



<b>COMMITTEE ON WORLD FOOD SECURITY</b>
<b>Thirty-seventh Session</b>
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<b>Item V</b>
<b>POLICY ROUNDTABLE GENDER, FOOD SECURITY AND NUTRITION</b>

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**Matters to be brought to the attention of CFS****The Committee:**

- i. Calls upon Member States, international organizations, and other stakeholders, to ensure that women have meaningful participation in all decision making processes related to achieving women's rights to food and nutrition, health, education and water and legislation regarded to equal access to resources
- ii. Urges Member States to develop a policy and legal framework to ensure women's and men's equal access to productive resources including land ownership and inheritance, access to financial services, agricultural technology and information, business registration and operation, and employment opportunities
- iii. Urges Member States to ensure that agriculture investment plans take into consideration the specific needs of both women and men
- iv. Urges Member States to incorporate recognition of women's human rights, including food and nutrition, into constitutions/state legislation as per agreed human right conventions and other international agreements
- v. Calls upon Member States, international organizations, and other stakeholders, to include improvement of women's, adolescent girl's and children's nutritional status as an explicit goal and expected outcome of agriculture, food and nutritional security-related programmes, emergency responses, strategies and policies
- vi. Calls upon Member States to support the adoption and implementation of maternity protection legislation and related measures that allow women to perform their caregiver role and therefore provide for the nutritional needs of their children and protect their own health, whilst protecting their employment security
- vii. Urges Member States, international organizations, and other stakeholders to identify and support strategies, policies and actions to further strengthen gender-sensitive food security and nutrition, including:
  - a. Statistics should be sex disaggregated, such as numbers of extension workers, farmers in cooperatives etc.
  - b. Gender analysis and nutrition impact assessments should be conducted to inform food and nutrition policy, programme and project design, implementation, monitoring and evaluation, including appropriate gender targets and funding
  - c. Agricultural investment plans, policies and programmes should be designed so that women and men have equal access to programme services and operations, being cognizant of women's commitments to the domestic and reproductive economy
  - d. Smallholder female farmers should be prioritized in agricultural programming to level the playing field and foster equity.
- viii. Will ensure that gender is included in the monitoring mechanisms of current and future Voluntary Guidelines, including the Right to Food, Responsible Management of Land, Fisheries and Forests and similar initiatives that will be discussed or endorsed by the CFS

- ix. Requests the Bureau, in consultation with the Advisory Group and Joint Secretariat, to take the appropriate steps to standardise the official terminology that the Committee should use such as “Food Security and Nutrition” or “Food and Nutrition Security”.

## I. CHALLENGES

*Food Security – when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for a healthy and active life*

1. Food security is essentially built on three foundational pillars – food availability through production or markets, food access through market access and income, and food utilization. The “at all times” element of the definition adds in the concept of stability for all pillars. Women play a vital role across all three pillars. They produce food for their households, they work in agriculture and other activities and use their earnings to buy food, health care, and resources for children, and they use food and other complementary resources to generate nutrition security. Women’s ability to produce food, earn income, and generate nutrition security is conditioned on prevailing social constructs and norms governing their ability to access the necessary resources and services.
2. Nutrition outcomes have often been neglected in discussions of food security. Whilst nutrition is a specific focus of the third pillar (food utilization) like gender, some aspects of nutrition cut across all three pillars. Hidden hunger is one manifestation of a failure across all pillars of food security. Individuals may look well nourished, and consume sufficient calories, but are deficient in key micronutrients such as vitamin A, iron, iodine etc. This is hidden hunger which leads to poor immune function and increased morbidity, poor growth and intellectual development, and ultimately a lifetime of lowered potential. Discussions of food production often focus on yield increases, and increased supplies, but neglect discussion of the composition of those increased supplies. Is the focus on staple grains or does it include a focus on livestock, aquaculture, fruits and vegetables? These higher quality foods contain valuable minerals and other micronutrients, critical to nutrition security.
3. Women, in most societies, have the prime role in translating available food into nutrition security, particularly for young children. Their ability to do this is conditioned on complementary inputs such as access to health care, water, energy, their own human capital, the environment they live in including sanitation and the competing demands on their time. Individuals may live in poor health environments, with poor hygiene and sanitation, which results in frequent ill health and compromised nutritional outcomes despite sufficient food. Infants and very young children may have mothers who are so time constrained, particularly at peak times in the agricultural calendar, they are unable to feed a child an appropriate diversified diet as often as necessary due to the small stomachs of very young children and high nutrient needs.
4. Evidence shows that while food availability is necessary for nutrition security, it is not sufficient. For any given level of food availability child underweight rates can vary from as low as 2-10% to as high as 40-70% (World Bank 2006). In many parts of the world overweight mothers coexist in households with underweight children. In Mauritania 40% of mothers are obese whereas 30% of their children are underweight.
5. While poverty can limit nutritional improvements, evidence indicates we do not have to wait for poverty reduction to achieve some nutritional improvement. Children in poorer households headed by women can have better nutritional outcomes than children in male headed counterparts (Kennedy and Peters 1992).
6. Women’s own nutritional status also has a direct impact on the children’s nutritional status, their learning capacity and their productivity later in life. Raising women’s nutritional

