projected fluctuations in international grain and soybean prices(Solid line: nominal prices; dotted line: real prices)



Note: Actual values are presented up to 2008 (the values for 2008 are the January-through-November means), while those given for 2009 through 2018 are estimates. Past real prices and future nominal prices were computed using OECD GDP deflator data (US figures), with 2006 taken as the base year.

Tabel 1 Base year prices and target year prices for major commodities

(Units: US$/ton (grain crops); US$/100kg (animal products); %)

Commodity	2006 (base year price)	2018 (target year)			
		Real price		Nominal price	
			Percentage rate of change		Percentage rate of change
Wheat	202	218	8	272	35
Corn	133	155	17	193	46
Other coarse grains	140	155	10	193	38
Rice	374	402	7	502	34
Soybeans	294	319	8	398	35
Beef	314	330	5	411	31
Pork	147	161	9	200	36
Chicken	143	161	13	201	41
Butter	228	331	45	413	81
Non-fat milk powder	292	409	40	511	75
Cheese	318	365	15	456	43

Note: OECD GDP deflator data (US figures) were used to calculate nominal prices in the target year from real prices.

(2) Production, consumption, net import and export volume projections by region

(a) Wheat

(Unit: million tons)

	Production		Consumption		Net imports/exports	
	2006	2018	2006	2018	2006	2018
North America	78	89	38	42	43	47
Latin America	25	33	34	43	-9	-11
Oceania	17	25	7	9	10	16
Asia	231	294	253	318	-23	-24
Middle East	42	49	51	64	- 8	-15
Europe	195	229	182	199	20	31
Africa	23	32	53	73	-30	-42
World total	609	751	621	752	0	0

i) In the base year, North America, Oceania and Europe are net exporters, while Latin America, Asia, the Middle East and Africa are net importers.

ii) Net imports in the target year are expected to increase since increases in consumption will exceed increases in production in Latin America, Asia, the Middle East and Africa.

iii) Production increases will outstrip consumption increases in North America, Oceania and Europe, and net exports for all three regions will be up in the target year, though this trend will be particularly marked in Europe (inclusive of Russia, etc.) where production increases are projected.

(b) Corn

(Unit: million tons)

	Production		Consumption		Net imports/exports	
	2006	2018	2006	2018	2006	2018
North America	304	408	254	372	55	36
Latin America	104	151	102	128	2	23
Oceania	1	1	1	1	0	0
Asia	195	243	223	278	-30	-34
Middle East	6	10	15	17	- 9	- 7
Europe	76	91	81	97	- 5	- 6
Africa	49	66	58	75	-10	- 9
World total	734	969	736	970	0	0

i) In the base year, North America and Latin America are net exporters, while Asia, the Middle East, Europe and Africa are all net importers.

ii) Net imports in the target year are expected to be up since consumption increases, including demand for animal feed, will surpass production increases in Asia and Europe.

iii) Net exports in the target year are projected to shrink since there is forecast to be substantial growth in consumption in North America on the back of increasing demand for corn-based bioethanol, which will surpass the production increases. By contrast, production increases in Latin America will exceed consumption increases resulting in a substantial increase in net exports in the target year.

(c) Other coarse grains (wheat, rye, etc.)

(Unit: million tons)

	Production		Consumption		Net imports/exports	
	2006	2018	2006	2018	2006	2018
North America	31	37	25	29	8	7
Latin America	16	18	18	23	-1	- 5
Oceania	10	14	7	9	3	5
Asia	32	37	36	43	-4	- 6
Middle East	13	15	23	27	-9	-12
Europe	128	160	126	141	6	19
Africa	50	62	52	69	-2	- 7
World total	281	343	288	344	0	0

i) In the base year, North America, Oceania and Europe are all net exporters, while Latin America, Asia, the Middle East and Africa are net importers.

ii) Net imports in the target year are projected to increase since increases in consumption will outstrip forecast increases in production in Latin America, Asia, the Middle East and Africa.

iii) Net exports in the target year will increase in Oceania and Europe, where production increases will surpass increases in consumption, though this trend will be particularly marked in Europe (inclusive of Russia, etc.) where production increases are projected. Net exports in North America, meanwhile, will shrink.

(d) Rice

(Unit: million tons)

	Production		Consumption		Net imports/exports	
	2006	2018	2006	2018	2006	2018
North America	7	10	4	5	2	5
Latin America	16	22	17	21	-1	0
Oceania	0	0	0	0	0	0
Asia	381	455	364	442	15	14
Middle East	3	3	7	9	-4	-6
Europe	2	3	4	4	-1	-1
Africa	13	17	20	26	-6	-9
World total	422	511	420	511	0	0

i) In the base year, Asia accounts for the majority of production and consumption, while North America, despite limited production, is a net exporter. Latin America, the Middle East, Europe and Africa, meanwhile, are all net importers.

ii) Net Asian exports in the target year are forecast to be down slightly since although production will increase, comparable increases in consumption are projected. By contrast, production increases in North America will exceed consumption increases resulting in a substantial rise in net exports.

iii) Net imports in the target year in the Middle East and Africa are forecast to be up due to increases in consumption in the two regions.

(e) Soybeans

(Unit: million tons)

	Production		Consumption		Net imports/exports	
	2006	2018	2006	2018	2006	2018
North America	83	96	54	69	30	27
Latin America	113	142	78	89	32	53
Oceania	0	0	0	0	0	0
Asia	25	31	68	88	-41	-57
Middle East	0	0	4	4	- 3	- 4
Europe	3	4	18	21	-15	-17
Africa	1	1	3	3	- 2	- 2
World total	225	275	225	275	0	0

i) In the base year, North America and Latin America are net exporters, while Asia, the Middle East, Europe and Africa are all net importers.

ii) Net imports in Asia and Europe are forecast to expand in the target year since increases in consumption will surpass increases in production.

iii) Net exports in the target year will expand dramatically in Latin America where production increases will exceed increases in consumption. By contrast, there is expected to be shrinkage in net US exports because consumption increases will exceed production increases.

(f) Beef

(Unit: million tons)

	Production		Consumption		Net imports/exports	
	2006	2018	2006	2018	2006	2018
North America	13	15	14	15	-1	0
Latin America	17	22	15	19	3	3
Oceania	3	3	1	1	2	2
Asia	13	17	14	20	-1	-3
Middle East	1	1	2	2	-1	-1
Europe	11	13	12	13	-2	0
Africa	1	2	2	3	-1	-1
World total	59	74	59	74	0	0

i) In the base year, Latin America and Oceania are net exporters, while all other regions are net importers.

ii) In Asia, production will increase, but the increases in consumption will be substantial resulting in an increase in net imports in the target year.

iii) Target year import and export volumes for North America and Europe will be virtually level since production increases are projected to exceed increases in consumption.

(g) Pork

(Unit: million tons)

	Production		Consumption		Net imports/exports	
	2006	2018	2006	2018	2006	2018
North America	12	13	10	10	2	2
Latin America	5	8	5	6	0	1
Oceania	0	1	1	1	0	0
Asia	54	73	56	76	-2	-3
Middle East	0	0	0	0	0	0
Europe	26	27	26	27	0	0
Africa	0	0	0	0	0	0
World total	98	121	98	121	0	0

i) In the base year, North America is a net exporter and Asia a net importer. In the remaining regions, production and consumption of pork is virtually non-existent or is level pegged.

ii) In Asia, net imports in the target year will increase as production increases outstrip consumption increases.

iii) By contrast, Latin America is expected to be a net exporter in the target year since production will increase with minimal change in consumption.

(h) Chicken

(Unit: million tons)

	Production		Consumption		Net imports/exports	
	2006	2018	2006	2018	2006	2018
North America	17	21	15	16	2	5
Latin America	16	23	14	18	2	5
Oceania	1	1	1	1	0	0
Asia	19	26	20	31	-1	-5
Middle East	2	2	3	5	-1	-2
Europe	10	13	11	13	-1	0
Africa	1	1	1	2	-1	-2
World total	65	86	65	86	0	0

i) In the base year, North America and Latin America are net exporters, while Asia, the Middle East, Europe and Africa are all net importers.

ii) A substantial increase in net imports is forecast for Asia in the target year, since consumption increases will surpass increases in production.

iii) Net exports are expected to increase significantly in North America and Latin America in the target year, where production levels are projected to increase with minimal change in consumption levels.

(3) Per capita consumption projections

(a) Grain (total, including that for animal feed)

	Base year (2006)		Target year (2018)	
	Real number	Index	Real number	Index
	k g		k g	
North America	958	100	1,192	124
Latin America	302	100	326	108
Oceania	619	100	680	110
Asia	236	100	254	108
Middle East	322	100	318	99
Europe	537	100	606	113
Africa	195	100	207	106
World total	312	100	339	109

i) Per capita consumption of grain is increasing throughout the world.

ii) Growth rates in North America, including the US where demand growth for corn-based bioethanol is projected to be substantial, are particularly high; while the growth rates for Europe, including Russia and Eastern European countries, are also high.

iii) With the upward trend in per capita consumption being common to most regions, a slight decrease is projected for the Middle East.

