

**International Assessment of Agricultural Science and Technology for Development
(IAASTD)**

**Outline for ESAP Sub-Global Report
April 2007**

**Second Draft for Peer Review
(Not for citation)**

**ESAP Sub-Global Report Chapter 1
CONTEXTUAL REALITIES**

Key Messages

1.1 IAASTD Framework

- 1.1.1 IAASTD conceptual framework
- 1.1.2 Introduction to ESAP assessment

1.2 Geophysical Characteristics

- 1.2.1 Geographical location
- 1.2.2 Agroecological zones
- 1.2.3 Climate

1.3 Natural/agricultural resources

- 1.3.1 Major Farming Systems in ESAP
- 1.3.2 Water resources
- 1.3.3 Biodiversity
- 1.3.4 Bioenergy
- 1.3.5 Natural hazards

1.4 Demographic Characteristics

- 1.4.1 Regional demographic trends
- 1.4.2 Accelerated urbanization with significant rural population
- 1.4.3 Agricultural labour, feminization, child labour and unpaid work
- 1.4.4 Education, gender and rural disparities
- 1.4.5 Migration: labour movement and capital gain

1.5 Human Well-being

1.6 Trade Contexts

- 1.6.1 The role of agriculture in ESAP region
- 1.6.2 Trade flows
- 1.6.3 Trade agreements/Trade Blocs

1.7 Research, Extension and Investment

- 1.7.1 Research and development
- 1.7.2 Extension services systems.

References

[ESAP Sub-Global Report Chapter 2](#)
HISTORY AND IMPACT OF AKST WITHIN ESAP

Key Messages

- 2.1 Introduction**
- 2.2 Trends in AKST and its Impacts on Current Production Systems**
 - 2.2.1 *Crops and cropping systems***
 - 2.2.2 Livestock
 - 2.2.3 Status and trends of forestry AKST
 - 2.2.4 Fisheries
- 2.3 AKST Systems: Actors and Institutions**
 - 2.3.1 Milestones in AKST
 - 2.3.2 Actors and institutions that have shaped AKST in the region
 - 2.3.3 Traditional, local and indigenous knowledge systems
 - 2.3.4 Capacity of the existing AKST systems and its effectiveness for generating, disseminating and adoption
 - 2.3.5 Investments in AKST
 - 2.3.6 Current developments in AKST in the region
- 2.4 Impacts of AKST on Development and Sustainability Goals**
 - 2.4.1 Reducing hunger and poverty
 - 2.4.2 History of agrarian change and development
 - 2.4.3 Effect of introduction of technology
 - 2.4.4 High yielding (response) varieties and effect on biodiversity
 - 2.4.5 Increase in pesticide fatalities
 - 2.4.6 Cost and debt
 - 2.4.7 Impact on farmer's rights
 - 2.4.8 Comparing the Green Revolution and biorevolution
 - 2.4.9 Can genetic engineering alleviate hunger?
 - 2.4.10 What is sustainable in agriculture?
 - 2.4.11 Agriculture and sustainability: the ecosystem approach
 - 2.4.12 Improving rural livelihood
 - 2.4.13 Improving nutrition and human health
 - 2.4.14 Environmental sustainability
 - 2.4.15 Social equity and sustainability

References

[ESAP Sub-Global Report Chapter 3](#)
**INFLUENCE OF TRADE REGIMES AND AGREEMENTS
ON AGRICULTURE KNOWLEDGE, SCIENCE AND TECHNOLOGY**

Key Messages

- 3.1 Introduction**
 - 3.1.1 Context
 - 3.1.2 free trade agreements in ESAP
 - 3.1.3 Major players: their roles and interactions
 - 3.1.4 National policy trends
 - 3.1.5 Trend in private and public institutional roles
 - 3.1.6 Trade and food security
- 3.2 Trade Agreements and Technology Developments**
 - 3.2.1 Composition of output and relationship to technology development
 - 3.2.2 Restrictions on technology development