status not only benefits them but is a powerful way to improve the human capital of the next generation, thereby sustainably increasing food security and nutrition.

7. This reveals the importance of focusing directly on women's role in food, health and care in households as these play a critical role in determining child nutrition outcomes. The heart of the gender challenge in food security and nutrition is the intra-household inequities in labour allocation, resource access, ownership, and control in the household economy, which is intimately linked to the market economy. While men have their key focus on the market economy, women are constantly juggling multiple roles sustaining the household and reproductive economy, providing community services, and engaging, where possible, with the market economy. The market economy depends on the household economy but most national accounts completely fail to recognise the household economy and, as such, public policy often neglects it and the key role played by women. While much policy is gender blind, it is not gender neutral in its impact due to the differing roles, resources, mobility and constraint sets facing men and women. Absent gender analysis, policy can inadvertently have a negative impact on food security and nutrition by further compromising women's roles in the different spheres.

8. Ensuring food security and nutrition at the household and global level, requires investing in nutrition sensitive agriculture, protecting women's rights and improving their social and nutritional status. Long-term investments in the role of women as full and equal citizens—through better nutrition, education, economic, social, and political empowerment—will be the only way to deliver sustainable improvements in food security and nutrition.

## II. KEY ISSUES

### A. WOMEN'S ROLES IN AGRICULTURAL PRODUCTION AND INCOME GENERATION

9. Women are key players in the farming sector, and hence actively engaged in the market economy, as shown in Table 1. In Africa more than 50% of women work in agriculture, and more than 44% in East Asia and the Pacific region. In the Middle East and North Africa a higher percentage of women work in agriculture than men.

Region	Agriculture Self Employment		Agriculture Wage Earner		Total in Agriculture	
	% of adults		% of adults		% adults	
	Male	Female	Male	Female	Male	Female
<b>Sub Saharan Africa</b>	56.6	53.5	4.0	1.4	60.6	54.9
<b>South Asia</b>	33.1	12.7	21.8	11.4	54.9	24.1
<b>East Asia/Pacific</b>	46.8	38.4	9.4	5.7	56.2	44.1
<b>Middle East and N. Africa</b>	24.6	38.6	9.4	1.0	34	39.6
<b>Europe and Central Asia</b>	8.5	6.9	10.1	5.4	18.6	12.3
<b>Latin America, Caribbean</b>	38.4	22.8	20.9	2.3	59.3	25.1

Extract WDR 2008 Table 9.2

10. Women's role in food production within agriculture is even greater. In many societies women supply most of the labour to food crops, and often control use or sale of their food

produce. Food grains, grown predominantly for commercial sale, while dependent on women's labour, generally have sales controlled by men.

11. Women's ability to maximize their incomes from farming, and other activities is crucial to food security and nutrition. Considerable evidence indicates that **increasing household income** is only part of the story. Who brings the additional money into the household is vital in terms of how it is spent. In the Côte d'Ivoire significantly more is spent on food and education and less on alcohol and cigarettes when a high share of household cash income accrues to women. The nutrition and health improvements for children that a US\$10 increase in women's income would require a US\$110 increase in male income (Hoddinott and Haddad 1995). There are many other examples of the differential impacts of women's income on child nutritional status, child survival and education. (Haddad et al 1997)

12. This evidence is the foundation for many of the successful conditional cash transfer programmes in safety net and **social protection systems**. The conditionality of the safety net transfer is often in an area in the women's domain within the household, and the distribution point linked to it is used as a means to deliver the transfer to women. Examples include attending growth monitoring and promotion sessions at local health clinics, or school attendance by children. These programmes recognize that not only is increasing household income important but that when in the hands of women it will be spent differently magnifying the effects on human development. Increasing the share of income under women's control or their asset holdings can also empower women more broadly within households, increasing their influence on other spheres of decision-making, including farming and labor choices, expenditure decisions, and other factors related to food security and nutrition. For example, strengthening land ownership by women in Nepal is linked with better health outcomes for children (Allendorf 2007).

