



**Regional consultation on  
Gender Dimensions in Asian Rice Livelihood Systems  
in the Changing Milieu of Technologies and Economy**

**9-12 March 2004**

**Report**



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Report of the Regional consultation on

**Gender Dimensions in Asian Rice Livelihood Systems in the  
Changing Milieu of Technologies and Economy**

**9-12 March 2004  
Bangkok, Thailand**

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## Foreword

The United Nations General Assembly (UNGA) Declaration of the International Year of Rice (IYR) in 2004 focused the world's attention on the crop that drives millions of people's livelihood strategies in Asia. Small-scale farmers in Asia and the Pacific grow and consume about four-fifths of the world's rice. Regional export objectives drive rice production strategies, but simultaneously rice producing small farmers face challenges of economic viability and food security. The changing global situation, marked by increased economic integration, open trade formulae and technological advances, presents opportunities and threats to small-scale rice producers. Hence, an element of the regional strategy developed by the FAO Regional Office for Asia and the Pacific (FAO/RAP) focuses on supporting the sustainable development of rice-based production systems for food security and poverty alleviation. Subsistence rice farming systems depend on family labour, particularly women's labour. Women constitute the key human resource in rice livelihood systems, though this reality seldom is recognised when developing agriculture support systems to assist farmers.

The Declaration invites FAO to facilitate implementation of the IYR in collaboration with development partners. FAO is observing the IYR by organising events and developing information products that highlight the central place of rice in food security and its importance in livelihood strategies for poverty reduction. FAO/RAP organised an expert consultation to highlight the importance of women's role in rice livelihood systems as globalisation and new technologies take hold. The consultation facilitated multi-sectoral dialogue on rice livelihood systems including the effect of economic realities and technological changes on gender roles and gender constraints. It generated recommendations that are country specific and relevant to the regional situation.

This report summarises the papers presented and recommendations generated by experts from 12 countries in the region. The report will serve FAO as a resource material highlighting gender issues in rice livelihood systems. We hope that this publication will contribute to an understanding of women's unique place as producers and consumers in rice-based livelihood systems, and will help reinforce strategies that assist rural women's efforts to achieve food security in the region.



He Changchui  
Assistant Director-General and  
Regional Representative  
FAO Regional Office for Asia and the Pacific  
Bangkok, Thailand

July 2004

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## Abbreviations and acronyms

ADB	Asian Development Bank
AFMA	Association of Food Marketing Agencies in Asia and the Pacific
CEDAC	Cambodian Centre for Study and Development in Agriculture
CIAD	Centre for Integrated Agricultural Development
DOA	Department of Agriculture
FAO/RAP	Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Pacific
FFS	Farmer Field Schools
GDP	Gross Domestic Product
HYV	High yielding variety
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IEC	Information, Education and Communication
IPM	Integrated Pest Management
IYR	International Year of Rice
KAPI	Kasetsart Agricultural and Agro-Industrial Product Improvement
L&DD	Livestock and Dairy Development
MAF	Ministry of Agriculture and Forestry
MDG	Millennium Development Goals
MPF	Multipurpose farming
NGO	Non-governmental Organization
PPP	Public-private partnership
PRA	Participatory Rural Appraisal
PTD	Participatory Technology Development
SMEDA	Small and Medium Enterprise Development Authority
SRI	System of Rice Intensification
UBINIG	Unnayan Bikalper Nitinirdharoni Gobeshona (Policy Research for Development Alternatives)
UNGA	United Nations General Assembly
WUA	Water user association

## Technical background

The United Nations General Assembly (UNGA) issued the Declaration of the International Year of Rice (IYR) in 2004 supported by the Food and Agriculture Organization of the United Nations's 31<sup>st</sup> Conference. The Declaration invites FAO to facilitate implementation of the IYR in collaboration with governments, the United Nations Development Programme, the Consultative Group on International Agricultural Research Centres and other relevant organisations of the United Nations and non-governmental organisations.<sup>1</sup> The UN action comes at a critical time when the development environment is marked by globalisation and emerging technologies that present opportunities and challenges to Asian rural communities that depend on rice-based production systems. The natural resource management considerations of rice production add to concerns associated with the viability and productivity of rice-based and rice-integrated livelihood systems.

The IYR will focus global attention on rice, the crop that drives millions of people's livelihood strategies in Asia. For most of the Asian population, rice is the basic source of calories and the most familiar food crop driving rural livelihoods. In Asian cultures, rice symbolises life-giving grain, and the cultivation of rice drives the seasonal events in rural life. Rice centred livelihood systems are central to rural economies and determine the wealth and health of rural households. Thus, poverty alleviation agendas in rural Asia cannot ignore the economic realities of households dependent on a rice-based livelihood. Rice-based household economics comprise production of the rice crop as well as diverse economic enterprises that arise from crop production such as creation and utilisation of rice by-products. Rice-based livelihood systems intricately integrate crop production and rural industry, such as rice-fish, rice-livestock, rice-fodder, with the local agro-ecological environment.

Asian women make significant contributions to the total labour force in rice production. Women's work in the rice paddies enables many countries to become rice exporters. It often is women's knowledge of bio-diversity that determines rice variety, seed selection and preservation. The unpaid work of rural women, who are statistically uncounted, constantly overlooked in the policy arena and consistently underserved by the agricultural support services, supports the foundations of rice-based systems. Given women's key role in rice-based livelihood systems, gender differentiated analysis should be integral to generation of new strategies for rice farming households in the IYR. From a global perspective, the United Nations Millennium Declaration resolved, "to promote gender equality and the empowerment of women as effective ways to combat poverty, hunger and disease and to stimulate development that is truly sustainable".<sup>2</sup> The FAO World Food Summit Plan of Action (1996) and the political declaration adopted at the World Food Summit five years later, affirms the commitment to advance and empower rural women as an essential strategy to achieve stable food security (2002). Hence, it is appropriate and even imperative that gender dimensions in the rice-based livelihood systems should be highlighted and actions identified for the IYR.

In this context, the Gender and Development Division of FAO/RAP organised the regional technical consultation *Gender Dimensions in Asian Rice Livelihood Systems in the Changing Milieu of Technologies and Economy* in 2004. The meeting generated policy and programme recommendations for the IYR.

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<sup>1</sup> Source: United Nations General Assembly: A/Res./57/162; 16 December 2002.

<sup>2</sup> United Nations. Resolution adopted by the General Assembly 55/2. United Nations Millennium Declaration. General Assembly. Fifty-Fifth Session. September 2000.



## **Consultation objectives and outcomes**

The meeting's purpose was to explore women's role in rice-based livelihood systems set in the context of globalisation and changing technologies in agriculture. Regional experts representing diverse technical backgrounds and professional expertise and experience provided a common knowledge base on gender dimensions in rice-based livelihood systems. These multidisciplinary perspectives contributed to recommendations for strategies to improve women's situation in communities dependent on rice production.

### **Meeting objectives**

The meeting's objectives were

1. to assemble regional experts to explore gender issues in rice-based livelihood systems and rice-integrated livelihood systems in the milieu of accelerated economic globalisation, restructuring of national economies and emerging technologies;
2. to identify gender responsive approaches in research, training and technology extension to improve women's access to technical knowledge and capacity building in rice-based and rice-integrated livelihood systems that will improve food security, alleviate poverty and expand economic alternatives;
3. to identify development programme priorities in rice livelihood systems and rice-integrated production systems that benefit poor women engaged in such systems of production; and
4. to recommend gender responsive strategies in rice-based and rice-integrated livelihood systems at national and regional levels that will achieve stable food security and reduction of poverty.

### **Meeting outcomes**

The meeting's outcomes were

1. recommendations to strengthen gender responsive strategies in rice-based and rice-integrated livelihood systems at national and regional levels that will achieve food security and reduction of poverty;
2. identification of regional initiatives to foster gender responsive technology transfer and livelihood options to complement the FAO/RAP regional priority in rice-based or rice-integrated production systems; and
3. publication of the consultation's report as a major contribution by FAO to the International Year of Rice in the technical area of gender and development.

## **Programme and participants**

The FAO Regional Office for Asia and the Pacific organised the consultation. The technical unit responsible for the meeting was the Gender and Development Office of the Sustainable Development Department. The consultation met from 9 to 12 March 2004 at the FAO Regional Office for Asia and the Pacific in Bangkok, Thailand. The Association of Food Marketing Agencies in Asia and the Pacific (AFMA), led by Executive Director Mukul Satyal and assisted by Nopphan Veraphan and Sutisa Loganit, provided organisational support for the meeting.

The programme included an opening session, technical sessions, an invited panel, presentation of experts' papers and resource papers, facilitated general discussion and small group sessions. The consultation concluded with the presentation of the report and recommendations and adoption of the report. The complete programme is included as Annexure 1.

FAO/RAP invited country experts and resource experts. Country experts were invited from Bangladesh, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Viet Nam. Resource experts were invited from India and Thailand. Participants from China and the Philippines, due to unavoidable personal emergencies, could not participate. FAO technical officers presented resource papers. The meeting included representation from UN agencies, government, civil society and academic and research institutions. The participants' list is included as Annexure 2.