(b) Meat products

	Base year (2006)		Target year (2018)	
	Real number	Index	Real number	Index
	k g		k g	
North America	114	100	111	97
Latin America	59	100	66	112
Oceania	108	100	114	105
Asia	26	100	32	124
Middle East	21	100	24	113
Europe	69	100	75	109
Africa	6	100	7	117
World total	35	100	39	111

i) Per capita consumption of meat products is also increasing in all regions.
ii) In Asia, where per capita levels of consumption have been low to date, high rates of economic growth mean that the increases are particularly marked. The growth rates for the Middle East and Africa, while historically low, are also increasing.
iii) In North America, Oceania and Europe, which all have existing high levels of per capita meat consumption, levels are increasing in Europe, inclusive of Russia, etc., and Latin America, while consumption levels in North America are dropping.

Table 2 Projection results for major grain crops

(Units: million tons; US$/ton)

			Wheat	Corn	Other coarse grains	Rice	Soybeans
2006	Production		609	734	281	422	225
	Consumption		621	736	288	420	225
		Human food	516	206	129	420	210
		Fodder, etc	105	530	159	0	15
	Term-end inventory		130	120	32	77	55
	International price		202	133	140	374	294
2018	Production		751	969	343	511	275
	Consumption		752	970	344	511	275
		Human food	623	231	147	511	258
		Fodder, etc	129	739	197	0	17
	Term-end inventory		119	105	29	71	51
	International price (real)		218	155	155	402	319
	International price (nominal)		272	193	193	502	398
Percentage rate of change	Production		23	32	22	21	22
	Consumption		21	32	20	22	22
		Human food	21	12	14	22	23
		Fodder, etc.	23	39	24	-	16
	Term-end inventory		-8	-12	-9	-7	-8
	International price (real)		8	17	10	7	8
	International price (nominal)		35	46	38	34	35

Notes: 1. The figures for fodder, etc., include industrial consumption for bioethanol, etc.
2. Human food figures for soybeans include consumption for oil extraction

Explanatory Notes:

1. The MAFF World Food Supply and Demand Model is a new model that was developed by the MAFF Policy Research Institute using the econometric model development system developed by Prof. Keiji Oga of Nihon University and Gen Furuhashi, senior researcher at the MAFF Policy Research Institute.

2. The balance sheets for the respective commodities accord, in principle, with the precepts of the US Department of Agriculture food balance sheets, though the following points were taken into consideration in respect of specific items.

(1) Rice refers specifically to milled rice.

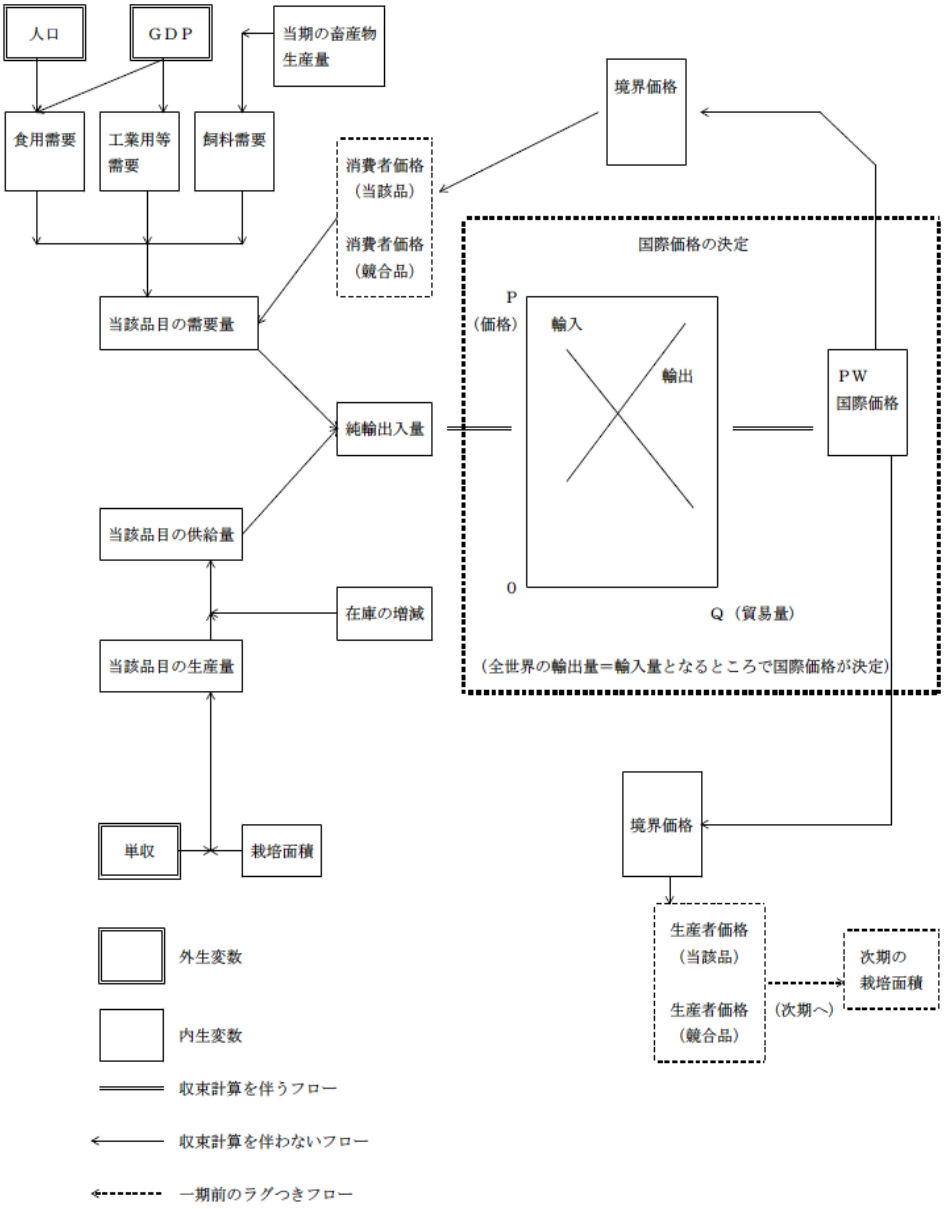
(2) The impact on beef, pork, chicken, lamb, hen egg, milk and processed animal product inventories of the demand-supply balance has not been factored into the model due to data constraints.

3. Base year supply and demand figures do not necessarily coincide with the actual figures because the following adjustments were made for the purpose of these projections.

(1) Since the model is prefaced on single-year demand-supply balances, global net imports and exports have been adjusted to zero.

(2) To prevent discontinuous movements in international prices, production and consumption levels have been adjusted to coincide at the global level.

Ref. 1 Flowchart for the world food supply and demand model (grain)



Ref. 2 List of countries and regions included in the model

Region classification	Sub-divisions (countries and regions)
North America	America and Canada
Latin America	Argentina, Brazil, Mexico and other Latin American countries
Oceania	Australia and New Zealand
Asia	Japan, China, Korea, Thailand, Vietnam, India, Indonesia, Pakistan, Bangladesh, Malaysia, Philippines, Taiwan and other Asian countries
Middle East	Middle East
Europe	EU-27 countries, Russia, Ukraine, other European countries
Africa	Republic of South Africa, Nigeria and other African countries
Rest of the world	Rest of the world
Total	30 countries / regions

Note: The Middle East does not include the countries of North Africa.

2.2. Impacts of Rising International Grain Prices on Korea

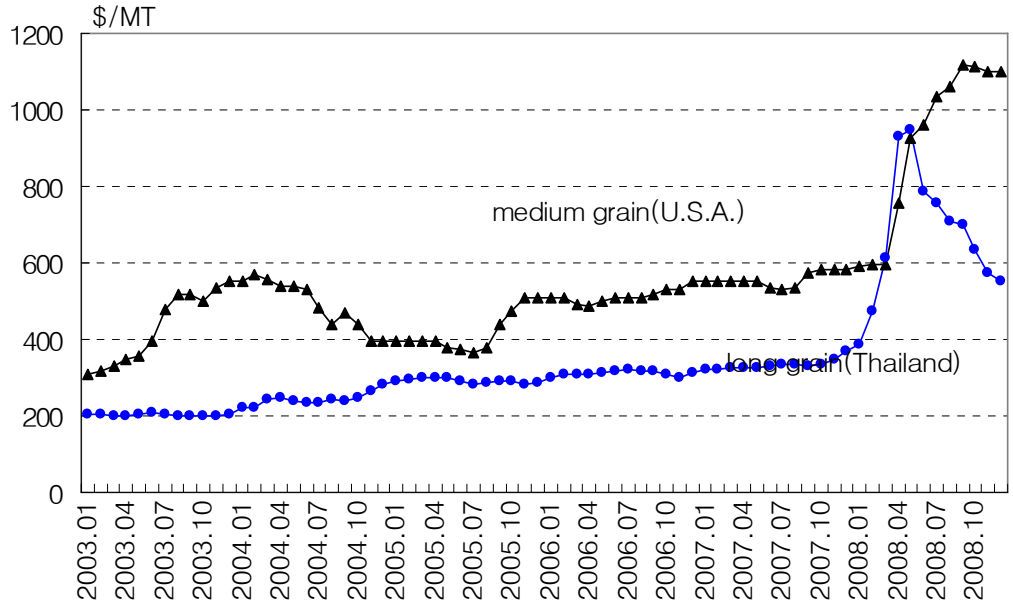
Kim Tae-Hun(Korea Rural Economic Institute)

2.2.1. International Grain Price Trends

International grain prices had climbed sharply from the second half of 2006 due to the decline in global grain stocks. In particular, international rice prices soared from the beginning of 2008. The rice price of Thai long grains increased 145% from US$387/ton in January to US$949/ton in May. Since May 2008,

long grain rice prices have dropped to $553/ton in December. The rice price of U.S. California medium grain rapidly rose by 88% from $595/ton in March to $ 1,119/ton in September and stagnated afterward.