## **B. CONSTRAINTS TO WOMEN'S AGRICULTURAL PRODUCTION AND INCOME GENERATION**

13. Inequalities in ownership, access to and control of physical, financial, natural, social and human livelihood capitals negatively affect women's food production.

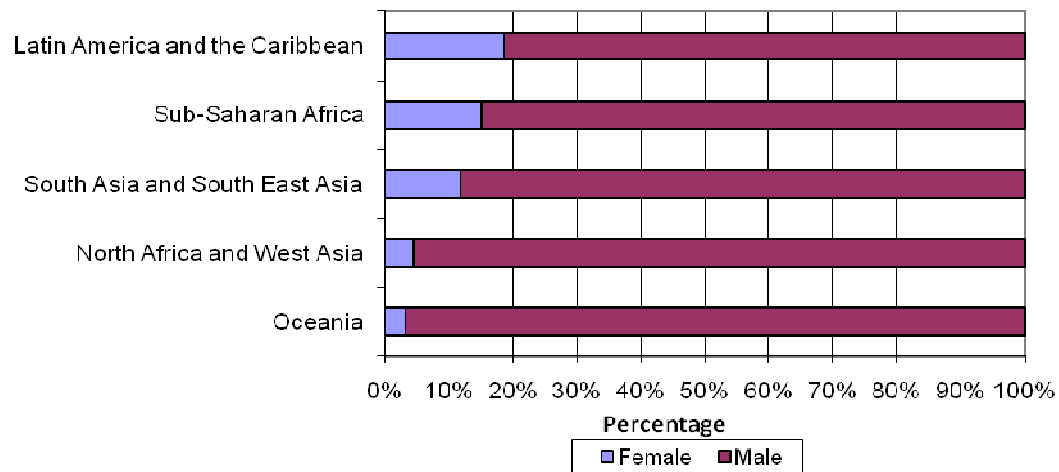
14. **Land** is less likely to be owned by women, and usually use rights, mediated through a male relative, are prevalent. Studies cited in Deere and Doss 2006 indicate that women represent just 5% of registered landholders in Kenya, 15.5% in Nicaragua, 22.4 % in the Mexican *ejidos* and 10% of households in Ghana. Men are not only the registered owners of land in 23% of households but, on average they own almost 3 times the amount of land that women do. The following figure shows that women are less than 20% of the landholders in all the developing regions.

15. Insecurity of tenure results in lower investment and potential environmental degradation as well as compromising future production potential. In Ghana the primary investment in land is fallowing. However fallowing land is a delicate balance, with longer fallows potentially leading to loss of land when tenure is insecure but shorter fallows leading to lower yields. Goldstein and Udry (2005) demonstrate that those with less political capital in a village have less tenure security and as a result leave their land fallow for shorter periods. Within households, profits per hectare of a maize-cassava intercrop from similar plots vary according to individual and length of fallow. Women have less political capital, lower tenure security and sacrifice profits per hectare with shorter fallows.

16. Studies such as these, indicating yield differences of 20% - 30% between male and female farmers, have led some to suggest that men are better farmers. However, as in this case, when the studies are unpacked differences in yields were due to differences in input levels – principally labour and fertilizer. If households in Burkina Faso reallocated their total household inputs in an optimal way across male and female managed plots of land, overall farm output could increase

10-20% (Udry et al 1995). Although most of these studies pertain to sub-Saharan Africa, similar input gaps are documented for all regions in SOFA 2010-11.