- 3.2.3 Subsidies and market access
- 3.2.4 Agreement on agriculture and fiscal support
- 3.2.5 Tariff escalation
- 3.2.6 Sanitary and phytosanitary measures and AKST
- 3.2.7 Anti-dumping measures and AKST
- 3.2.8 Options

3.3 Trade Agreements, Intellectual Property Rights and AKST

3.4 Farmers' access to AKST vs. breeder rights

- 3.4.1 Public and private sector research and development
- 3.4.2 Technology dissemination and transfer
- 3.4.3 Indigenous, traditional and institutional knowledge
- 3.4.4 National and regional responses, impact on developing countries
- 3.4.5 Conclusion

3.5 Trade and Technology Options

- 3.5.1 Pesticides
- 3.5.2 Genetic engineering
- 3.5.3 Fisheries and aquaculture
- 3.5.4 Forestry
- 3.5.5 Organic agriculture and fair trade

3.6 Environmental, Health and Social Dimensions in Trade Agreements

- 3.6.1 Trade, environment and sustainable development
- 3.6.2 Trade at any cost?
- 3.6.3 Standards for environmental, health and social dimensions
- 3.6.4 Technology choices

3.7 Climate Change and Trade

- 3.7.1 Asia in the global climate change equation
- 3.7.2 Carbon markets
- 3.7.3 Market for biofuels
- 3.7.4 Avoided deforestation
- 3.7.5 Environment and trade

References

[ESAP Sub-Global Report Chapter 4](#)

AGRICULTURAL CHANGE AND ITS DRIVERS: A REGIONAL OUTLOOK

Key Messages

4.1 Introduction

- 4.1.1 Approaches of scenarios development and impact assessment
- 4.1.2 Assessment approach for ESAP

4.2 Drivers of Agricultural Change (Now and Future)

- 4.2.1 Demographic change
- 4.2.2 Economic drivers
- 4.2.3 Implications of growth for agriculture
- 4.2.4 Socio-political drivers
- 4.2.5 Education, culture, ethics and health
- 4.2.6 Science and technology
- 4.2.7 Natural resources - land use and land cover change
- 4.2.8 Climate change and natural hazards

4.2.9 Energy

4.3 Future food systems, agricultural products and services

4.3.1 Past assessments and relevance to ESAP (e.g. FAO, IFPRI, GEO, IPCC, MA)

4.4 Major uncertainties of the drivers and projections

4.4.1 Key uncertainties summarized

4.5 Relevance and implications for AKST in the future

References

[ESAP Sub-Global Report Chapter 5](#)

DEVELOPMENT AND SUSTAINABILITY GOALS: AKST OPTIONS

Key Messages

5.1 Introduction

5.2 Local and traditional knowledge and practices

5.2.1 Crops and medicinal plants

5.2.2 Animal agriculture

5.2.3 Aquaculture and fisheries

5.2.4 Forestry

5.3 Organic agricultural systems

5.3.1 Organic crops and medicinal plants

5.3.2 Organic animal agriculture

5.3.3 Organic aquaculture and fisheries

5.4 Conventional technologies and practices

5.4.1 Crops and medicinal plants

5.4.2 Animal agriculture

5.4.3 Aquaculture

5.5 Emerging frontiers of science and technology

5.5.1 Transgenic technology or “the gene revolution”

5.5.2 Nanotechnology

5.5.3 Information and communication technologies (ICT)

5.6 Ramifications of various technologies and knowledge systems for AKST goals

5.7 Enabling environments: institutions, organizations and partnerships

5.7.1 Actors and organizations in AKST

5.7.2 Innovative institutional arrangements- what do we learn from them?

5.7.3 New frameworks

5.7.4 Gender equality and social inclusion

5.7.5 Policies, programs and institutions

5.7.6 Trade and markets

5.7.7 Developing capacity- How to go forward?

References