Figure 1 Changes in International Rice Prices



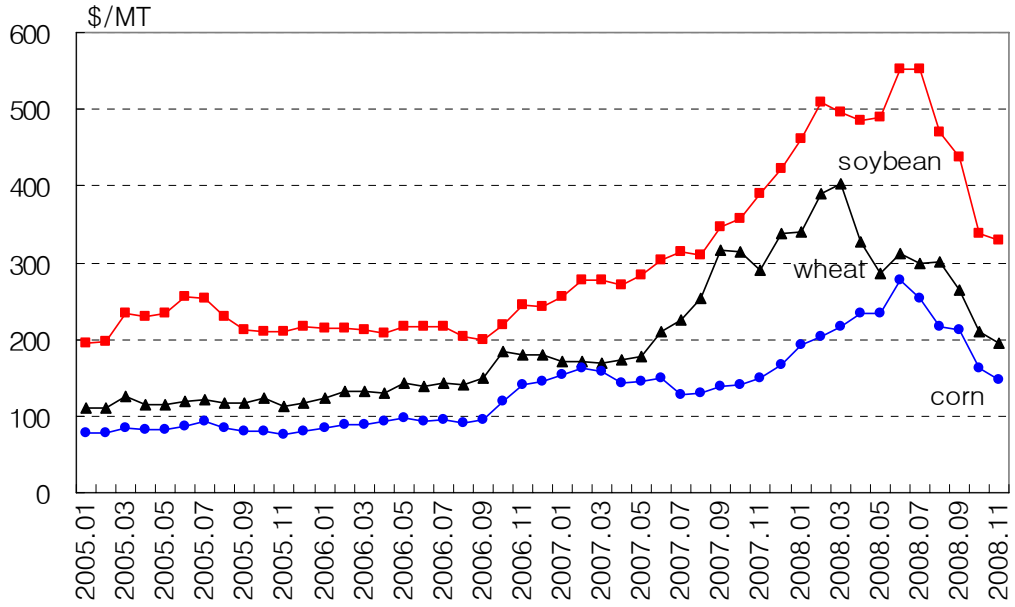
Source: USDA, Rice Outlook, December.2008.

Corn prices had started to rise since the second half of 2005 due to its growing demand for biofuels. The prices soared from US$98/ton in September 2006 to US$276/ton in June 2008. Soybean prices had increased sharply since the second half of 2006 to US$553/ton in June 2008. In the case of wheat, the prices had increased moderately since the second half of 2005, but surged after the middle of 2007. The price of wheat reached at $403/ton in March 2008.

However, all grain prices have sharply dropped after peaking the highest prices. As of November 2008, corn prices dropped 43%, soybean prices 41%, and wheat prices 51% compared to the highest price of each commodity.

Such rises in international grain prices during 2007~2008 had fundamentally been caused by imbalances in supply and demand of grains. Coming into the 2000s, global grain stocks have been rapidly falling as production increases have not been able to catch up with growing consumption.

Figure 2 Changes in International Grain Prices



Source: USDA_ERS, database(http://www.ers.usda.gov/Data/priceforecast/)

Global demand for grains has steadily grown as a result of increasing population and incomes. In addition to the growing demand for food grains, animal feed grain demand has also expanded due to the increase in meat consumption. Total demand for grain in 2006/07 increased 1.1% over the previous year to 2,054 million tons. In terms of grain supply, however, the area of cultivated land and the number of farm households declined in line with the industrialization of grain producing countries including China and India, while instability in production also significantly increased due to such factors as abnormal weather.

Global grain production and total supply in 2006/07 have reached 2,006 million tons and 2,395 million tons, respectively. While global grain production increased at an annual average of 1.4% coming into the 2000s, demand has grown at an annual average of 1.6%, continuing to reduce grain stocks. In 2007/08 global grain production increased 113 million tons and total demand increased 55million tons compared to the previous year.

With the exception of 2004/05, global demand for grains has exceeded production since 2000. Accordingly, global grain stock-to-utilization ratio, which has increased since the late 1990s, has shifted into a downward trend starting with 30.4% in 1999/2000. World grain stock-to-utilization ratio is estimated to be 16.7% in 2007/08.

Table 1 Changes in Global Grain Production, Consumption and Stock-to-Utilization Ratio

	Production (million tons)	Supply (million tons)	Demand (million tons)	Stock (million tons)	Stock Level (%)
1990/91	1,810	2,252	1,755	497	28.3
1995/96	1,712	2,190	1,753	437	24.9
2000/01	1,843	2,430	1,863	567	30.4
2001/02	1,874	2,441	1,902	539	28.3
2002/03	1,821	2,360	1,913	447	23.3
2003/04	1,862	2,309	1,950	359	18.4
2004/05	2,044	2,403	1,995	408	20.5
2005/06	2,017	2,422	2,032	390	19.2
2006/07	2,006	2,395	2,054	341	16.6
2007/08(e)	2,119	2,460	2,109	352	16.7

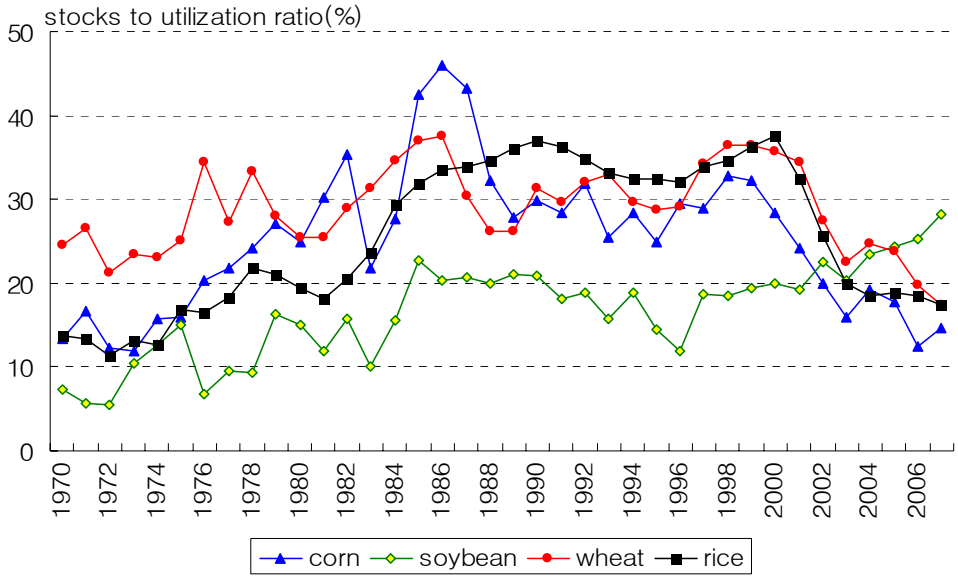
Note: Supply is calculated as the sum of carry-in and production, while demand is derived by subtracting stock from supply.

Source: USDA_FAS, database(http://www.fas.usda.gov/psd)

In terms of stock-to-utilization ratio by commodity, corn recorded its peak at 46% in 1986, but has shifted to a downward trend afterward. In particular, global corn stock-to-utilization ratio has sharply declined coming into the 2000s. In the case of rice and wheat, stock-to-utilization ratio was at the 30% levels at the end of the 1990s, but has rapidly fallen subsequently. The ratio was estimated at 17% in 2007. The stock-to-utilization ratio for soybeans, on the other hand, has been increasing in the 2000s, reaching 28% in 2007.

While the fundamental source of the rise in grain prices can be attributed to imbalances in supply and demand, there are other factors at force behind its short-term surge. First is the promotion of biofuels and, in turn, increase in its production stemming from the improvement in the economic efficiency of biofuels brought by the rise in international oil prices. In the U.S., the volume of use of corn as biofuels has increased at an annual average rate of 23.3% from 159 million tons in 2000 to 813 million tons in 2007.