### Share of male and female landholders in main developing regions



Source Figure 8 SOFA 2011

17. **Agriculture technology dissemination**, usually through extension services, is one prime policy lever to increase agricultural productivity. But both innovation and adoption of new technology depend on many things, including focus on the right issues, the availability of required assets to implement the technology, the perceived benefits, the method of dissemination, and gender roles. Women's lower levels of education mean that they are far less likely to be in decision-making and management positions in agricultural research and higher agricultural education. In Sub-Saharan Africa only 14% of management positions were held by women, compared to 24% women in these fields (SOFA 2010-2011, Box 6). Therefore women's voice in agriculture, and their knowledge, is missing in policy going forward and constrains innovation in the value chain.

18. Men's crops are produced with a commercial orientation and are often sold almost immediately as harvested. Women tend to store their crops for home use or process their crops, adding value through grinding, processing and other activities. Yet little attention is given to improving technology in these areas limiting women's ability to add value efficiently, and increasing their time burdens.

19. Even farm tools that are predominantly used in operations dominated by women, e.g. weeding or post-harvesting, are often not gender-specific. Technologies are not gender neutral: women tend to be of lower weight and height compared with men and may not have equal muscular strength. An example of women specific technology is the long-handle hoe introduced in several African countries, which eased women's burden of work as compared to traditional short-handle hoes. The fact that these hoes were resisted in some countries highlights the challenges facing technology developers<sup>1</sup>. Greater involvement of women in agricultural research and higher education could also enhance the development of female-friendly technology.

20. The lack of technology and poor equipment impedes small farm businesses owned by women. In the Lao People's Democratic Republic only 5% of women owned small businesses

<sup>1</sup>See "The potential for improving production tools and implements used by women farmers in Africa." IFAD, FAO, FARMESA, 1998, Rome, Italy.

had electrical or motorized equipment compared to 48% of male owned small business (UNESCAP).

21. **Access to inputs, such as improved seeds and fertilisers, and services such as finance, extension,** is problematic for women even when they have access to land. Extension services are critical given they are often the pathway to other inputs and services. Service provision often fails to recognize women's constraints, whether they be mobility or time, or are tailored more to home economics skills than agricultural production resulting in women having even less access than men to extension services. This failure to reach women can also be costly where women are using agricultural chemicals, including pesticides, without appropriate training, compromising their own health and potentially that of their children.

**Table 2 Employment in selected high-value agro-industries**

Country	Commodity	Year of survey	Number of employees in the agro-industry	Share of Female Employees
Cameroon	Banana	2003	10,000	..
Côte d'Ivoire	Banana and pineapple	2002	35,000	..
Kenya	Flowers	2002	40,000 – 70,000	75%
Senegal	French beans Cherry tomatoes	2005	12,000	90%
		2006	3,000	60%
Uganda	Flowers	1998	3,300	75%
Zambia	Vegetables	2002/3	7,500	65%
	Flowers	2002/3	2,500	35%
South Africa	Deciduous fruit	1994	283,000	53%
Mexico	Vegetables	1990s	950,000	90%
Colombia	Flowers	mid-90s	75,000	60-80%
Chile	Fruits	1990s	300,000	ca 46%
Dominican Republic	Fruits, vegetables, flowers, plants	1989-90	16,955	ca 41%

Sources taken from: Maertens, M. and Swinnen, J.F.M. 2009. Are modern supply chains bearers of gender inequality? Paper presented at the FAO-IFAD-ILO workshop on "Gender and rural employment: differentiated pathways out of poverty", 31 March-2 April

22. These constraints to women's full participation in the agricultural value chain, prejudices their engagement in them and their access to opportunities to earn higher incomes. Evidence shows that women supply much of the labour under contract farming and outgrower arrangements (see Table 2), but female farmers are largely excluded from signing contracts themselves because they lack secure control over land, family labour and other resources required to guarantee delivery of a reliable flow of produce. While women may dominate many of the export oriented horticulture sectors, growing beans, peas, flowers, and other produce, picking and packing, they are far less able to penetrate the management grades in these sectors. Although not employed on equal terms, the jobs often provide better opportunities for women than exist within the confines of traditional agriculture. In Senegal, the growth of modern horticulture supply chains have been

associated with direct beneficial effects for rural women in terms of income generation and reduced gender inequality (Maertens and Swinnen, 2009).