He Changchui, Assistant-Director General and Regional Representative for Asia and the Pacific, gave the opening remarks. Revathi Balakrishnan, Senior Officer, Gender and Development, FAO/RAP, presented *Consultation focus in the context of the international year of rice*.

The consultation elected meeting officers, formulated the small discussion groups and elected facilitators. Swarna S. Vepa was elected chairperson, Monthathip Chanphengxay was elected vice-chairperson and R. Padmaja and Nguyen Thi Van Anh were elected rapporteurs. The group that discussed creating gender equal opportunities in Asian rice-based and rice-integrated livelihood systems in the changing technological milieu consisted of Ava Shrestha (Chair), Anan Polvatana, Padmaja R., Muhammad Sharif, Nguyen Thi Van Anh, Monthathip Chanphengxay and Rose Samuel. The group that discussed creating gender equal opportunities in Asian rice-based and rice-integrated livelihood systems in the changing economic milieu consisted of Farida Akhter (Chair), Suon Seng, Swarna Vepa, Ekawati Wahyuni, Jariah Masud, Angkarb Korsieporn and Hana Kobayashi.

## **Presentations**

The consultation presentations summarised below consisted of special addresses, country case studies, resource papers, FAO Secretariat papers and discussions.

### **Special addresses**

#### **A. Opening remarks by Assistant Director General and Regional Representative**

##### **He Changchui**

*Assistant-Director General and Regional Representative  
FAO Regional Office for Asia and the Pacific, Bangkok*

He Changchui welcomed the consultation participants. His remarks expanded on the importance of the International Year of Rice for Asia and the crucial relevance of gender aspects in the rice-based livelihood systems of Asia. In recognition of the importance of rice as provider of livelihood as well as a cultural force, the member countries of FAO at the 31<sup>st</sup> FAO Conference requested the UN General Assembly to declare 2004 as the International Year of Rice. Subsequently, the 57<sup>th</sup> UNGA declared 2004 as the IYR. The declaration invites FAO to facilitate the implementation of the IYR, in collaboration with diverse development partners. Rice-based production systems and their associated post-harvest operations employ nearly a billion people in developing countries. FAO's technical framework to analyse and support sustainable rice-based systems is multidimensional. These dimensions relate the rice crop to culture, nutrition, agro-biodiversity, environment, employment and income, post harvest production, gender in rice

farming systems, science and economic policy. The fundamental objective of the IYR is to promote and help guide the efficient and sustainable development of rice and rice-based production systems.

To meet this goal, the IYR strategy is to increase public awareness on issues such as

- the contribution of rice-based systems to food security, better nutrition, poverty alleviation, and livelihood improvement; and
- the diversity and complexity of rice-based production systems, as well as the challenges and opportunities for the sustainable development of rice-based production systems.

For FAO, this consultation contributes to the IYR awareness objective by exploring gender dimensions in the rice-livelihood systems of Asia.

We must not neglect the hundreds of millions of destitute people. Indifference toward the widening gap between the better-off minority and the economically deprived majority of the world population is the greatest development challenge of our time. That indifference could have potentially disastrous consequences for the region and the world if left unattended. FAO holds great hope in the impetus behind the Millennium Development Goals (MDG) and the reconfirmation of political commitment toward the reduction of hunger at the World Food Summit: five years later. FAO also is encouraged by acknowledgements in civil society of the right to food and a more harmonised world.

Across Asia, changing socio-political forces present opportunities and threats to rural communities that are dependent on rice-based production systems. Neither livelihood vulnerability nor gender dimensions in the rice farming systems should be ignored. Women are the key human resource component; their contributions are crucial for improvement of local and national economic situations. Female rice farmers are statistically under-counted, largely overlooked in the policy arena and consistently underserved by agricultural and rural support services. Gender differentiated analyses and programme approaches should be integral elements of situation reviews and should help generate new strategies for rice farming households. At this consultation the diverse perspectives, inter-disciplinary expertise and professional experiences will forge pragmatic recommendations to improve the situation of women in rice livelihood systems.

## **B. Closing remarks by Deputy Regional Representative**

**Hiroyuki Konuma**

*Deputy Regional Representative*

*FAO Regional Office for Asia and the Pacific*

Hiroyuki Konuma thanked the participants for their contributions and active participation in this expert consultation. He said that FAO is very pleased to bring together 15 experts and resource persons from 11 countries including participants representing various disciplines and different development actors such as governments, non-governmental organisations, research institutions and academic institutions. The participants provide a broad perspective for understanding the situation of rural women in rice livelihood systems. This meeting is a crucial part of FAO's effort to focus on gender dimensions in Asian rice livelihood systems, an important aspect of the IYR agenda. It is FAO's hope that this meeting's recommendations will lead to specific actions on gender responsive strategies in the rice-based and rice-integrated production systems at national and regional levels to achieve stable food security and reduction of poverty.

## **Country case studies**

### **A. Bangladesh**

**Farida Akhter, UBINIG**

*Women and rice in Bangladesh*

The life of rural women in the farming communities of Bangladesh is woven into a rice culture. The culture is the life, livelihood and social discourse of farmers. To think of rice independent of the bio-diverse farming practices of Bangladesh is a mistake that undermines and ignores women.

The Green Revolution, introduced 40 years ago to increase food production, now shows severe affects in terms of livelihood crises. In pre- and post-harvest operations, women experience increased workloads as well as displacements.

Women possess knowledge and skills crucial to the farming system. They preserve seeds and identify the proper land for cultivation. They have helped preserve seeds of the local Aus and Aman varieties. Introduction of the HYV rice known as the “IRRI dhan” among the farming communities, however, disempowered women by making their skills and local knowledge irrelevant and by displacing them from production and decision-making processes. More unemployment and displacement result with the introduction of new technologies.

The single focus of new technologies on rice production contributes to the loss of livestock and poultry keeping by women. Therefore, women’s existing practices based on their local knowledge and cultural practices require attention such as combining rice production, poultry, livestock and aquaculture. Biodiversity-based farming practices, particularly ecological agriculture practices, should be encouraged to enhance both yield calculated by a single plant and systemic yield of the farming household that benefits women.

### **B. Cambodia**

**Suon Seng, Yang Saing Koma and Or Thy**

*Cambodian Centre for Study and Development in Agriculture (CEDAC)*

#### ***Case study of Cambodian country review: Women’s role in multipurpose rice fields and implications for livelihood security***

The agricultural situation in the rain-fed lowland region of Cambodia is characterised by low land and labour productivity. In this ecosystem, farmers face production constraints of small land holdings and lack of off-farm job opportunities even for minimal dollar-a-day wages.

CEDAC has introduced the system of intensification and diversification that converts rice fields into multipurpose farms (MPF). The principles of MPF are to have the capacity to drain water and harvest rainwater; to protect the rice field from medium flood; to provide favourable growing conditions for rice; to protect the rice field from free-grazing cattle and to protect the rice field from the run-off nutrients.

The innovations introduced by CEDAC for MPF have brought a significant change in the roles and workload of men and women in the rain-fed rice-based livelihood system. MPF has allowed small farmers to sustain an increase in food production as well as cash income in small landholdings with low-external inputs. Family members can be secure with the family-based employment provided by the MPF. Moreover, small farmers can be secure with rice food production and they can generate additional income from the small landholdings.

The dissemination and adoption of the MPF is rather slow, however, due to the financial constraints for investment prevalent among the farm families. Women-headed families face difficulties adopting MPF as they lack the labour input necessary to convert the rice fields to MPF. The lesson learned from these experiences is that to encourage adoption of this innovation, support of small rice farmers, especially women-headed families in rain-fed rice-based livelihood systems, needs financial and extension service inputs.

### **C. China, PR\***

#### **Qi Gubo**

*Centre for Integrated Agricultural Development (CIAD)*

*China Agriculture University, China, PR*

### ***Gender dimensions in China's rice livelihood systems in the changing milieu of technologies and economy***

The development of China's macro-economy has brought policy changes affecting aspects of the governments' investment in technology and water control, relative price changes, institutional changes, wage trends and environmental factors. In spite of these economic and policy shifts, rice production still plays an important role. Gender dimensions in the rice livelihood system are changing consequent to the open market system, price adjustment mechanisms, transferring labour resources, changes in the consumption structure and critical productive resources. These cumulative changes affect the gender-differentiated division of labour, access to resources and the family economy, poverty elimination and food security. In general, women contribute more labour in rice production than do men without a parallel increase in access to resources. Consequently, women's income is lower than men's are while their contribution to food security is higher. For the purpose of food security and equal opportunities for female and male farmers in a rice-based livelihood system, the government should invest more in infrastructure construction, technology and information exchange, and should support innovative methodologies in research and poverty alleviation that are gender sensitive. For example, a participatory plan to alleviate poverty in villages could provide alternatives for achieving real development.