Figure 3 Changes in Stock Levels by Commodity



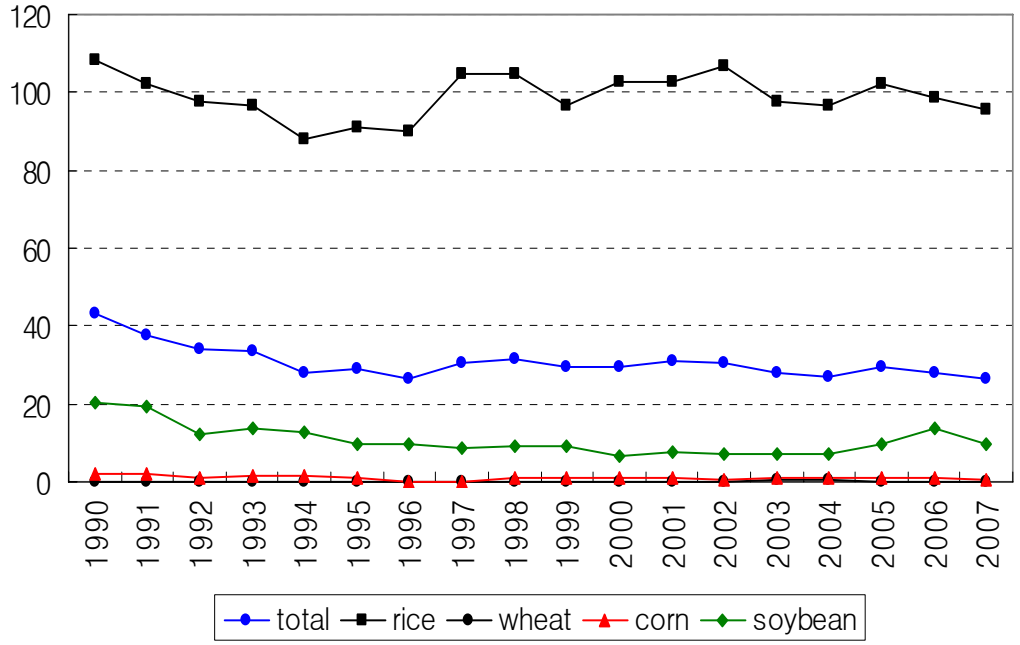
Source: USDA_FAS, database(http://fas.usda.gov/psd)

Second is the export restriction measures imposed by grain-exporting countries as a result of the fall in global grain stock levels and unstable production. Grain-exporting countries such as Russia, China and India have imposed either export taxes or export restriction measures to curb rising domestic food prices. In the case of rice, Vietnam, which is the second largest exporter in the world, has extended its export restriction measures on rice to June, while Cambodia and Egypt have suspended all rice exports. As the second largest producer of rice, India raised its export prices of rice by 54%. In addition to the export restriction measures of rice - exporting countries, rice price surges were also precipitated by the announcement by the Philippines, the largest importer of rice, to additionally import approximately 500 thousand tons of rice from Thailand and Vietnam to resolve domestic shortages. The inflow of speculative capital into the futures market has also been pointed out as instigating international grain price hikes (Byung-ryul Kim et al, 2008)

2.2.2. Korea's Import and Supply-Demand of Grain

Korea's self-sufficiency rate of grains dropped to under 30% in the 2000s to remain at 26.2% in 2006/07. In terms of self-sufficiency rate by commodity, soybean was 9.8%, corn 0.7%, wheat 0.2% and rice 95.5% based on 2006/07. Self-sufficiency rate of rice fell to 87.9% in 1994 as production declined in the early 1990s with decrease in cultivation area and standstill in yields. Afterward, rice production increased once again to maintain self-sufficiency rate of around 100%. Corn and wheat are mostly imported and consequently have self-sufficiency rates of under 1%, while only a portion of food soybeans are produced domestically.

Figure 4 Self-sufficiency Rate of Grains by Item



Note: Aid to NorthKoreaexcludedinthecalculationofself-sufficiencyrates
Source: KoreaNationalStatisticalOffice,KOSISdatabase(http://www.kosis.kr/)

Among the total grain demands in Korea, demand for food and animal feed use account for 26% and 48%, respectively. While almost no demand in rice exists for animal feeds, 74% of rice is for food demand. On the other hand, 79% of corn and 72% of soybeans are animal feed demands.

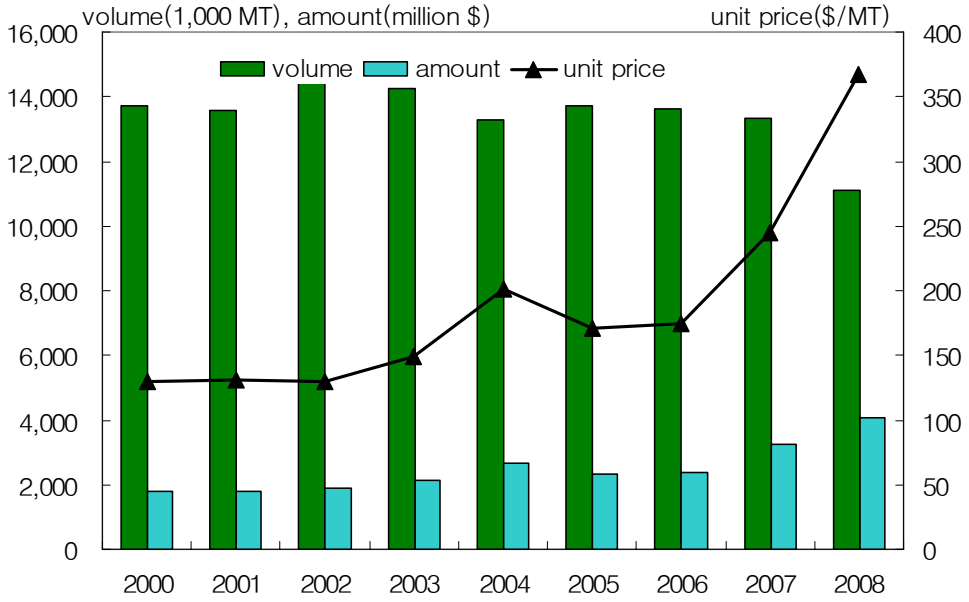
Coming into the 2000s, grain imports in Korea were maintained at stable levels on the basis of volume. However, total import values have been increased in line with rising import prices. In terms of the share of grain import value by commodity as of 2007, corn accounted for the highest at 56.3%, followed by 26.3% for wheat and 13.2% for soybeans.

Table 2 Supply and Demand of Major Grains in Korea

		2006/07				
		Total	Rice	Wheat	Corn	Soybeans
Supply	Total	22,437	5,756	3,705	10,012	1,766
	Carry-in	2,324	830	462	627	66
	Productions	5,275	4,680	6	65	157
	Imports	14,838	246	3,237	9,320	1,543
Demand	Total	20,334	5,061	3,312	9,500	1,596
	Food	5,305	3,726	1,245	61	102
	Processing	3,999	738	812	1,951	326
	Feed	9,829	-	1,135	7,459	1,155
	Others	1,201	897	120	29	13
Grain Self-sufficiency (including feed)		26.2	95.5	0.2	0.7	9.8

Note: Aid to North Korea excluded in the calculation of self-sufficiency rates.
Source: Ministry for Food, Agriculture, Forestry and Fisheries, Food Policy Data, 2008.

Figure 5 Grain Imports in Korea



Note: Major grains include corn, soybeans, wheat and rice (rice represents MMA quotas).
Source: Korea Agro-Fisheries Trade Corporation database (http://www.kati.net/)

Corn is mainly imported from the U.S., China and Brazil with high dependency on the U.S. up to the mid-1980s gradually being offset by China since the 1990s. Soybeans were mostly brought from the U.S., but imports from Brazil have been increasing with the declining production of non-genetically modified soybeans in the U.S. Since 2003, the volume of soybean imports have declined as soybean demands for oil extracting and animal feeds fell in line with rising international soybean prices. Wheat is mainly imported from the U.S., Australia, China and Canada with imports significantly increasing from China in 2007. With regard to rice imports, minimum market access (MMA) quotas are to be increased from 226 thousand tons in 2005 to 409 thousand tons in 2014 according to the 2004 rice renegotiations.

Accordingly, Korea's grain markets are structurally very sensitive to changes in international grain prices with the exception of rice.

2.2.3. Impacts of Rising International Grain Prices

1) Impacts on Rice Market

Despite the rise in international grain prices, Korea in the rice market has not been directly affected in 2008 because it maintains self-sufficiency on rice. There were hardly impacts of surge in the prices of international rice as rice import volumes for 2008 had already been contracted in the previous year. However, as rice is imported by MMA quotas, the government's fiscal expenditure for 2009 MMA quotas increased with the rise in international rice prices.

Korea's rice supply and demand has a structure in which stock levels are cumulated every year as supply surpasses demand when excluding the aid to North Korea. The ratio of rice production to food consumption in Korea was

increased from 1.19 in 2000 to 1.31 in 2005. However, substitution demand for rice has recently started to arise with increasing price of processed grain food stemming from rising international grain prices.

While rice consumer price rose 10.7% from January 2007 to November 2008, wheat flour prices climbed 64.1%, noodles 64.2%, ramyeon 23.7%, cooking oil 20.1% and snack confectionery 33.4% during the same period. Accordingly, per capita consumption of rice fell 2.4% in the previous year and is estimated to drop by 1.5% in 2008. Substitution demand for rice arose to slowdown the decreasing rate of rice consumption.