23. **Transportation issues** constrain women's income earning opportunities, through sale of their agriculture and other production. Cash crops, such as cocoa, coffee and tea are often collected at the farm gate, whereas food crops need to be transported by the grower to local markets. In Africa this is commonly done by women headloading. Studies have found that women transport 26 metric ton kilometers per year compared to less than 7 for men. This leads some to argue that women account for two thirds of rural transport in sub Saharan Africa (Barwell 1996).

24. Levelling the playing field in agriculture, hence improving women's income, would significantly improve food security and nutrition. Closing the input gap on the agricultural land held by women would, assuming a gender yield gap of 20-30%, lead to an increase in agricultural output in the developing countries for which data are available by an average of 2.5 to 4%. Assuming the input and yield gaps are representative of other developing countries, this would imply global gains of a similar magnitude<sup>2</sup>. Assuming the increased production was consumed domestically then closing a yield gap of 20-30% would reduce the number of undernourished people, in the 34 countries for which data are available, by 12-17%. An estimated 925 million people in the world were undernourished in 2010, so gains of this magnitude could mean 100 to 150 million fewer people living in hunger<sup>3</sup>. For countries where hunger is more common, particularly those where women are more likely to be hungry, and women play a major role in the agricultural sector, the proportional declines could be even greater.

### C. WHY FOCUS ON WOMEN TO IMPROVE FOOD SECURITY AND NUTRITION?

25. Women's roles in agriculture and the production of food are critical in increasing available quality food, but their roles in the domestic and reproductive economy<sup>4</sup> are even more important when it comes to translating that available food into food security and nutrition.

26. **Women's level of empowerment** is at the heart of their effectiveness both in the household and market economies, and critical to nutritional outcomes. One study of 39 countries, found that women's status is a key factor in child nutritional status because more empowered women have better nutritional status themselves, are better cared for, and provide better care for their children (Smith et al 2003). South Asia has some of the highest rankings in the 2010 Global Hunger Index, despite the far higher levels of GNI in most parts of South Asia than sub Saharan Africa. In South Asia the low nutritional status, education, and social status of women is put forward as the explanation (von Grebmer et al 2009). According to Smith et al (2003), equalizing women and men's status in South Asia and Sub Saharan Africa would reduce the numbers of malnourished children by 13.4 and 1.7 million respectively.

27. **Intimate partner violence**, which can be seen as the antithesis of female empowerment, within households has also been shown to have impacts on women's and children's nutritional status. Research in Bangladesh showed that domestic abuse, particularly verbal abuse has a negative impact on women's nutritional status and on improvements over time. Women's acceptance of domestic violence also had negative impacts on the magnitude of child stunting and underweight levels (World Bank 2010).

<sup>2</sup>For details see "The State of Food and Agriculture. Women in Agriculture: Closing the gender gap for development." FAO, 2010-11.

<sup>3</sup>Data for the number of undernourished is from "The State of Food Insecurity in the World 2010. Addressing food insecurity in protracted crises." FAO, 2010.

<sup>4</sup>The domestic and reproductive economies include child bearing, care giving, cleaning, food preparation, cooking, laundry etc.

28. Conflict and civil unrest further exacerbate violence, gender inequality and disempowerment, and poor food and nutrition outcomes. In the Democratic Republic of the Congo, the Global Hunger Index deteriorated by 50% between 1990 and 2009, largely due to higher levels of undernourishment, which stand at 76%. A recent study estimated that 4 women were raped every 5 minutes in the country (Peterman et al 2011). Chad is ranked fifth and second respectively in a ranking of countries for the 2009 Global Hunger Index and the 2008 Global Gender Gap respectively. Primary school enrollment is 50% for girls but 72% for boys and literacy is 13% for women compared to 41% for men. This is indicative of lower levels of relative empowerment for women.

29. Women's lack of relative empowerment is reflected across multiple dimensions in the food security and nutrition nexus, influencing who sacrifices food in the event of shocks and how food, including specific types of food, are allocated in the household.

30. Women are generally the first to sacrifice their food consumption, or their diet quality, when shocks hit, protecting the food consumption of the rest of their families. But this sacrifice can come at very high costs, aside from the direct impact on their own health. Reduced energy intake and compromised dietary diversity during pregnancy and lactation compromises the nutritional conditions, growth and well being of the next generation. Of the 77 countries categorized by FAO as low-income food-deficit countries, data on maternal BMI is available for 54, and in 17% more than 20% of women of reproductive age found to be excessively thin (Chapter 3, UNSCN 2010).