### **D. India**

#### **Swarna Sadasivam Vepa**

*M.S. Swaminathan Research Foundation, Chennai, India*

*Gender concerns in the rice livelihood systems in India*

This paper addresses gender concerns in the rice-based livelihood systems of India. The primary purpose of the research is to gain a better understanding of the needs of the disadvantaged women in the rice livelihood systems of India. The paper examines the positive affects of technological change in rice cultivation and Indian economic liberalisation on the viability of rice farming, in contrast to the process of marginalising rural women. The three sections of this paper are an overview, the consideration of the rice cultivation problems and the examination of women's participation in agriculture in the rice growing states and districts.

The main findings are that the technological change and productivity improvements in rice production have not been smooth. The fruits of technology did not percolate to the landless labourers. Mechanisation in irrigated areas and low wages in rain fed agriculture neutralised the advantage of increased real wages. Women especially suffer discrimination in rice livelihood systems with the feminisation of cultivation in backward areas. Feminisation of labour is prominent

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\* Paper sent but not presented.

in the low wage districts, though women receive lower wages than men do in all states. Thus, women as small and marginal cultivators in rain-fed agriculture and landless labours in low wage situations have endured the most poverty.

Globalisation and liberalisation of imports led to a fall in the domestic prices of rice in keeping with international prices. The producer's prices fell leading to lower profitability of rice cultivation. Increased costs of inputs, declining fertility of soils, lack of more appropriate technology such as drought resistant technology have led to deceleration in the total factor productivity growth. All of these developments have serious implications for the food security of the vulnerable sections in general and to women in particular. Certain policy initiatives to make rice cultivation economically viable must be undertaken. Gender discrimination in wages must end.

## **E. Indonesia**

**Ekawati S. Wahyuni**

*Women's Studies Centre – Research Centre  
Bogor Agricultural University, Indonesia*

### ***Gender dimensions in Indonesian rice livelihood systems in the changing milieu of technologies and economy***

Rural women play important roles in rice production and consumption in Indonesia. The contribution of women as food producers is less recognised because women's employment in the agricultural sector is mostly unpaid. Since the role of women as food provider in the household is considered domestic work, it is not included in the national economic account. The application of new technology in rice production, even more, has displaced women from their traditional tasks, such as harvesting and rice pounding.

Industrialisation as a new direction of economic development has opened employment to women in new industrial establishments such as textiles, electronics and the garment industry. The new employment opportunities have made agricultural jobs uninteresting for younger people. In the economic crisis and industrial sector collapse in the late 1990s, many women workers were laid-off and they returned to the village agricultural sector.

Women's status as unpaid workers makes them invisible thus resulting in reduced access to resources such as land, credit, new technology and information. Agricultural extension workers have neglected women's issues. This situation worsens for women-headed households because they cannot improve their rice production, even when they own the land. Efforts to reduce the gender gap in the rice farming system need new approaches in agriculture development strategy that will integrate gender in programme planning, implementation and evaluation. Women and men from poor households in the villages need close guidance from extension agents in adopting new rice farming technology and credit management to increase their welfare. The extension agents in delivering new technology and information to their clients should use a gender-sensitive approach.

**F. Lao PDR****Monthathip Chanphengxay**

*National Agriculture and Forestry Research Institute  
Ministry of Agriculture and Forestry. Lao PDR*

***Gender dimensions in Lao's rice livelihood systems in the changing milieu of technologies and economy***

The agricultural sector, as the main component in the national economy, contributes 52 percent of the Gross Domestic Product (GDP). In 1999, the country achieved aggregate self-sufficiency in food for the first time. Remote and mountainous areas, however, still face seasonal food shortages due in part to uneven rainfall distribution. The government's approach to agricultural development is to increase output and rural productivity, to reduce poverty and to develop rural areas (ADB, 2002). The production expansion has resulted from a 12 percent increase in area and 37 percent increase in yield. Rice production employs nearly 85 percent of the labour force. Traditionally, men plough, make bunds and prepare seedbeds; and women do more than half of the transplanting of rice, weeding, harvesting, threshing and post-harvest operations. The labour use of each rice growing ecosystem varies. In upland areas, the amount of labour used is 162 workdays per season, of which 63.4 percent is by women. In the irrigated lowlands, the number of workdays per season is 133, of which 63.9 percent is by women, while the labour required in non-irrigated areas is 105 workdays per season, of which 69.3 percent is by women. The use of labour in irrigated areas is higher because the agricultural technology used is not suitable for the conditions (Monthathip, 1995). Agricultural extension primarily reaches male farmers because women generally are not invited to participate in training and extension meetings.

The national policy in the Lao PDR is committed to gender equity and the advancement of women and men of all ethnic groups. Agricultural production policies focus on timely supply of inputs such as improved seeds, fertilisers, insecticides, pesticides and agricultural tools at prices affordable to farmers. Extension workers, both men and women, need two kinds of training. First, they need training to identify the needs of women farmers and the kind of technology transfer strategies suitable to their level of education and their reproductive responsibilities. Second, they need training in participatory approaches and learning by doing. It also is important to encourage the involvement of female scientists, and to promote research in gender and equity issues (The Prime Minister, 2003).

**G. Malaysia****Jariah Masud**

*University Putra Malaysia, Malaysia*

***Malaysian economic transformation from rice paddies to cyber economy: Where do rural women work?***

The government's Vision 2020 policy outlines strategies for Malaysia to achieve developed country status by the year 2020. This paper summarises Malaysian development to date with specific attention to the affect on agriculture and rural women. Government policy during the period 1971-1990 focused on poverty eradication, particularly in the rural areas; but in the following decade, government policy shifted to the commercialisation of agriculture and a strong market driven approach that addressed relative poverty as well as hardcore poverty. Rapid industrial and agricultural commercialisation resulted in a decline of the agriculture sector from 30.3 percent in 1970 to only 12.6 percent in 2000. The country's agricultural sector is oriented and structured for export. Rice farming covered only 10.7 percent of agriculture acreage (684 000 hectares) in 2003, yet this fulfilled the 65 percent rice sufficiency level set by the government.

Rural women's labour force participation rose to 43.1 percent in 2000 compared to 35.7 percent in 1980. The proportion of rural women in the agricultural labour force declined, however, from 37.4 percent in 1995 to 20.5 percent in 2000 while their involvement in other sectors such as manufacturing, community services and trade increased significantly. The highest proportion of rural women's labour force was in the manufacturing sector. Scattered data show that women outside the labour force engaged in income generating projects or micro enterprises under the supervision of development agencies serving the rural areas. For example, the Department of Agriculture Women's Extension Group recorded 2 154 group projects with a membership of 33 124 women and gross reported sale of \$M80.1 million in 2001. The number of women micro entrepreneurs increased significantly from 782 projects in 1994 to 2 154 in 2001 (KPW Database, 2001). Since work in rice-based farming is mostly mechanised, women no longer work as agriculture labourers. There are no national data on the role of rural women, but available data show that an increased number of rural women are involved in micro enterprises or income generating activities. Enhancement of rural enterprises requires comprehensive development of rural women's entrepreneurship. Rural women's involvement in national development requires acceleration of gender sensitisation efforts. Since most of the work done by rural women is unpaid, there is a need to account for all of the work done by rural women. Research on rural women's contribution in sustaining agriculture and food security is critical as a basis for appropriate programme design to enhance women's contributions in development.

## **H. Nepal**

**Ava Shrestha**

*Asian Development Bank, Nepal*

### ***Resource access to rural women's production in rice-based and rice-integrated systems of Nepal***

This paper describes the experiences of the Asian Development Bank (ADB) through support for a pilot gender and development initiative that advanced women's legitimate claims to water usage. It explains how the choice of criteria (landownership and literacy) for membership in the water user association (WUA) impedes women's access to WUA hierarchies. In light of the fact that less than 11 percent of Nepali women hold land titles, the paper addresses the gender gap in access to resources, and specifically water. The paper demonstrates the value of forming groups to facilitate women's increased participation in irrigation management. It confirms how activities designed to raise women's technical knowledge contribute to building women's confidence to participate more effectively in mainstream irrigation projects. Collaboration with supporters, including men and women from the community and the water user association, has promoted discussions for new approaches that can achieve more equitable resource distribution and modification of gender relations. The paper underscores the importance of policy measures that ensure equal opportunities and access to irrigation water usage.

## **I. Pakistan**

**Muhammad Sharif, Umar Farooq and Waqar Malik**

*Social Sciences Institute National Agricultural Research Centre, Islamabad, Pakistan*

### ***Gender dimensions in Pakistan's rice-based livelihood systems in the changing milieu of technologies and economy***

The rice-wheat region of the Punjab province is the major rice growing area and the only basmati producing area of Pakistan. The past two decades have seen various technological developments such as two rounds of adopting basmati rice and wheat varieties, harvesting wheat and paddy by



combine harvesters, increased use of herbicides and wheat planting with zero-tillage drills. These developments increased the area of rice and wheat cultivation and thus increased demand for inputs including human labour. This paper examines the implications of these developments on gender dimensions in the livelihood system of the area.