Substitution demand for rice may increase rice price but its actual effect is small. The rise in rice price in 2008 can be attributable to the 5.8% fall in domestic rice production, regardless of rising international grain prices. Accordingly, the impacts of the rise in international grain prices and surge in international rice prices do not seem to have a significant impact on Korea's rice markets.

2) Impacts on Food Industry

The rise in international grain prices affects food production costs, which, in turn, acts as an increasing factor for consumer prices. Input-output analysis is generally used to assess the effects of external shocks on the domestic industry. Input-output tables allow for the measurement of the effects of changes in various cost factors on domestic prices.

According to Chul-min Kim and Jin-myeon Lee (2008) recently analyzed the impacts of international grain prices on the food industry using input-output analysis, domestic wheat flour prices rises the most by 59.4% in the case of 100% rise in international wheat prices, followed by 4.5% rises in the prices of bread, confectionary and noodles, which all use wheat flour as the main ingredient.

Table 3 Changes in Major Food Prices due to Rising International Grain Prices(in the case of 100% rise)

Industry	Wheat	Soybeans	Corn
Meat & processed meat	1.6	0.5	6.9
Dairy	0.8	0.5	3.6
Processed fisheries	0.1	0.1	0.3
Cleaned barley	0	0	0.1
Flour milling	59.4	0.1	2.3
Starch & sugars	0.7	0	36.3
Bread, confectionary & noodles	4.5	0.7	1.4
Seasoning	1.1	1.4	1.4
Fats & oil	0.1	24.6	2.6
Processed fruits & vegetables	0.1	0.1	0.3
Other foods	1.2	2.3	0.9
Alcoholic beverages	0.3	0	0.3
Beverages	0.1	0.3	1

Source: Chul-min Kim and Jin-myeon Lee, Effects of agflation on food markets and consumer prices, Paper collections from the Conference on the Effects of Agflation on the Agriculture and Food Sectors and Policy Implications, March 2008

The study reveals that for 100% rise in international soybean prices, fat & cooking oil prices increase by 24.6%. However, the impacts of rising international soybean prices were relatively low on the changes in domestic cooking oil prices as substitute ingredients other than soybeans including corn and sunflower are used. Rises in international corn prices had the greatest impact on starch and sugar products since corn starch are included in this category, followed by prices of animal feeds to consequently affect meat and processed meat products.

In observing the actual international grain prices for 2007.1~200.11, wheat and soybean prices rose 14.0%, 28.6% respectively but corn price dropped by 4.6% due to recent rapid drop of international grain prices. During the same period, domestic wheat flour and starch prices climbed 64.1% and 43.5%, respectively. Cooking oil price went up 20.1%. In comparison to the result of

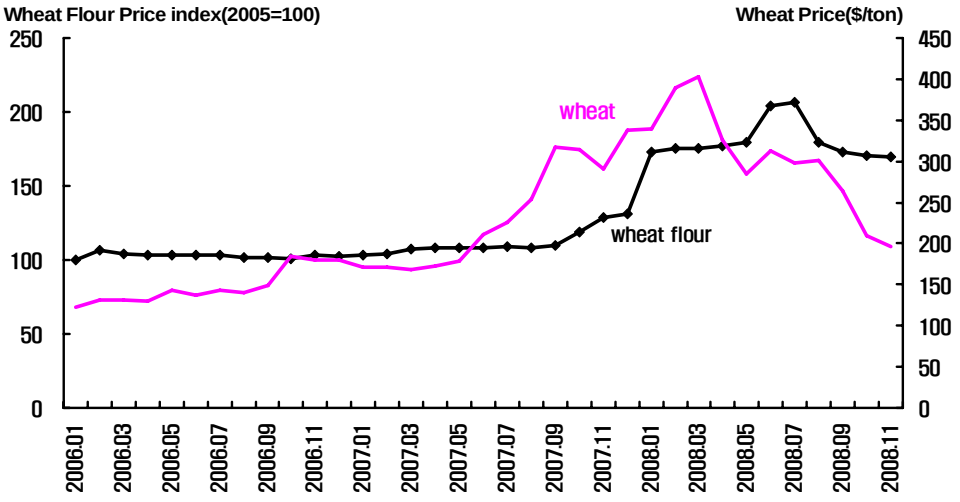
the input-output analysis, the increase rates of domestic grain food were higher than the corresponding figures in the analysis.

Table 4 Rise in International Grain prices and Domestic Food Prices (index)

		Jan 2007 (A)	Nov 2008 (B)	Change (B/A*100)
Wolrd Prices ($/ton)	Wheat	172	196	14.0
	Corn	154	147	-4.6
	Soybeans	256	329	28.6
Producer Prices (2005=100)	Assorted Feed Price	103.8	184.9	78.1
	Starch	98.7	141.6	43.5
Consumer Prices (2005=100)	Wheat Flour	103.4	169.7	64.1
	Cooking oil	107.9	129.6	20.1

Source: KoreaNational Statistical Office, KOSIS database (http://www.kosis.kr/)

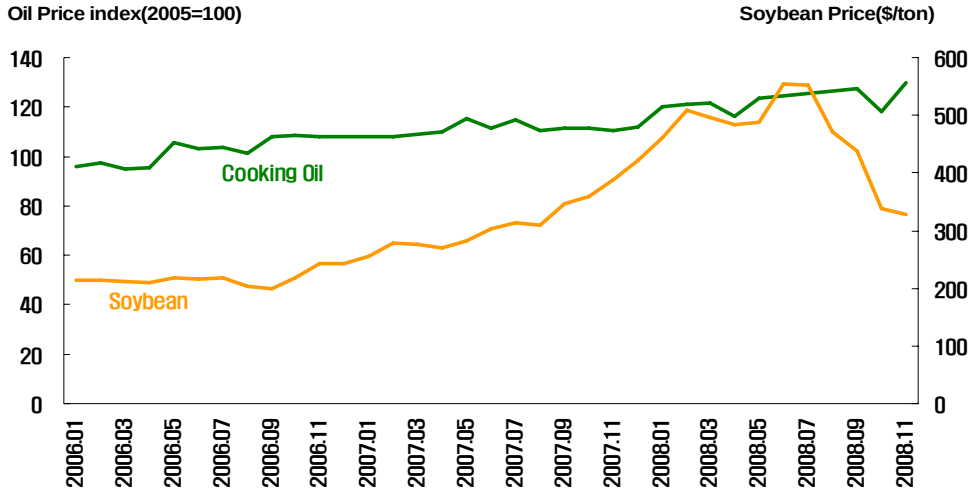
Figure 6 Global wheat price and wheat flour price



Source: USDA_ERS, database(http://www.ers.usda.gov/Data/priceforecast/)
Korea National Statistical Office, KOSIS database (http://www.kosis.kr/)

The differences between the actual price changes and analysis figures can be attributed to the time lag of international grain price changes being reflected in actual consumer prices. According to Kim(2009), the change in international wheat price is reflected to domestic wheat flour price with the time lags of 5~6months. There are time lags of 3~4months between international soybean price and cooking oil price. As a result, there are rooms for further decreases in such domestic prices in the future.

Figure 7 Global soybean price and cooking oil price



Source: USDA_ERS, database(http://www.ers.usda.gov/Data/priceforecast/)
Korea National Statistical Office, KOSIS database (http://www.kosis.kr/)

In the impact analysis of rising international grain prices on total producer price, total producer price increases 0.34% in the case of 100% rise in international corn price.

For a 100% surge in international prices of wheat, total producer price climbs by 0.18%, while it increases 0.09% for the 100% in hike in international soybean prices. Among international grains, the rise in corn prices affect total consumer price the most at 0.39%, followed by 0.21% for wheat.

Table 5 Impacts of Rising International Grain Prices on Domestic Prices(in the case of 100% rise)

Industry	Wheat	Soybeans	Corn
Producer Prices	0.18	0.09	0.34
Consumer Prices	0.21	0.15	0.39

Source: Chul-min Kim and Jin-myeon Lee, Effects of agflation on food markets and consumer prices, Paper collections from the Conference on the Effects of Agflation on the Agriculture and Food Sectors and Policy Implications, March 2008

Overall, the rise in international grain prices showed relatively low impacts on both producer and consumer prices. This is due to the fact that the weight of agricultural products in consumer or producer price index is low.