31. **But while much hunger is visible, much is hidden.** The lack of an adequate intake of vitamins and minerals from a poorly diversified diet is costly to an economy and costly to its peoples, especially women. Iron deficiency is the commonest nutritional disorder in the world and affects over one billion people, particularly women in their reproductive years and preschool children in tropical and sub-tropical zones. It also has a serious impact on school children, especially adolescent girls. Untreated it leads to diminished learning ability, reduced work capacity, increased susceptibility to infection and greater risk of death associated with pregnancy and childbirth. In Sierra Leone iron deficiency among women agricultural workers is estimated to have cost the economy \$100 million over five years (Darnton-Hill and others 2005). Yet the solutions are extremely good investments. Iodine supplementation for women has a benefit cost ratio ranging from 15 – 520, iron supplementation for pregnant women from 6-15, and iron fortification per capita 176 – 200 (World Bank 2006). Focusing attention on adolescent girls with regard to anaemia, combined with reducing teenage pregnancy would go far in breaking the inter-generational cycle of growth failure.

32. Women's own nutritional status is critical to the **first 1000 days of a child's life** – that period from conception to 2 years of age when the blueprint for a child's life is established. Small adult women are more likely to have low-birth-weight babies, who in turn experience growth failure during childhood. Among 54 low- to middle-income countries, maternal stature was inversely associated with offspring mortality, underweight, and stunting in infancy and childhood (Özaltin et al). Girls born with a low birth weight are more likely to become small adult women, and face an increased risk of mortality as a result of pregnancy.

33. The prevailing social constructs for women, and work in the market and home economies have profound influence on the first two years of a child's life. The nutritional needs of children during this period are more intense than at any other time. Six months of exclusive breast-feeding is critical to both child nutritional outcomes and immune protection. Appropriate, frequent complementary feeding for the following 18 months completes the blueprint that determines a child's future life potential. Competing demands on women's time, resource constraints, including lack of knowledge, often compromise women's ability to meet the critical demands in this period.

34. In Bangladesh exclusive breastfeeding is not yet widely accepted as the best food for children under 6 months of age. As a consequence boys, who are preferred in intra-household

food allocations, are more likely to receive other foods in addition to breast milk prior to 6 months, while a girl tends to fail to get adequate complementary food even after 6 months. This results in the infant mortality rate of boys being higher than girls in the first year. The actual switch point is around 8 months, when a girl can no longer survive on breast milk alone. Thus from this point forward the mortality rate of girls increases such that the mortality rate of girls from 1-4 years is higher than that of boys. In aggregate, however, child mortality rates now show no gender differentials.

35. Failing to understand and address the intra-household food distribution patterns can lead to unanticipated policy results. In Ghana, women working on a public works programme expended more energy than they recouped inside the family and so their body mass index suffered. In Bangladesh, a comparison of four public work programmes largely targeted to women - one paying in cash, one in rice, one a combination of rice and cash, and one paying in atta fortified flour - revealed that only the one paying in atta flour improved women's nutritional status. This was due to the level of transfer being beyond household normal consumption levels, and that atta flour is not a preferred food and was consumed by women (Ahmed et al 2009).

#### D. CONSTRAINTS TO WOMEN'S DOMESTIC AND REPRODUCTIVE ROLES

36. The previous section focused on women's special roles in generating food security and nutrition for their families, but they face a significant challenge – access to complementary resources such as health care and time poverty. Time is perhaps the most important factor for women, especially in the first 1000 days of a child's life, yet studies routinely show that women spend far more hours working when all their roles are combined – market, domestic, reproductive - than men. Time poverty is driven by the competing demands of market work and their need for complementary resources to translate food availability into good nutritional outcomes.

37. **Women's access to health care** is one essential need in the pursuit of nutrition security for themselves and their children. Gender inequalities pose significant barriers to women's and girl's access to, and use of, healthcare services. Inequalities in access to healthcare services and outcomes are a result of the socio-cultural, religious, economic, political and geographical vulnerabilities that women and children face. Yet, women's reproductive role gives them a greater need for healthcare than men. Antenatal care is particularly important because many women have nutritional deficiencies when they begin their pregnancy that can be addressed and controlled.