The location of this zone is quite different from similar zones of Asia. Here, the non-farm employment opportunities are quite high, which has direct implications on mechanisation and wage rates. Increased use of combine harvesting has reduced the labour demand in harvesting and threshing activities. The use of herbicides has almost eliminated manual weeding. Mechanical transplanting is replacing manual transplanting. Women's roles are declining consequent to adoption of labour saving techniques. Various strategies may enhance female participation in a rice-based livelihood system, such as training women in nursery preparation for mechanical transplanters, introducing crop diversification by incorporating pulses and vegetables into the system and initiating other income generating avenues like small-scale poultry and sheep-goat farming. Institutions such as NGOs, agricultural research and extension agencies, the Livestock and Dairy Development Department, the Small and Medium Enterprises Development Authority and banks can actively promote these developments.

#### **J. Philippines\***

**Guadalupe O. Redondo**

*Phil Rice, Philippines*

##### ***Gender dimensions in Philippine rice livelihood systems in the changing milieu of technologies and economy***

Rice farming is the major occupation in the Philippines. Besides rice farming, men, women and family members are involved in rice-livestock, rice-fish, rice-vegetable and other rice-based livelihood activities. Men do most of the heavy work in rice farming and women assist in all farm activities. Men's contribution in rice farming exceeds women's because women also have reproductive roles and household responsibilities. Both genders participate in decision-making but men's decisions always prevail.

#### **K. Sri Lanka**

**Rose Rupasinghe Samuel**

*Extension and Training*

*Department of Agriculture, Sri Lanka*

##### ***Gender dimensions in Sri Lankan rice-based livelihood systems in the changing milieu of technologies and economy***

The food crop sector is extremely important in terms of employment and income for most of the Sri Lankan population. Food crops include the diet staple, rice and other horticultural crops. A notable feature of the food crop sector is the high proportion of women engaged in it while male labourers have migrated to secure employment or participate in the on-going war.

Since the late 1980s, the Department of Agriculture has attempted to change semi commercialised peasant agriculture to science-based, market-oriented agriculture. In this effort, new agricultural technologies, management practices and interventions are being developed and introduced to the rice farming community. Almost all these agricultural development projects specifically target male farmers.

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\* Paper sent but not presented.

Therefore, gender concerns need to be mainstreamed in the agricultural extension process in which many activities are targeted for the rice farming community in coordination with the private sector and in-line ministries. Targeted women's groups within the food crop sector have yet to be identified by the policy makers to develop and disseminate new technology and information relevant to their work. No action has been taken to formulate policy or operational initiatives with the stakeholders to enhance the women's contribution to the national economy at the farm and home levels.

Maintenance of a Department of Agriculture labour force database by gender could justify, initiate and guide policy formulation, generation of technologies and implementation of development activities targeting women to facilitate their contributions in agricultural development.

## **L. Thailand**

### **i. Penkwan Chompreeda and Vichai Haruthaithanasan**

*Kasetsart Agricultural and Agro-Industrial Product Improvement (KAPI), Kasetsart University, Thailand*

#### ***Utilisation of rice by-products: potential enterprises for rural women in Thailand***

Thailand is the largest exporter of rice in the world. In 2003, Thailand exported 7.6 million tons of rice and generated exports earning up to US\$1 843 million. The by-products from farms and milling industries are rice straw, coasted hull, fine hull, rice bran and broken rice. Rice straw is a by-product of field harvesting. Uses of rice straw include construction, animal food and as material to produce paper. Ground straw can be used in cement manufacture, as filler for fertiliser and for mushroom production. Bleached rice straw can be used for crafts. Rice hulls, produced during the first stage of milling, can be used in fertiliser, as fuel, as an insulator in steel manufacturing, in the cement industry, and as a component in ceramic bricks, refractory, furfural (chemical solvent), abrasives and sodium silicate. Rice bran also is generated during the milling process. It is the most nutritious by-product. Edible rice oil is a liquid derived through stabilisation and extraction of bran oil. It is used as a salad oil, mayonnaise, dressing and in cooking due to its plain, good taste and favourable oxidation characteristics. Broken rice is ground into rice flour or used in beer brewing. Other uses of rice flour include noodles, or in combination with wheat flour used for bakery products and infant cereals. Technology for utilisation of rice by-products is available, and rural women should have opportunities to learn about and use it.

### **ii. Daycha Siripathra**

*Khao Kwan Foundation  
Thailand*

#### ***Rice and culture in Thailand***

The rice culture in Thailand reveres rice; it is integral to the lives of rural people. There is a religious aspect of rice whereby women worship mother rice and keep the image of mother rice in the rural households. The rice growing community practices special religious ceremonies in the rice fields. Each rice variety has a special name that has a social meaning. Thus, rice farmers consider the practice of numbering rice varieties as unacceptable. As the times change, the traditional practices of the rice centred culture are under threat. The green revolution technology has harmed the rice production systems. Pesticides destroyed the animals living in the rice paddies that formed part of the diet in rural areas. Pesticides have harmed people. The earlier tradition of respecting the rice crop and its environment should be nurtured.

**iii. Vitoon Panyakul**  
*Green Net, Thailand*

***Organic and fair-trade rice in the context of the rice livelihood system***

Established in 1992, Green Net has been working on alternative trade and providing marketing services to small-scale farmers producing organic food through wholesale distribution centres for the domestic market and fair-trade export. Green Net also initiated several farming programmes to support organic conversion among small-scale farmers. The Green Net Cooperative and the Earth Net Foundation have taken up the pioneering works of the Green Net in integrating organic and fair-trade activities.

The Organic and Fair-trade Rice Project works with local organisations to establish an organic conversion programme with three components, namely farmer participatory technological development, market access and organic certification. Participatory technology development is organised with Farmer Field Schools (FFS), and further adult learning through Participatory Technology Development (PTD) methodology. Market access is provided with a premium price guaranteed. The price is set through a production cost calculation workshop with farmers.

Farmer livelihood has multi-dimensional aspects, including social, economic, political, ecological and ethical issues. A single project, however excellent it is, can never tackle all issues at the same time. A comprehensive programme is necessary. Recognising this inherent limitation, the best we could do is to find an intervention project that addresses as many issues as possible and at the same time provides a favourable context for other initiatives within the same project framework to address multiple dimensions.

Green Net's belief is that development strategies must emphasise the "human" as the centre of development and address the inter-linked aspect of producer livelihood: human (family level) development; producer organisation development; local community development and knowledge development.

**iv. Anan Polvatana**  
*Agricultural Research Scientist*  
*Rice Research Institute*

***Thai rice livelihood systems and government support to women in rice systems***

Although the status of women in Thailand improved greatly in the last century, today women's participation in administration and politics still is relatively low. Traditionally, rice farming was a family enterprise. Farmers managed their activities collectively and exchanged their labour for the village rice activities. Men were responsible for land preparation and spraying of chemicals whereas women's activities were planting, weeding, fertiliser application, harvesting and selling rice paddy.

Current practice has brought a gender shift in activities. Now, men still do land preparation and spraying of chemicals, but they also do weeding and harvesting. Together, men and women undertake planning, but women's activities relate to choosing rice varieties and selling the paddy. Rice farming has changed with mechanisation and introduction of chemicals in that men, who operate the machines, seem to do more work than women do. Increased mechanisation has reduced the demand for labour. Women do not always work on the farm but find alternative activities. At the family level, women control various resources.

The change in land ownership makes the situation difficult for rice farmers and threatens the sustainability of the rice farming system. The government's programmes that support women are One Tambon One Product Programme and village funding. In addition, the Tambon Administrative Organisation as the local agency is developing activities for rural women. Under this programme, women form groups for food processing in each community.

**M. Viet Nam**

**Nguyen Thi Van Anh**

*Department of Population Studies, Institute of Sociology, Viet Nam*

***Rural women's access to land and implication for rice livelihood system***

The introduction of the new Land Law in 1993 created a turning point in the land tenure process in Viet Nam. The new law gives more rights to households for land management by granting five land use rights to households and individuals for long-term use. The land reforms have made a remarkable impact on agricultural production in Viet Nam. As the main source of agricultural production activities, rural women make a significant contribution to agricultural development. There is evidence that more women than men are involved in agriculture and women increasingly participate in new agricultural and non-agricultural activities. Land reforms and the economic renovation process present new economic opportunities. At the same time, they present challenges to women.

The gap still exists between men and women in access to and control over land and other production resources. Although women work on the land more than men do, they still are disadvantaged legally and traditionally in maintaining control over their land use rights. Social gender stereotypes and other deficient land allocation processes, such as the absence of women's names on legal ownership documents, create constraints to achieving gender equality in the access and control over land, the most fundamental resource for households dependent for their livelihood on rice-based agriculture.

**Resource papers**

**A. R. Padmaja, M.C.S. Bantilan, and B.V.J. Gandhi**

*ICRISAT, India*

***Gender dimensions in social capital formation with implications for technology transfer***

The research for this paper explored gender differentiated benefits from the social capital build-up in technology uptake, and the decision-making patterns of men and women with respect to production, consumption and household tasks and allocation of resources. The research examined women's role in developing social capital. The research developed a case study of the groundnut producing areas of Maharashtra in western India, and compared 'with' and 'without' technology situations, and 'before' and 'after' situations in relation to the package of groundnut production technology introduced in the region in 1987. The paper addresses three aspects: a) social networks in technology adoption, b) the gender based activity pattern and c) how build-up of social capital leads to improvements in welfare of farmers and the farming community with a gender perspective.