3) Impacts on the Livestock Industry

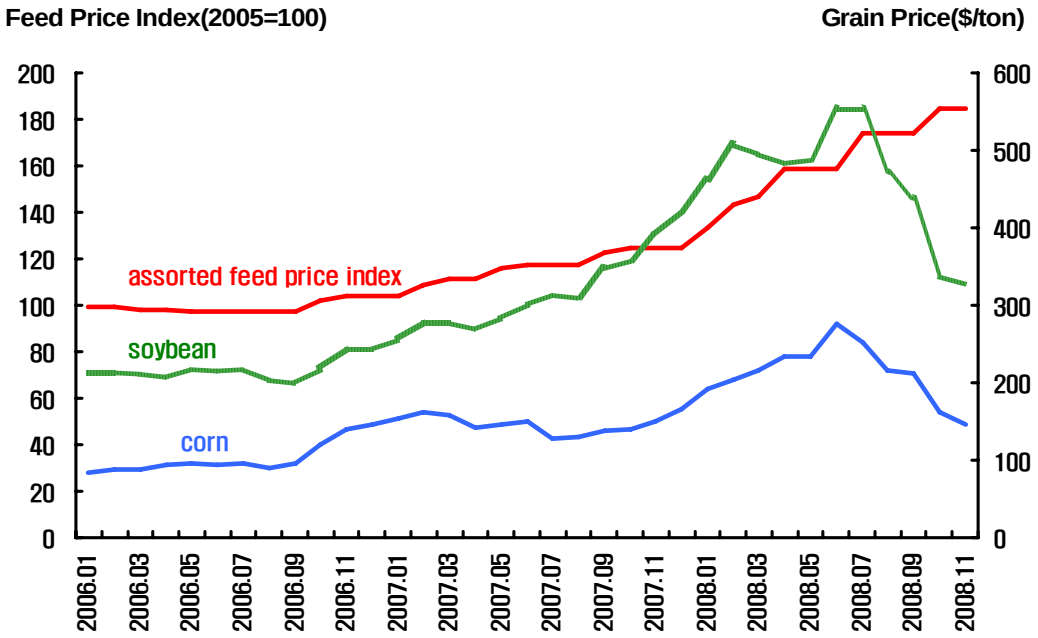
Another area directly affected by rising international grain prices is the livestock industry because high international grain prices push up feed prices, the main input factor in livestock production.

Although international grain prices rapidly dropped from the middle of 2008, assorted feed prices are still increasing. According to Kim(2009) shows that domestic assorted feed prices are linked with international grain prices with a time lag of 4~6 months.

Domestic assorted feed prices have begun to move up since the end of 2006. Prices of assorted feed for beef cattle and swine in 2008 increased 39.8% and 39.6% compared to the previous year. Based on 2007, feed costs accounted for 51.9% and 35.9% of beef cattle and swine operating costs, respectively. Accordingly, cost increase factors of 20.7% and 14.2% have arisen in beef cattle and swine operating costs in line with the rise in assorted feed prices. Those cost increase factors may be different a little because feed costs take into ac-

count both assorted feeds and forages. Therefore, rising feed prices by increasing international grain prices are deteriorating the profitability of livestock farm households.

Figure 8 Changes in Prices of Assorted Feed



Source: USDA_ERS, database (http://www.ers.usda.gov/Data/priceforecast/)
Korea National Statistical Office, KOSIS database (http://www.kosis.kr/)

Table 6 Changes in Operating Costs from Rise in Feed Prices (2007~08)

	Increase in Assorted Feed Price (%)	Portion of Feed in Operating Costs (%)	Cost Increase Factor (%)
Beef Cattle	39.8	51.9	20.7
Swine	39.6	35.9	14.2

Source: National Agricultural Products Quality Management Service, Livestock Product Production Costs 2007, 2008
Korea National Statistical Office, KOSIS database (http://www.kosis.kr/)

2.2.4. Summary and Suggestions

While the rise in international grain prices was fundamentally rooted in the imbalances in supply and demand, various other factors including rising international oil prices, export restriction measures by grain exporting countries and inflow of speculative capitals were also simultaneously in action. The impacts of rising international grain price on Korea have been relatively small compared to other countries. Despite Korea's low grain self-sufficiency ratio of 26.2%, the rice market has been stable as it is self-supported. While substitution demand for rice arose due to the rise in processed grain product prices, it was not greatly affect the supply and demand in 2008. The changes of international grain prices do affect domestic food prices, but its impacts on producer and consumer prices are relatively low because the weight of agricultural products in consumer or producer price index are small. Despite the low weight of processed grain products in the indices, appropriate measures need to be taken as they are consumed mainly by people in the low income class. Rises in international grain prices are acting as a direct factor in increasing feed prices. As feed costs account for a high portion of livestock operating costs, rising feed prices are deteriorating the profitability of livestock farm households.

Therefore, several measures are needed, and in fact are being reviewed, to prepare against rising international grain prices. First, an early warning system must be introduced by collecting international grain market information to secure a stable supply of needed grains when the situation of unstable supply-demand and price happens. In fact, the sysyem has been working since the end of 2008. Second, the government should expand its grain stock levels to prepare for emergency situations. While Korea currently implements a stock reserve system for rice, it does not cover any other grains. Accordingly, food security reserve stock should be implemented for other grains. Third, as expansion of

domestic grain production can only be limited due to excessively high labor and land capital service costs, arrangements with other countries should be instituted through overseas agriculture development so as to secure a stable supply of grain in emergencies. Fourth, income support measures are need for people with low incomes as food price hikes stemming from rising international grain prices affect these people significantly. Finally, as feed cost increases adversely affect the operations of livestock farm households, feed cost support measures are needed in the short-term, while efforts should be focused on developing alternative sources of animal feeds in the mid-term to lower the dependency on feed grain imports. However, as rises in international grain prices are brought about by external factors, such measure will only be partial and passive actions. In order to resolve the problems related to increasing international grain prices, global grain production must be expanded at the international organization level, while grain trade and reserves should also be coordinated internationally. Furthermore, food aid must be provided to underdeveloped countries with severe imbalances in food supply and demand.

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2.3. Impact of the Price Increase of Meat Products on Food Security in China

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2.3.1. Introduction

Since the reform and opening-up, Drived by the household contract responsibility system and the market-opening policy, China's meat production has been growing rapidly and the per capita availability of meat started to surpass that

of the world average level from the mid-1990s which make the significant contribution to improving people's living standard. It also has been playing the leading role in increasing the farmers' income, optimizing agriculture structure and improving the structure of meals.

At present, Chinese farmers' income which come from livestock industry has been rising. The State Statistical Bureau announced that the average income of per farmer which came from livestock industry was 557.1 Yuan in the first three quarters of 2007, which grew 27.8% comparing to that of 2006 , and accounted for 16.8% of the countryside residents' cash receipts, rising by one percent than that of last year. Livestock industry has become the main source of farmers' income. In China, the per capita amount of the protein from meat food in 1980 was 7.6 grams which was only equal to 33% of that of the world (23.3 grams). In 1990 and 2000, per capita amount of animal protein respectively amounted to 14.4 grams and 29.8 grams, by 2000 which has surpassed average level of the world (28.1 grams). Rapid enhancement in supplies of animal protein of per capita in China mainly attribute to the growth of livestock product in the 1990s. More than 80% of animal protein came from the livestock product. The livestock industry has made the prominent contributions to improving the Chinese resident's nutrition structure and physical quality of the whole nation.

2.3.2. Price of meat rises rapidly in China

In 2007, price of meat product kept going up rapidly, which become the leading factor that result in the rise of CPI. Consumption price of China's meat increased by 31.7%, the city by 31.6% and the countryside by 31.8%. In the different variety, the price of pork rises the most quickly, next for mutton and beef, but the chicken's price rise a little. Compared to January in 2007, pork

price in December rised by 61.3%, mutton by 36.7% and beef by 35.7%, but the chicken price (western-style chicken, the same below) only by 13.2%. Historically, extent of the price increase in 2003 is the largest in one year. Pork price in December rise by 18.4%, beef by 4.7%, mutton by 1.3% and chicken by 6.4% comparing with that in January. In 2007, the meat price increase went far beyond the historical peak (to see chart 1, chart 2 and chart 3).

The production and price fluctuation of live pig is drastical, it continued for a long time, and directly led to the live pig price skyrocketing. The increase of beef and mutton price was too high as a result of the higher price of pork which make some consumers tend to consume more beef and mutton and pull its price going up. From now on, with gradual implement of policy supporting live pig industry, the live pig price will fall after a rise, but surely, will not recede again to the level in 2006 (below 5 yuan per kilogram), which means the era which people can easily buy the meat in low price is passed by. The reason is that, firstly the number of backyard households of pig breeding will drop with the change of comparison benefit and agricultural labor force's shifting from country to city continually, but scale breeding farmer (household) impossibly raise livestock promptly because of many restrictions, so the supply may not be in excess of the demand in the short-term; Secondly, the feed cost will increase with the change of international grain market environment and the shortage of resources which used to produce food; Thirdly, labor cost of breeding pig will rigidly rise because of the high opportunity cost resulted from china's economic development.

2.3.3. The Reasons of Rapid Increases in Prices

1) Shortage of pork in the market

At present, Chinese mainly consume pork and pork consumption account for more than 60% of the meat consumption, moreover in some areas it account for more than 80%. China's pork was short in 2007. The meat output was 68.7 million tons which decreased by 3.2% than last year, pork decreased by 7.8%, beef increased by 6.4% and mutton by 5.2%. When the supply of pork decreased, its price skyrocketed. Some consumers turn to consume beef and mutton, consequently price of beef and mutton have been rising.