38. Indigenous groups who are often poorer, lack education, experience restrictive cultural practises, face racial discrimination and live in remote areas. Several Latin American ethnic groups – Mayan, Aymara, Quechua, Guarani – hold specific cultural beliefs about childbirth, which influence women's ability to use health services. Similarly, in India, some ethnic groups have poorer access to and use of family planning, and poorer maternal health and nutrition, compared to non-indigenous women.

39. Technically poor quality care or care that is disrespectful of women due to their perceived social status deters women and children from seeking care. Conversely, women and their families are encouraged to use health services when the quality of care is improved and assured. In Peru childbirth in healthcare facilities increased by 77% from 1999 to 2007 among indigenous women. This was a result of a programme that encouraged staff at facilities to support certain culturally appropriate and safe practices and to speak the local language.

40. **Time poverty** can be crippling to women's agricultural production and income generating activities given time poverty is a year round phenomenon, generally driven by their domestic and reproductive activities. But agriculture, particularly rainfed agriculture, has high seasonal labor peaks which are difficult for women to meet without sacrificing their domestic and reproductive roles, potentially compromising both their own and their children's nutritional status.

In Africa which has largely rainfed systems, 50% - 70% of the labour is required within a four-month period. Comparable figures for Asia, which has far higher levels of irrigation, are 40% – 50% (Delgado and Ranade 1987).

41. **Water, sanitation, energy, and other forms of basic infrastructure services**, including transport for the household are critical complementary inputs and largely provided by women and girls.

42. Poor water and sanitation result in a high incidence of diarrheal disease, a significant inhibitor of good nutritional status in children. A 2006 UNICEF report revealed that 88% of the deaths of children under 5 years of age from diarrheal disease were caused by unsafe water and sanitation resulting in about 4,000 deaths per day.

43. **Domestic fuel** sources are essential in that 95% of staple foods have to be cooked to be converted into human energy, and some for relatively lengthy periods. In the poorest households it is women and girls who are largely responsible for supplying energy through the collection of firewood, or the preparation of dung briquettes. In Uganda, if woodlots were within 30 minutes of the homestead and if the water source were within 400 meters, households would save more than 900 hours each year, with the benefits going primarily to women and girls. This is close to 0.5 person-years of work (Barwell 1996). In internal displacement and refugee camp situations, this fetching of firewood and water can expose women to violence.

44. Additionally the indoor air pollution resulting from cooking with these fuels accounts for 3% of the global burden of disease, disproportionately affecting women and girls due to their role in cooking, and also young children because of their greater susceptibility to respiratory infections. This creates a negative circle for nutrition with repeated infections diminishing nutritional security.

45. **Women's education** is one of the most significant factors in reducing child malnutrition. One study showed, using time series data from 63 countries, that women's education contributed 43% of the reduction in child malnutrition over time compared to just 26% for improvements in food availability (Smith and Haddad 2000).

46. While much progress has been made on education since 1950, with convergence in levels of male and female schooling, progress has not been even. In Sub Saharan Africa more boys gained access to secondary and tertiary education than girls between 1999 and 2008 worsening the gender disparities. In South Asia there are 95 girls in primary school for every 100 boys. Evidence of cumulative bias in education is shown in Pakistan where a girl aged 5-9 years is 14% less likely to be in school than a boy of the same age, but by the age of 10-14 years she is 24% less likely to be in school than a boy (WDR outline 2012 forthcoming).

47. In Nepal, when a school is more than a four mile walk from the road boys' enrolment is 56% and girls' enrolment is 31%. When the school is only a 30 minute walk from the road, boys' enrolment increases to 67% and girls to 51% (Shyam 2007). Failure to have separate latrines, or facilities that respect cultural differences between girls and boys can also result in lower attendance by girls. It is no coincidence that the highest rates of child malnutrition are found in South Asia and Sub-Saharan Africa.

48. All of these constraints in the agriculture market economy, the domestic and reproductive economies compromise women's roles in generating food security and nutrition for themselves and their families. The high workloads not only compromise women's own health and nutritional status, threaten pregnancy outcomes for both themselves and their babies, limit their time in childcare particularly in the critical first 2 years of their children's lives, but lead to lifelong economic costs for them, their children, and ultimately for the national economy.