Available evidence suggests substantial differences in men's and women's networks, particularly in composition. The evidence suggests that men belong to more formal networks reflecting their employment or occupation status, while women have more informal networks that are centred on family and kin. Findings show that women who are engaged in agriculture and allied activities

develop bonding social capital characterised by strong bonds such as that found among family members or among members of an ethnic group. Men who are engaged in agriculture, on the other hand, develop bridging social capital characterised by weaker, less dense but more crosscutting ties such as with farmers, acquaintances, friends from different ethnic groups and friends of friends. Women's employment opportunities significantly improved with the introduction of technology. Finally, the study concludes that while technology development and exchange can build upon social capital as a means of empowering women, much more needs to be learned about the approaches that foster build-up of social capital that continues beyond the technological development intervention.

**B. Kwanchai A. Gomez**

*Thai Rice Foundation*

***The Thai Rice Foundation under Royal Patronage***

The main mission of the Thai Rice Foundation under Royal Patronage is to make rice farming more productive and profitable and thus attractive to future generations, and to preserve the rich rice cultural heritage of the country.

To achieve this mission, the Foundation has the following key programmes:

- a. Raising public awareness of the importance of rice
- b. Promoting research on all aspects of rice production, processing, packaging and marketing, trading and consumption
- c. Providing education and knowledge on rice to farmers and the public
- d. Preserving Thailand's rice cultural heritage and encouraging its appreciation
- e. Promoting policies that provide a favourable environment for all rice sectors.

Two current projects that illustrate the implementation of those programmes that have direct links to rice farmers at the grassroots level are the following:

- a. the Thai Rice College, which aims to equip rice farmers with the knowledge and skills to improve productivity and income, and serves as an information centre that provides rice related information to the public
- b. a series of regional rice seminars in 2004, that aims at identifying specific constraints to rice farming in each region where rice is grown.

**FAO secretariat papers**

**A. Revathi Balakrishnan**

*FAO Regional Office for Asia and Pacific, Bangkok*

***Globalisation, new technologies and rice livelihood-gender analysis versus opportunities for rural women***

The theme of the International Year of Rice, "Rice is Life", expresses the way of life in Asian rural communities. Regional rice livelihood systems demonstrate a wide variation in resource management strategies and the small rice farms that are a mixed farming system. In these multifaceted rice livelihood systems gender roles vary from transplanting to processing and provisioning through supplementary income generation activities. Invariably, women make critical

contributions to Asian rice livelihood systems marked by multi-tasking workloads. The cropping practices determined by agro-ecological factors, market demand, social class and socio-cultural factors influence the demand and supply of female labour both as family labour and as agricultural wage labour. Dual competing paradigms of technology promoted for rice livelihood systems, are mainstream agriculture focusing on productivity and alternative agriculture emphasising sustainability. There is inadequate assessment of costs and benefits for women from competing technologies and technology transfer approaches that impedes gender responsive policy formulation. Recently, multifaceted processes referred to as “globalisation” have affected the social, economic and information environments of agriculture production and rural development constantly. All these aspects can affect the livelihood strategies adopted by women in agriculture and rural communities and their access to economic alternatives to improve their living levels. A few inferential linkages relate global rice prices, international migration and the garment industry drawing rural women to the formal work force in those economies where rice-based production systems drive the agriculture sector. As illustrated by the Bangladesh Special Programme for Food Security Project case, in the rice-based livelihood systems, women are the integral element of household human resource assets; thus, their skills and capacities shape their livelihood strategies as also happens with men. Multitasking by rural women in the rice livelihood system was a primary focus in late 1970s and early 1980s. Since then, however, efforts to understand the situation of rural women in the rice livelihood systems of Asia have declined. Within the development framework promoted by the UN as Millennium Development Goals that complements FAO’s mission for poverty alleviation for food security and gender equality in agriculture and rural development, observation of the International Year of Rice presents a unique opportunity to redefine the significance of the critical contributions made by rural women in the rice-based production systems of Asia.

## **B. Hana Kobayashi**

*FAO Regional Office for Asia and Pacific, Bangkok*

### ***Demographic change and its implication for Asian rice-based livelihood system: focus on rural women***

Asian rice-based production systems and their associated post-harvest operations employ nearly one billion people in rural areas. More than two billion people obtain 60-70 percent of their energy intake from rice and its products. Rural women for ages have played an important role in rice farming especially in activities related to planting, weeding, harvesting, processing and preservation of seeds. Men and women farmers have different responsibilities in rice farming, partly due to local systems and farming practices. However, urbanisation and globalisation have led to a shift in gender roles in rice farming systems. This paper examined the effect of demographic changes on Asia’s rice-based livelihood system with a focus on rural women. It presented a conceptual framework of rice-based livelihood systems, discussed how rice crops form the basis of rural socio-economic activities in Asian countries and reviewed the gender dimensions of these systems. Due to demographic changes in rural areas, more and more women and elderly are performing agricultural tasks, resulting in the feminisation and greying of agriculture; in turn, this has caused changes in farming systems, a decrease in production, loss of agricultural knowledge and environmental degradation. In some contexts, however, it has resulted in the empowerment of women by increasing their decision making power.

## **C. Multimedia presentation**

The Gender and Development Service of FAO developed the multimedia presentation, “Rice and Women”, to highlight women’s significant role in rice cultivation as part of the observance of the International Year of Rice. The content focuses on women’s major role in global rice production.

Their responsibilities begin with production and end with the cooking of rice. Thus, women are providers of food security in rice farming households. Globally, although gender analyses have been undertaken, the follow up action in policies and programme are disappointing. Introduction of certain technologies and global natural resource disasters adversely affect women. Women's access to resources to improve their situation still is inadequate. Policies and programmes should be more effective to assist the women in rice systems.

### **Discussion highlights**

The following section summarises the key issues raised during the discussions that followed the presentations. The issues are presented under major thematic categories.

#### ***Rice profitability and gender dynamics in agricultural labour***

- Rice is vital in Asian livelihood systems and thus its profitability determines livelihood security.
- The Green Revolution advocated efficient water management as a key factor in yield improvement. In Asia, however, the fatigue of the green revolution results in livelihood diversification and crop diversification in many countries, especially in India.
- Changes in farming systems increase the productivity of rice. Although rice production is primarily subsistence based, in many areas rice production is becoming commercialised.
- Gender roles change with modification of production methods intended to achieve efficiency in production.
- The feminisation of agriculture and feminisation of poverty are important developments in Asia and are inter-linked. Feminisation of agriculture is on the increase due to the rural-urban migration of men and the younger generation including young women. In addition, the younger generation is generally not interested in agriculture and prefer off-farm wage labour. The issue then relates to the future of the younger rural generation, if they will return to their home villages for farming and the risk of losing cultivation knowledge transferral from the older generation to the younger one.
- The loss of interest in farming among the younger population is a growing concern that must be brought to the attention of policy makers. In certain circumstances, however, migration has had a positive affect, depending on the factors that contribute to migration.
- The traditional rice-based livelihood and the new methods of production have implications for rural women's workload.
- Seed type is an important factor in rice production. It has specific effects on women's role.
- The profitability of organic rice farming should be analysed vis-à-vis conventional farming.
- Agricultural transformation should take into account the differential of income potential and the labour inputs when comparing physical labour to management labour and comparing labour-intensive to knowledge-intensive agricultural labour production.

### ***Data and information on women in rural livelihood system***

- A major issue is the lack of sex-disaggregated data and gender-differentiated information for the rural sector. Information collection on rural women neglects women in agricultural production, the impact of technology and technology transfer to women. A sex-disaggregated database at both the national and local levels is necessary to draw insights on task specialisation by gender and gender roles in agriculture particularly in rice-based farming systems. It is important to determine how to create a sex disaggregated database and who would take responsibility for funding and administration.
- Cooperative work is needed to improve gender differentiated information and sex-disaggregated data on rural development and food security.
- There is a need to complement quantitative data with qualitative information since the national statistics based on census surveys do not always reflect the real situation, and hence qualitative data will help fill the information gap.
- Documentation of information with high reliability is as important as using quantitative research that is reliable.
- There is lack of information on many aspects, e.g. globalisation and rice livelihood system, technology and displacement of women.
- Together with data collection and analysis, there is a need to move forward to formulate and develop appropriate strategies for women in agriculture. The gender analysis should provide information to facilitate policies and programmes that improve the situation of rural women.

### ***Mechanisation and status of women***

- There are advantages and disadvantages for rural women when rice production is mechanised. On the one hand, the multitasking workload for women could decrease but on the other hand, it reduces women's opportunities to undertake agricultural activities.
- Mechanisation could imply more work opportunities for men. This also could be the way out for the younger generation in terms of opportunities for mechanical related jobs.
- Mechanisation of production could imply more work opportunities for men. Such a change could provide opportunities for the younger generation, particularly men, for jobs that are mechanical and that pay higher wages, but women also may have similar opportunities.
- Agricultural mechanisation changes the rural life style; it could orient rice production to a commodity system.
- Mechanisation, even when targeting women, does not necessarily increase women's wages.
- The concept of equal wage for equal work for men and women in the agriculture sector is not commonly promoted.
- The case study from Malaysia showed a decline in agricultural employment due to mechanisation and large-scale farming. More women now work in industry. There is a shift from people to produce that calls for a serious inquiry for the future.