Table 1 The proportion of China's major meat production (1998-2006)

Units: percentage

Year	Pork	Beef	Mutton	Fowl
1998	67.9	8.4	4.1	18.5
1999	67.3	8.5	4.2	18.8
2000	65.8	8.7	4.5	19.7
2001	66.1	8.7	4.6	19.1
2002	65.7	8.9	4.8	19.0
2003	63.7	8.7	5.1	20.8
2004	64.9	9.3	5.5	18.7
2005	64.7	9.2	5.6	18.9
2006	64.6	9.3	5.8	18.7
2007	62.5	8.9	5.6	19.5

Source: "Yearbook of China's livestock industry"

2) Rapid Increase of Feed Price

In 2007 feed price has been rising, at the present it continues growing (see Figure 4). Feed price of fattening Pig arrived at 4.2 Yuan/kg and chicken feed price reached to 2.58 Yuan/kg and feed price of laying hens was 2.33 Yuan /kg in December 2007. Compared with that in January 2007, the average price of

feed per kg rose 0.4-0.5 Yuan and fattening pigs feed prices rose 22.2 %, broiler and layer feed were up 18.3%. Feed corn that is the feed core of raw materials rose 17.3 %, soybean meal prices rose 46.7% and wheat bran was up 11.1 %. With the tight of grain in world market, feed price tends to rise continully.

3) The opportunity cost of meat production is rising

With China's rapid economic development in recent years and China's urbanization which has markedly accelerated the pace of industrialization, the process of transfer of rural labor force speeds up. Proportion of the urban population was 19% in 1980 and rised to 44.94% in 2007, which increased by 1% annually in recent years.Urbanization and Industrialization which affecting on China's meat production undirectly is squeezing the labor resources which meat production is highly dependent on and plays a significant impact on pork production. As Urbanization and Industrialization led a large number of rural labors to transfer, which make the value of rural labors force promote and increase the opportunity cost of labors which affect the labor costs for meat. There are two key factors which are "bound by the rigidity of the labors price" and "the opportunity cost of labors" to decided movements of price. Prices of agricultural labor that is the same as other sectors of the nature of wages still has a "rigid constraints" characteristics that in the long run it can only increase, not reduce. Urbanization and industrialization will accelerate the pace of pulling all sectors of the community as a completely higher level of wages; naturally, the wages of agricultural workers should also improve the level of wages. At the same time, as China's industrialization speeds up the process of urbanization, the pace of agricultural labor force shifting will accelerate. Consequently, the opportunity cost of the agricultural labor force will increase which will inevitably lead the agricultural labor force wages to rise substantially.

4) Comparable Benifit Of Meat Production Decline

Meat production occupy more capital, market fluctuation is more frequent which has high risk of the disease and relatively low efficiency, it results in a large number of backyard farmers to withdraw from aquaculture industry. According to the current market situation, a full-time farmer who is in a standard free-range farming family can raise 20 fattening pigs, 5 cows, or 20 goats. A farmer raising pigs generally earns 8,000 Yuan, raising cattle 4,000 Yuan, and raising sheep 4,000 Yuan. If the market situation is bad, a loss will happen (China's pig production and price fluctuation is very frequent. the general cycle is about two to three years. If a farmer raise 20 pigs, he would lost 852 Yuan in 2006). One-time investment in breeding is larger, occupying more liquidity. For example, breeding 20 pigs would occupy 24,000-Yuan liquidity; breeding five cattle 25,000-Yuan and breeding 20 Sheep 12,000-Yuan. The common backyard households cannot afford to invest; Livestock industry which had high disease risk such as bird flu and pig ears of highly pathogenic diseases had given breeding households a heavy blow. At present, the farmers who go out to work can earn 12,000 Yuan in a year. A technical farmer may earn 20,000-30,000 Yuan of net profit per year. Going out to work don't need basic investment and risk is very low. Therefore, in recent years China's farmers go out to work which is widespread. 50% of the per capita net income of farmers is from the outside. Trend of free-range farmers from the farming industry which withdraw from the farming industry increase and "rural hollow" phenomenon become more serious.

2.3.4. The Great Potential Of China's Consumption of Meat in Future

Since reform and opening up, the level of consumption of animal products

has increased significantly. Per capita meat consumption has increased from 14.4 kg in 1985 to 25.2 kg in 2007. As industrialization and urbanization process speed up and the income of the farmers improve, animal product consumption will show rapid growth trend in China.

1) Rural residents with low levels of consumption of meat have great potential

At present, per capita consumption of meat which was 18.7 kg in rural only amount to 58.9 % per capita consumption of urban residents. Rural residents' per capita meat consumption lags behind 20 years in cities and towns. There are more than 50% Chinese residents living in rural areas who have resolved basic food and clothing problems mostly and are at the early stages of shifting from the staple food to a non-staple food. The farmers income increasing gradually whose meat consumption will be further potential to release in China. If rural residents' per capita meat consumption increases from the current level of 18.7 kg to urban households per capita consumption of 31.8 kg, the meat consumption will raise by 9.53 million tons that are equal to 13.9% of the country's total meat output in 2007.

2) Adding Consumption of Urban Residents is Growing Rapidly, The Growth of the Consumption of Additional Population was Rigid

As China's Industrialization and Urbanization process is accelerating, urban population is growing rapidly, which has become an important factor resulting in demand increase of China's animal products continually. According to China's urbanization in recent years, the annual rate is approximately one percentage point. The residents from rural to urban are about more than 1,300 million people. One added person in city can increase meat consumption by 13 kg.

Those new urban population can consume 200,000 tons meat. Each year China has added about 8 million of the population. According to 40 kg per capita (including indoor and outdoor consumer) meat consumption, the new population will consume 320,000 tons of meat. If population growth and new urban dwellers will continue the current growth rate in the next few years, China's meat consumption will increase by 3.12 million tons in 2010.

3) Urban Residents will Enter a New Phase of an Upgrading the Consumption

The living standard of urban residents grows rapidly in China. The Engel's coefficient has reduced to 37.7. We have entered a well-off stage. The food consumption of urban residents has changed from the former with basic physiological need to paying more attention to quality, safety and enjoyment of need. When household consumption remained stable growth, outdoor consumption increases rapidly. If household consumption remains constant, outdoor consumption raises from the current 35% to 40%, then urban residents' per capita meat consumption will increase to 55 kg in 2010.

2.3.5. The Main Factors Restricting the Future Supply of Meat Products in China

1) The impact of the disease will exist for a long time

Animal disease risk, with uncertainty, has become issue of common concern which transcend national boundaries. Once handled unproperly, it would trigger large public safety incident. When it is serious it may have large impact on the healthy development of national economy and may bring serious social and political issues. Free-breeding household has acount for more than 60 percent of China's livestock breeding household, Production and epidemic prevention is

not standardized, the epidemic prevention is difficult, the situation of disease prevention and control is grim. Some of the original disease which has been basically eliminated revived now. With the increasingly active market circulation and frequent transport of livestock, livestock diseases rised. In recent years, major diseases have occurred in China. The annual direct economic loss is nearly 100 billion yuan, in particular the bird flu crisis in 2004 highlighted the potential threat of major animal diseases on public health safety and social order.

2) Shortage of feed resources will bother livestock industry

With the continued growth in demand for livestock products, industrialization and large-scale production, the demand for feed grain and other high-quality feed will continue to increase. Despite non-grain feed resources is potential in China, but shortage of feed grain will exist for a long time and it affect the further development of China's livestock industry. Currently, China's per capita possession of grain is less than 400 kg. Since strategic adjustment of agricultural structure, the sown area and production of corn increased, but apart from a small number of main production provinces, corn supply capacity still can not satisfy the demand for feed production in most of provinces. Protein feed is seriously short, Most of protein feed need to be imported. At present, about 70 percent fish meal feed need to be imported in China, about 70 percent Soybean and more than 50 percent synthesis of amino acids also need to be imported.

3) Land Adjusted for Livestock industry Tend to be Inadequate

With the rapid development of large-scale livestock breeding, the land demand adjusting for livestock industry increases year by year. China has large population and limited land resources, more stringent policy of protecting cultivated land have been adopted. Although breeding land were also looked as agricultural land, breeding farmers can only occupy wasteland and can not take up

basic farmland. In this way, the new breeding sites which submitted for approval is very difficult in some areas. Particularly in some developed districts, shortage of land resources which constraints on the development of livestock industry has become a very prominent problem.

4) Pressure of Ecological Environment of Breeding is Growing More and More

In some breeding areas, particularly some large and medium-sized urban areas, blind and disorderly development of high-density breeding has exceed the environment carrying capacity which bring more serious pollution problems. With the community's concern on ecological environment and public health safety, Livestock breeding brought about the problem of pollution which will seriously affect the development of livestock industry. At the same time, grasslands and pastoral areas is backward in mode of production and overloading grazing which caused serious ecological degradation of grassland and pose a serious threat to ecological security. Grassland degradation also have a serious negative impact on the development of livestock industry.

5) The Service System of Science and Technology Lags Behind

Scientific and technological progress has become an important factor affecting the development of livestock industry in China. However, the current level of science and technology progress remain low, it highlighted in the following areas: First, the proportion of input and output value of science and technology in livestock industry are not suitable. In 2001 output value of livestock industry accounts for 30.4% of the total output value of agriculture, the state's investment in science and technology accounted for only 0.047 percent of livestock industry which below the 0.12 percent of agricultural and 0.14 percent of planting. Second, the structure of technology supply and demand are not

suitable. It shows as following: technology which improve production is more and improve quality, ecology and environmental protection is less; Which introducted from foreign is more and independent intellectual property rights is less; General scientific and technological achievement is more and major breakthrough result is less. Third, scientific and technological services can not keep pace with the development of livestock industry. The original service system of science and technology is difficult in playing performance, the new system which suitable to modern livestock industry has not yet been established. Fourth, breeding system of livestock industry is weak, species and breed mainly depend on state's investment. In particular, protection of variety of resources, breeding, multiplication site are still rely on government investment.