### ***Technology and training for women***

- The advantages and disadvantages of introducing different technologies to farming should be addressed.
- Mechanisation and technology should be differentiated. New methods of production that include emerging technologies and production processes need not be related to mechanisation. Two examples are MPF and Integrated Pest Management (IPM) that are production technologies but that are not oriented to mechanisation.
- It is important for gender analysis to move beyond the 'who does what' issue. Technology can be evaluated as to whether it has made any difference in the lives of women. Suitability and usefulness of the technology to women's needs should be investigated.
- Technology for women should be up-scaled and capacity should be developed among women to use the technology effectively.
- Credit programmes should assist women to adopt and take advantage of new technologies that could improve productivity.
- Technology improves productivity but it also could have implications for labour absorption. The question then is how technology has affected women's employment.
- Whether or not technology is women friendly (appropriate to and acceptable by women), women find it difficult to accept new technology when their educational level does not match the change in technology.
- Technology could be a solution through job creation for rural women.
- Women should be included in training for technology use and transfer with consideration given to their time use.
- When introducing new technologies to rural women, it is important to consider technology acceptance, transfer and by-product development.

### ***Alternatives in rice production and marketing and rural women's participation***

- With the falling price of rice, rice production alone is not profitable; hence, rice is not the only source of livelihood among rice farmers.
- Globalisation has increased rice imports. Consequently, farmers should consider a shift from rice production to other cash crops.
- Agricultural transformation takes place when rice production is directed to meet global market demands. With mechanisation and introduction of technology, women shift to post harvest activities such as food processing and making rice products.
- In a few countries, farmers are adopting dual strategies in production marked by growing high market value rice for sale and local varieties for household consumption.
- Technology related rice products and rice by-products could encourage women to enter the market, but the question is how to transfer technology while keeping the investment cost low.
- In terms of marketing, women face difficulties when entering larger scale enterprises. Women's situation should be considered when developing opportunities for marketing rice products.

- Women's lack of managerial skill is a major impediment; therefore, women should be trained to cope with the market and marketing strategies.

### ***Rice and culture***

- Rice and culture in Asia are linked; thus, it is important to preserve rice biodiversity and the preservation of traditional varieties.
- There is a growing concern about erosion of indigenous knowledge in rice biodiversity conservation.
- There should be documentation of indigenous knowledge and this activity should be given high priority. Preservation of traditional cultivation skills and indigenous knowledge is important for rice biodiversity conservation.
- Hybrid varieties, improved varieties and high yielding varieties may not be preferable in some areas; people still prefer traditional varieties.

### ***Multiple livelihood strategies***

- Multipurpose livelihood strategies used in some projects indicate that women and men derive benefits, but the issue is lack of investment capital.
- Given the economic vulnerability, expanding options for increased resources and income for rice farming households is crucial. As in the case of Indonesia where agriculture is not profitable, rice farming is still less profitable and women are pushed to activities not profitable to them. The dominant issue to consider is to make rice farming more profitable and to improve the situation for women in rice farming.
- Credit should be of the appropriate amount to assist female-headed households to adopt innovations.
- Indigenous local social networks such as local labour groups and mobilised groups should be tapped to provide labour support for female-headed households to adopt innovations.

## **Country specific recommendations**

Two categories of recommendations developed by the consultation are those that are country specific and those that have a regional affect. The country specific recommendations are presented by country.

### ***Bangladesh***

- Development priorities must consider women's needs in rice production and their relationship to biodiversity.
- National programmes should promote women's seed preservation, conservation, regeneration and sharing practices.
- Biodiversity-based farming practices (subsistence-based ecological agriculture) should be supported, thus promoting enhanced diversity and systemic yield in an integrated farming system.
- Women's traditional practices based on their local knowledge and cultural practices require attention.

- Women's roles can be enhanced and the farming households' value enriched by combining rice production, poultry, livestock and aquaculture.
- Economic activities of women with regard to post-harvest operations are important and need to be formally recognised.
- Poverty alleviation programmes should directly address agrarian development based on security of the farming communities.
- Evaluate the existing technologies used in agriculture from women's perspective and restrict the use of technologies that have displaced women.
- The government should strengthen women's existing practices to combine rice-livestock and rice-fish production.
- Organise women in rice-livestock cooperatives and develop small and medium sized enterprises of women in agriculture.

### **Cambodia**

*In order to scale up the Multipurpose Farming adaptation and adoption in the rain-fed rice ecosystem, the following recommendations are made:*

- MPF is a new farming modality, proven a successful solution for small rice farmers in rain-fed ecosystems. Extension service providers (both those from NGOs and those from government institutions) who work in this ecosystem should understand MPF through training supplemented by site visits.
- Extension services need to support and promote MPF in rice-based ecosystems. Small-farmers and women-headed families should be provided start-up capital for investment to convert rice fields into MPF. Governments should allocate funds to promote MPF and include MPF in national programmes.
- A programme for women in biodiversity conservation should be launched since women traditionally play an important role in seed conservation and work closely in managing those resources. MPF contributes to biodiversity conservation yet it should be expanded to incorporate the bio-resource management aspects to make the system more profitable.
- The System of Rice Intensification (SRI) should be developed in the rain-fed lowland rice producing areas to promote high yield with low-extension inputs. SRI can lighten women's workload in rice production, especially in uprooting the seedling, and SRI can keep women free from exposure to chemical inputs in rice production.

### **China, PR**

*a. Policy recommendations for national interventions that are gender responsive to address food security and poverty alleviation in rice communities*

- Infrastructures of technology, information, marketing systems and a stable policy support for households that produce rice are crucial to address gender issues.
- The government should consider processing and production subsidies to identify women's contributions to food security and poverty alleviation. Some specific projects, such as rice-integrated production, could be key aspects of gender responsive plans.
- Extension and technology transfer should improve rural women's access to technical knowledge and capacity building to improve food security and alleviate poverty.

- Unless women are fully included in all the benefits derived from improved rice-based systems, real strides in poverty alleviation cannot be achieved. There needs to be greater awareness of women's work in rice farming, a corresponding increase in women's access to improved crop production techniques and equitable national-level land and resource policies that are effectively enforced.
- Successful design and development of new technologies, such as improved varieties, must take into account the intra-household division of labour as well as gender differences in preferences, needs and criteria.
- A farmer-centred research approach could involve women in the research and extension system and could support their capacity building. This could be achieved through women's participation in the whole process of problem identification, research problem diagnosis, research planning, experiment implementation and participatory monitoring and evaluation. However, the current character of participatory action research methods requires adopting institutions to scale up as well as to influence the research and extension system.
- Agriculture and rural development should not disadvantage and displace women from emerging economic opportunities for alternative livelihoods that will improve the rural economy and food security.
- Integrated and participatory development strategies could help men and women farmers produce grain, including rice, as part of the economic mainstream. Participatory village planning for poverty alleviation<sup>3</sup> could be a model and a basis for further research.

*b. Recommendations to strengthen gender responsive regional level actions to achieve food security and reduction of poverty in rice communities*

- Implementation of macro-policies to improve agricultural and farmers' incomes should include gender-mainstreaming starting with action planning through monitoring and evaluation.
- Local integrated agricultural development projects and adjustment policies could be linked with gender responsive items by mobilising cooperation among stakeholders, such as All China Women's Federation, Poverty Alleviation Office and similar organizations.

**India**

- Give women cultivators better access to resources by providing executable property rights to land.
- Introduce legumes in the irrigated and non-irrigated rice farming systems to enhance the sustainability of farming.
- Train women in rice farming systems with skills in water conservation and water management to enhance productivity.
- Enforce equal wages for women in the rice growing areas; this is of utmost importance to bringing about gender equity.

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<sup>3</sup> Participatory village planning has been implemented as a poverty alleviation strategy since 2001. It was used in 100 000 villages in 592 key working counties that were poor. Those experiments are supported by the central government and by several international and UN organisations.

- Diversify women labourers' livelihoods by enhancing their employment opportunities in rice-based biomass industries during the off-season.

### **Indonesia**

- Policy makers should consider women's important role in rice production and as food providers in poor households by designing more gender-sensitive food policies, specifically rice policies.
- A gender-sensitive policy considers the positive and negative affects on men and women. To design gender-sensitive food policies, sex-disaggregated data in rice production and consumption should be available to policy makers at every level of government administration.
- A gender-sensitive approach to deliver new technology and information in food production and income generating activities should be created. All extension agents working in the villages or with poor people should be gender-sensitive, too.
- Extension agents should be able to do gender analysis, to collect, present and archive sex-disaggregated data from the farm level, and do gender-sensitive reporting. This gender-sensitive knowledge should be integrated into training courses for extension agents.

### **Lao PDR**

- Collect sex-disaggregated data in households and the agricultural sector. Based on these data, identify research priorities for the target group for policy and programme development.
- Based on good research, facilitate the linkage between the knowledge and skills of producers (indigenous knowledge) and programmes to reduce poverty.
- Based on sound field assessments of gender issues in the agriculture sector, develop strategies to assist women to reduce poverty and to improve economic conditions and food security.
- Focus on human resource development projects aimed at upgrading the capacities, qualifications and technical expertise at all levels in the short and long term.
- Pay more attention to female farmers and to training the Ministry of Agriculture and Forestry (MAF) female staff.
- Encourage the involvement of young female scientists and promote research projects on the issues of gender and equity.
- Foster partnerships between farmers and experts by bringing together the knowledge and skills of producers (indigenous knowledge) with those of professional scientists and technicians.
- Consider the needs of women in germ plasma selection and improvement in farmer participatory crop breeding programmes. Give more opportunities to young women at all levels for education and training.
- Reach women farmers through two kinds of training activities. One is the training of men and women extension workers on the importance of including women in their extension activities; identifying the needs of women farmers and what kind of technology transfer strategies are suited to them considering their level of education and their reproductive responsibilities. The other is the training of women farmers that

should be done at the community level based on participatory approaches and learning by doing.

### **Malaysia**

- Conduct a national study on the role of women and men in agriculture particularly in rice farming as part of the food security promotion.
- Collect sex disaggregated data of the rural and agricultural sectors as input into programme planning.
- Develop comprehensive rural entrepreneurial strategies, with a particular emphasis on women's enterprises, to assure sustainability of women's micro enterprises and to stimulate the rural economy.
- Accelerate efforts to develop appropriate technology to scale up women's enterprises.
- Conduct gender sensitisation at all levels to facilitate rural women's involvement in agriculture as well as national development.
- Conduct research and document all work done by rural women to account for rural women's unpaid labour.
- Design appropriate programmes to enhance women's contributions in development based on research of rural women's contributions in sustaining agriculture and food security.
- Integrate the gender strategies into biodiversity conservation in all relevant agencies.
- Consider gender dimensions in efforts to develop appropriate and affordable technology in agricultural and food production systems.

### **Nepal**

- Provide women with adequate access to information, without which they quickly fall behind the learning curve.
- Include the following actions to promote gender responsiveness: (a) policy measures to equalise opportunities and access to irrigation water usage; (b) specific actions that target women; and (c) strengthening the organisational capacity of the Water User Association to promote elements of good governance such as representation, participatory decision making, and transparency for improved service delivery and equitable distribution of benefits.
- Incorporate efforts to improve gender responsiveness in the overall process of institutional development so that men understand and support the changes taking place in social organisations.
- Promote gender responsive technology that is beneficial to women in terms of reducing women's drudgery while ensuring that women's labour is not displaced. Upgrade women's skills and capabilities, and conduct a needs assessment (with the client) for technology development and proper targeting for improved labour productivity, and increased women's participation in the formal labour force.
- Provide detailed information on the negative and positive aspects of technology including benefits (economic, social and health) that will accrue to male and female family members.

### **Pakistan**

- Train rural women to prepare nurseries for mechanical transplanting and parachute planting.
- Introduce crop diversification by incorporating legumes and vegetables into the existing rice-wheat cropping system.
- Introduce small-scale poultry and sheep-goat farming to generate employment opportunities.
- Train rural women for employment in non-farm sector industries present in the area.
- Recruit more women agriculture graduates for the extension wings of the Agriculture Extension Department, Livestock and Dairy Development (L&DD) and the Small and Medium Enterprise Development Authority (SMEDA) in order to provide a free interaction environment to rural women.

### **Philippines**

- PhilRice should establish a comprehensive gender strategy to ensure equal opportunity of men and women within the influence of its activities, products and services.
- PhilRice should use planning, research, development, documentation, review and updating of comprehensive gender programmes and objectives to improve its gender sensitivity and awareness. It should communicate this policy to increase the awareness of its stakeholders and the public.
- The PhilRice gender team should involve women in its projects, studies and training.

### **Sri Lanka**

#### *a) Policy related recommendations:*

- Maintain a database by gender within the Socio-economic and Planning Centre of the Department of Agriculture (DOA). This could assist in planning research, training and extension activities within the department and for policy formulation at the ministry level.
- Include in the Department of Agriculture's annual report, data analysis by gender in the labour force by crop.
- Coordinate cooperation between the Department of Agriculture and the Department of Census and Statistics to develop and maintain a gender database for the food crops sector.

#### *b) Extension and technology transfer related recommendations:*

- Develop institutional policies to collect and analyse gender-differentiated data when developing and transferring technologies in rice livelihood systems at the national and district levels.
- Ensure that the introduction of new technologies does not affect adversely the economic benefits enjoyed by women and men farmers.
- Develop a mechanism at the national level with responsibility delegated to district officials or agents to monitor women's access to technical knowledge and skill in rural production systems.

c) *Rural development approach recommendations:*

- Formulate timely development interventions at the national and district levels to incorporate the changing scenario in agriculture with parallel changes in women's and men's roles in rice livelihood systems.
- Maintain national and district level viability and sustainability in promoted rural production systems by facilitating appropriate assistance from relevant sources.

**Thailand**

- Encourage organic farming and fair-trade as integral components of livelihood improvement programmes.
- Develop a comprehensive support system to assist farmer conversion to organic production.
- Give a people-centred focus to the strategy for livelihood improvement.
- Assure project success and sustainability through public-private partnerships (PPP).
- The FAO should promote the rice livelihood system by working directly with non-government organisations in developing countries.
- Rice-based farming systems that adopt the use of chemicals should train men and women farmers in their appropriate use.
- Adopt gender responsive machinery in rice production and processing.
- Give rural women income-generating alternatives to rice farming.
- Conduct research on the feasibility and profitability of commercial scale organic rice farming, and on how it would affect gender roles and small-scale rice farming households.
- Make rural development strategies people-oriented and gender responsive.
- Make policy recommendations that consider the gender viewpoint, and include concrete plans that translate easily into project implementation, monitoring and evaluation.
- Involve women and the civil community in PPP, a critical strategy for project success and sustainability.
- The FAO should work directly with NGOs as well as governments in developing countries to promote the rice livelihood system.
- Women farmers should evaluate factors that affect the development of by-product enterprise.
- Eliminate factors that impede rural women's development of rice by-product enterprises.

**Viet Nam**

- Ensure land law enforcement that strengthens proper land administration and monitoring systems and the timely implementation of entitlements of men's and women's land use rights.
- Increase women's and men's understanding of laws and their property rights through training and Information, Education and Communication (IEC) programmes including an appropriate education strategy.



- Develop special legal counselling services in communities for vulnerable groups of rural women and men to support them when their property rights need protection.
- Encourage women's participation in land, water and credit planning and programmes in the community to make sure women have a voice in decision-making processes for resource planning.
- Encourage women's equal participation with men in agriculture extension training in new production technology.
- Promote appropriate transfer of new knowledge, especially to poor women who have limited educational levels and limited time to attend extension and other technological training.
- Provide women-friendly technologies to reduce women's labour in rice and agricultural production, and to improve rice, rice by products and other products that broaden women's economic opportunities in the commodity market.
- Create favourable conditions for rural women to access credit with larger, longer term and optimal rate of interest loans for investment in agricultural activities.
- Promote strategies that improve women's and men's opportunities to engage in income-generating, off-farm activities that diversify agricultural production.
- Facilitate networking among professionals for sharing the "best practice" to ensure rural women's equal access and control over production resources, especially in land tenure as a means for livelihood security, and to achieve food security and reduction of poverty.
- Conduct regional gender analyses to develop a framework that improves our understanding of common issues such as the affect of feminisation in agriculture, the affect of rural-urban migration, the gap between laws and customary practices influencing women's land security and the role of a social safety net on development of appropriate programmes that support rural women in sustainable livelihoods.
- Conduct research on the affect of land concentration and land transactions on landless women and men farmers' livelihood strategies.

## **Recommendations affecting the region**

The consultation concurred: "The vulnerability of rice livelihood systems adversely affects women in rice systems. The vulnerability arises from changing economic conditions and technological innovations. Therefore, it is crucial to consider local gendered knowledge systems, gender roles in production systems and local practices while developing technologies for rice livelihood systems". The regional recommendations that follow are presented under specific thematic groupings.

### **Database on women in agriculture specific recommendation for rice systems:**

- Collect sex disaggregated data and gender differentiated information on the following aspects of rice livelihood systems:
  - ❑ levels of subsistence and commercialisation in rice production;
  - ❑ gender roles in rice farming communities at various levels of subsistence and commercialisation in rice farming;
  - ❑ land ownership and access to inputs, managerial power and economic activities in rice farming communities.

- Collect sex disaggregated agricultural census data and household survey data.
- Make all Participatory Rural Appraisal (PRA) gender responsive and provide gender-differentiated information.
- Begin programme and project planning with sex-disaggregated data.
- Make gender training for investigators in national organisations mandatory.
- Conduct research on the multiple and changing roles of women in rural production systems in the era of globalisation.
- Collect, compile and disseminate gender- and sex-disaggregated statistics in rice livelihood systems in a user friendly format.