6) Disorderly Organization and Management Structure also Affect the Sustainable Development of Livestock Industry

The system is still the factor which constraining livestock industry.First, the livestock breeding can not increase local revenues, this restrict the local government's promotion on production enthusiasm. Because livestock and poultry breeding is completely tax-free, it only increase farmers' income and have no contribute to the local fiscal income, but also it need local government to dispose increasingly serious pollution of the breeding, so the local government did not actively promote the production of meat. Second, the level of organization is still low which restricting development of livestock industry. It mainly shows in several aspects: (a) The enterprises and farmers linked is not close. Most breeding farmers operate in small scale, with weak competitiveness in the market and the poor information . As interest connecting mechanism of farmers and leading enterprises is not perfect enough, even it adopted form of industrial organization, there is no community with risk-sharing. (b) Lack of proper functions of trade associations which has not become the bridge and link between

the government and enterprises. Third, the transformation of government functions is slow. The reform of government functions transformation-oriented has been implemented for many years, but investment on public service and support system is less and unstable.

2.3.6. China's Food Safety Policy Should be Reviewed Comprehensively

We should change the idea of emphasis on food security one-sidedly and should put grain safety in the whole of food safety. In the past, some experts thought that as long as grain safety is guaranteed, food safety can be guaranteed too. Seen from the situation of last year and this year adequate grain can not guarantee food safety, Pork prices doubled, shortage of pork and milk supply is obvious. This situation is affecting the heart of national leaders and ordinary people. In the later shortage of beef and milk may be happened. Protective price is implemented on grain, why is not on pork price? Some experts said that foreign countries do not have the practice, However we must consider our national conditions, our agricultural situation and our consumption, foreigner have great consumer preferences on beef and mutton, however chinese have great preference on pork, so we should establish long-term mechanism and price protection system for live pigs which showed government's attitude and guide. The protection price system should be established on other livestock and poultry. China's livestock industry has a large scale, but the basis of the livestock industry is very weak. In the future livestock industry depends on livestock house conditions, scientific breeding and disease prevention and control, among the above the most important and basic is house condition. "Health culture" or "animal welfare" issues should be on the agenda in China.

2.3.7. Limited Impact of China's Meat Products Price on the International Meat Prices

China's meat price skyrocketing is only in short-term, There is no sustained surge and the potential in long-term because of domestic market supply, production of raw materials and government's support.

First, China's staple agricultural products should mainly rely on domestic supply. As a large country of 1.3 billion people, if some of staple agricultural products rely on import, the impact on the international market will be considerable, China appear reluctant to face such situation and the international community is also not.

Second, China's meat products can meet the basic domestic supply. At present, many backyard households retreat from breeding, it affected development of meat industry and consumer's normal consumption. On the other hand, it eliminated some backyard households from breeding industry and promote the scale farms which help to raising the level of breeding technology, disease prevention and control, economies of scale, change of growth mode and the construction of modern livestock industry. Backyard households are affected fiercly during the round of live pigs production and price fluctuations, Scale breeding developed stabily and increased stock of livestock in time when pork supply is short, it has become a dominant force resuming production of live pigs. In addition, the policy which support scale breeding has already promulgated and it can promote scale breeding.

Third, feed shortage will be alleviated by rational use of feed resources. At present, protein feed is short and energy feed can meet domestic needs. In the future import of protain feed may remain, the energy feed and forage continue to meet the domestic demand by mean of rational use.

Fourthly, the Government's support on livestock industry strenthen. For many past years the government has not supported on the livestock industry

financially. Since 2007 pork prices skyrocketing, public financial support on the livestock industry strenthened unprecedentedly. In 2007 only supporting on live pig there is eight measures introduced, the total support fund reached 100 billion yuan. In addition, it also introduced support policy on cows and hens. We can expect that in the future support scope will be further broaden, support content will be diverse and support results will be further improved, the role which play on the transformation and sustainable development of livestock industry will be more obviously.

부록 3

FANEA 회원기관 개요

1. 일본 농림수산성 농림수산정책연구소

○ 일본 농림수산정책연구소(PRIMAFF; Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries)는 농림수산성 소속으로 정책에 관한 종합적 조사 연구를 수행하는 국가 연구기관으로서 2001년 4월에 농업종합연구소를 개편하여 설립하였음.

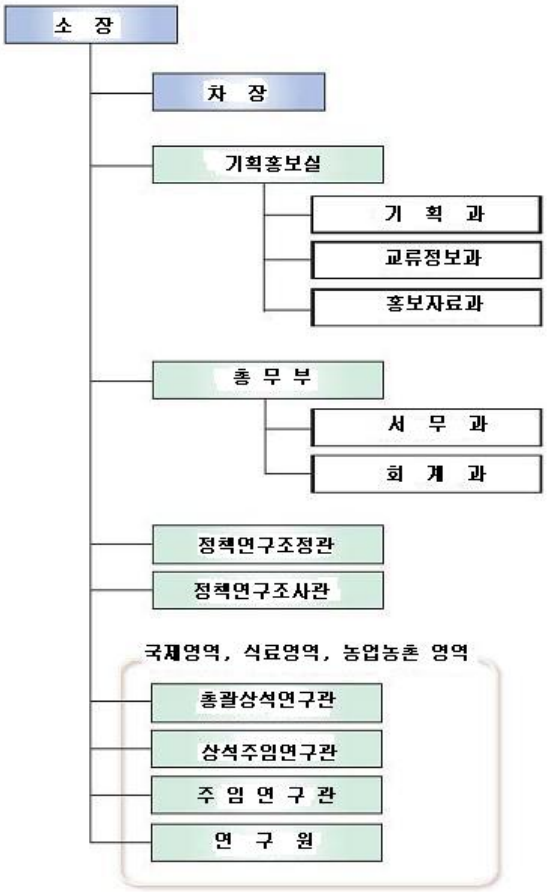
- 농림수산정책연구소는 농업경제학, 관련 경제학, 법률학, 사회학 등을 이용하여 국내외 식료・농림수산업・농산어촌의 동향 및 정책에 관한 조사 연구를 수행하고 있으며, 농림수산성의 정책 기획・입안 등에 필요한 기초 자료를 제공하고 있음.

○ 일본 농림수산정책연구소 연혁

- 1946.11.30 농업종합연구소 설립
- 1959.11.10 본소 신청사・도서관 준공
- 1968. 2 연수청사 준공
- 1983.10. 1 조직 개편으로 3개지소를 본소로 통합
- 2001. 4. 1 농림수산정책연구소로 개편

- 2004. 4. 1 농림수산정세분석센터 설치
- 2008.11. 1 정부종합청사 4호관으로 이전

○ 일본 농림수산정책연구소 조직도



○ 일본 농림수산정책연구소 홈페이지 및 소재지

- 홈페이지: http://www.maff.go.jp/primaff/index.html
- 주소: 3-1-1, Kasumigaseki, Chiyoda-ku, Tokyo 100-0013, Japan

○ 일본 농림수산정책연구소는 2003년 본원과 MOU를 체결하였으며, 동북아농정연구포럼의 공동 주관기관으로 참여하고 있음.

2. 중국농업과학원 농업경제발전연구소

○ 중국농업과학원 농업경제발전연구소(IAED/CAAS; Institute of Agricultural Economics and Development, Chinese Academy of Agricultural Sciences)는 1958년에 설립된 중국 최초의 전문 농업경제 및 과학기술 정책 연구의 국가급 과학연구기관임.

○ 중국 농업경제발전연구소의 주요 연구 분야
- 농업경제 및 과학기술 정책, 지역 발전전략·농기업 투자 및 경영관리 등 분야의 조사 연구, 각급 정부와 농업기업에게 정책 및 정보 지원, 농업정책연구, 행정관리 및 기업경영, 고급인재 육성, 국제협력 및 학술교류, 전문 출판물 간행 등

○ 중국 농업경제발전연구소의 홈페이지 및 소재지
- 홈페이지: http://www.iae.org.cn/
- 주소: 중국 북경시 해정구 중관촌 남대가 12호(中國 北京市 海淀區 中關村 南大街 12号)

○ 중국 농업경제발전연구소는 2003년 본원과 MOU를 체결하였으며, 동북아농정연구포럼의 공동 주관기관으로 참여하고 있음.

부록 4

제6회 FANEA 국제심포지엄 행사 사진

1. 3개국 기관장 개최 인사말씀

2. Agenda 1 발표 및 토론

3. Agenda 2 발표 및 토론


北東アジア農政研究フォーラム
第6回国際シンポジウム


北東アジア農政研究フォーラム
第6回国際シンポジウム

기타연구보고
동북아농정연구포럼 2009 활동보고서

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