**Gender equal opportunities in rice livelihood systems: the changing technological milieu, technology and training:**

- Promote gender responsive technology that is beneficial to women (by reducing drudgery but not displacing women) and upgrade women's skills and capabilities through client needs assessment for technology development and proper targeting.
- Provide full information to men and women on the negative and positive aspects that would accrue from specific technology in such areas as economic, social and health.
- Train and enhance the skills of targeted groups of women on the use and maintenance of technology.
- Institutionalise equal pay between women and men for work of equal value in the agricultural sector.
- Promote technologies that are economically beneficial and sustainable.
- Improve the livelihood of rice-based female households by transforming rice by-product technology for economic enterprises.
- Establish linkages between the scientific community and farming communities for research and diffusion of technology.
- Create access to development resources as a coping mechanism for communities by harnessing collective action.
- Improve linkages to markets and service providers, such as agricultural finance and extension services, to sustain rural livelihoods.
- Make technology transfer approaches in vulnerable rice livelihood systems gender sensitive and responsive to women's situation.

**Gender-equal opportunities in rice livelihood systems: The changing economic milieu of globalisation and economic development**

- Conduct research on the gender dynamics of agriculture in the context of mechanisation, commercialisation and globalisation.
- Support rice biodiversity conservation and indigenous knowledge in view of livelihood and gender concerns through government programmes.
- Enact policies to enhance the profitability of small rice farmers.
- Mobilise men and women farmers to compete effectively in the market.
- Assess the affect of migration on land use and its affect on women in rice systems.

- Understand the negative effect of fragmented land holdings on rice production and the implications for the gender dimensions of the rural household workload.
- Protect rice agricultural land and address the affect of urban encroachment on rice land use.

## **Acknowledgements**

The meeting acknowledges with thanks the contributions made by the participants and by the organisers for planning and implementing the consultation on gender dimensions in rice-based livelihood systems.

## Annexure 1



**Asian Regional Expert Consultation on  
Gender Dimensions in  
Asian Rice Livelihood Systems  
In The Changing Milieu of Technologies and Economy**

### PROGRAMME

**8 March 2004 (Monday)**

- Arrival of Participants

**9 March 2004 (Tuesday)**

08.00-08.45

- Registration

08.45-09.45

**Opening Session**

Chaired by

Revathi Balakrishnan

Senior Gender and Development Officer

FAO Regional Office for Asia and the Pacific

*Welcome and opening remarks*

He Changchui

Assistant Director General and Regional Representative

FAO Regional Office for Asia and the Pacific

*Self-Introduction of participants and Secretariat team*

*Consultation focus in the context of the International Year of Rice*

Revathi Balakrishnan

Senior Officer, Gender and Development

FAO Regional Office for Asia and the Pacific

*Election of consultation officers: Chair, Vice Chair and Rapporteur*

09.30-10.00

Break

10.00-10.45

**Chair: Consultation Elected**

**Technical Session**

**Resource Paper 1 and Discussion**

Gender concerns in the rice-based livelihood systems in India

Swarna S. Vepa, Director

Ford Foundation Chair for Women and Food Security and Programme

M.S. Swaminathan Research Foundation, Chennai, India

10.45-11.50

**Cambodia: Country Case and Discussion**

Women's role in multipurpose rice field and implications for livelihood security

Suon Seng, Programme Support Officer

Cambodian Centre for the Study and Development of Agriculture (CEDAC)

Phnom Penh, Cambodia

- 11.50-12.30                    ***Indonesia: Country Case and Discussion***  
Gender dimensions in Indonesian rice livelihood systems in the changing milieu of technologies and economy  
Ekawati S. Wahyuni, Director, Centre for Women Studies, Research Institute  
Bogor Agricultural University, Bogor, Indonesia
- 12.30-14.00                    Hosted lunch
- 14.00-14.45                    ***Resource Paper 2 and Discussion***  
Globalisation, new technologies and rice livelihood-gender analysis versus opportunities for rural women  
Revathi Balakrishnan, Senior Officer, Gender and Development  
FAO Regional Office for Asia and the Pacific
- 14.45-15.45                    ***Invited Panel Session***  
Major challenges attributable to globalisation and new technologies to rice-based and rice-integrated livelihood system: Organic and fair-trade rice in the context of livelihood system  
  
Vitoon R. Panyakul, Representative  
Green Net Cooperative, Bangkok, Thailand  
  
Rice and Culture in Thailand  
Daycha Siripathra, Director  
Khao Kwan Foundation, Suphanburi, Thailand
- 15.45-16.00                    Break
- 16.00-16.15                    FAO multimedia – women in rice production and food security
- 16.15-16.45                    ***Resource Paper 3 and Discussion***  
Demographic changes and its implication to Asian rice-based livelihood system: Focus on rural women  
Hana Kobayashi, Associate Professional Officer  
FAO Regional Office for Asia and the Pacific
- 10 March 2004 (Wednesday)***
- 08.30-09.15                    ***Bangladesh: Country Case and Discussion***  
Women and rice in Bangladesh  
Farida Akhter, Executive Director, UBINIG, Dhaka, Bangladesh
- 09.15-10.00                    ***Resource Paper 4 and Discussion***  
Gender dimensions in social capital formation with implications for technology transfer  
R. Padmaja, Scientific Officer  
Global Theme on SAT Futures, ICRISAT, Hyderabad, India
- 10.00-10.30                    ***Lao PDR: Country Case and Discussion***  
Gender dimensions in Lao's rice livelihood systems in the changing milieu of technologies and economy  
Monthathip Chanphengxay, Deputy Director General  
National Agriculture and Forestry Research Institute (NAFRI),  
Vientiane, Lao PDR

- 10.30-10.45 Break
- 10.45-11.40 **Malaysia: Country Case and Discussion**  
Malaysia economic transformation rice paddies to cyber economy:  
Where do rural women work?  
Jeriah Masud, Deputy Dean-Research  
Graduate and Publication Faculty of Human Ecology,  
University of Putra Malaysia  
Selangor Darul Ehsan, Malaysia
- 11.40-12.10 **Nepal: Country Case and Discussion**  
Resource access to rural women's production in rice-based and  
rice-integrated systems of Nepal  
Ava Shrestha, Gender and Development Specialist  
Nepal Resident Mission, Asian Development Bank, Kathmandu, Nepal
- 12.10-12.45 **Pakistan: Country Case and Discussion**  
Gender dimensions in Pakistan's rice livelihood systems in the  
changing milieu of technologies and economy  
Muhammad Sharif, Director Social Sciences Institute,  
Islamabad, Pakistan
- 12.45-13.45 Lunch Break
- 13.45-14.30 **Sri Lanka: Country Case and Discussion**  
Gender dimensions in Sri Lankan rice livelihood systems in the  
changing milieu of technologies and economy  
Rose Rupasinghe Samuel  
Assistant Director of Agriculture (Extension and Training)  
Department of Agriculture, Peradeniya, Sri Lanka
- 14.30-15.00 **Thailand: Country Case and Discussion**  
Utilisation of rice by-products: potential enterprises for rural women  
in Thailand  
Penkwan Chompreeda  
Associate Professor Department of Product Development  
Faculty of Agro-Industry, Kasetsart University, Bangkok, Thailand
- 15.00-15.30 **Thailand: Government Presentation**  
Thai rice livelihood systems and government support to women in rice  
systems  
Anan Polvatana, Rice Research Institute, Bangkok, Thailand
- 15.45-16.00 Break
- 16.00-16.45 **Viet Nam: Case Study and Discussion**  
Viet Nam rural women's access to land and implications for rice  
livelihood system  
Nguyen Thi Van Anh, Researcher  
Department of Population Studies, Institute of Sociology,  
National Centre for Social Sciences and Humanities, Hanoi, Viet Nam

**11 March 2004 (Thursday)**

- 08.30-10.30 Facilitated general discussion on economic trends and changing technologies affecting rice-based and rice-integrated livelihood systems, with specific attention to gender differentiated implications
- 10.30-11.00 Break
- 11.00-11.15 Preparation for small group sessions
- 11.15-12.30 **Small Groups Sessions**  
Creating gender equal opportunities: Asian rice-based and rice-integrated livelihood systems in the changing technological milieu  
Creating gender equal opportunities: Asian rice-based and rice-integrated livelihood systems in the changing economic milieu
- 12.30-13.45 Lunch
- 13.45-15.30 Presentations: Small groups' outcome with preliminary recommendations
- 15.30-15.45 Break
- 15.45-16.30 General session to develop recommendations

**12 March 2004 (Friday)**

- 10.00-12.00 Presentation of report and recommendations and adoption of the report  
Elected Rapporteur assisted by FAO
- 12.00-12.30 Closing Session  
Vote of thanks  
H. Konuma, DRR FAO Regional Office for Asia and the Pacific

**12-13 March 2004 (Friday and Saturday)**

- Departure of participants

## Annexure 2

### List of Participants

#### Invited Experts

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