### III. POLICY RECOMMENDATIONS AND ILLUSTRATIONS

49. Women are key to translating a vibrant agricultural sector into both food security and nutrition. Improving women's nutritional status is a powerful way to improve the health, longevity, mental and physical capacity and productivity of women as well as improving food security and nutrition of the next generation. Recognizing this, the *UNSCN Sixth Report on the World Nutrition Situation* calls for a renewed effort to invest in maternal nutrition in a sustainable and holistic manner. It is the pathway to improved nutritional status and human development for the next generation, and is economically vital. Malnutrition can cost individuals 10% of their lifetime earnings and nations 2% to 3% of gross domestic product (GDP) in the worst-affected countries (Alderman 2005). Therefore even macroeconomic policies have to be cognizant of gender issues to ensure they produce the desired result.

50. Global economic trends, trade policies, bioenergy production and climate change can affect local food and commodity prices and, in turn, can induce rural households to reorient their livelihood strategies. This reorientation can require mobility, often limited for women. It can result in changes in the intra-household division of labour and associated earnings. Policies that favour crops sold by men for cash may nevertheless increase female labour burdens. The increased labour input to male controlled crops may reduce the available labour for female controlled crops and associated earnings. Gender analysis is important to ensure that macro policies do not shift the intra-household labour allocation pattern in such a way that male income increases at the expense of women's, damaging food security and nutrition at the household level. A number of actions will minimize the effects of policy shifts and livelihood reorientation, and render them less likely to damage food security and nutrition. These actions will also relax the constraints that women face on a day to day basis, foster improvements in women's nutritional status, and improve productivity in all three roles – market, domestic, and reproductive.

51. The first key factor in market productivity, particularly in agriculture, is levelling the playing field so that **laws and policies guarantee equal rights for men and women to own and control assets such as land, and to receive services such as health, education, extension and credit**. Women need to be recognized as farmers in their own right as opposed to the daughters, wives or partners of farmers. Government action should ensure that legislation does not discriminate against women in areas such as inheritance, wages, property ownership, divorce and contracting. A first stage is auditing all existing laws for discrimination.

52. Many land titling programmes in the past reinforced men's land rights but over the last decade many African countries have adopted new land laws to strengthen women's land rights, recognize customary tenure when appropriate, and make non conventional forms of evidence on land rights admissible. Between 2003-2005 Ethiopia issued certificates to about 6 million households (18 million plots), which documented inheritable land use rights, while still restricting market transfers. More than 80 percent of respondents indicated that certification improved women's situations (World Bank, FAO, IFAD 2008).

53. Leveling the playing field with regard to secure access to land is a first step to enabling women to move beyond subsistence production and into higher value and market oriented production, an important element of successful agriculture for development. Cassava, for example, widely grown by women and traditionally viewed as a subsistence food crop, is now enjoying a. In Ghana, the Sustainable Uptake of Cassava as an Industrial Commodity Project established systems linking farmers, especially women, to new markets for cassava products, such as flour, baking products, and plywood adhesives.

54. However, as women enter more commercial levels of production it is important that they have access to rural finance services, both to access working capital and to save their earnings, through their own accounts which do not require counter signatures of husbands or fathers.

55. **Include the improvement of women's, adolescent girls' and children's nutritional status among the main goals and expected outcomes of agriculture, food and nutrition security related programmes, strategies and policies.** A good example of this type of programme is the introduction of orange-fleshed sweet potatoes (OFSP) in Mozambique, where white sweet potatoes were normally grown by women. OFSP contain higher levels of provitamin A carotenoids and when introduced with nutrition education lead to reductions in vitamin A deficiency. This programme was comprehensive in introducing new products - a small bread bun that replaced part of the wheat flour with sweet potato flour meant a young child's nutritional needs were met. It also introduced marketing standards regarding tuber size and quality so that some tubers would be retained by the household and consumed. It was also careful to ensure that control of income from the sales did not switch to men as the crop became more commercial. Prevalence of low serum retinol of Vitamin A dropped from 60% in intervention children to 38% as a result of the introduction of orange flesh sweet potatoes, whereas in control children the level remained at 60% despite the availability of vitamin A capsules (Low et al 2007).
56. **Focusing on high value small scale agriculture – fruits, vegetables, livestock and fisheries, can also be a win-win intervention in this regard, provided it engages women.** Fruit, vegetable, livestock and aquaculture interventions generate higher incomes than staple grains, contain higher nutritional value, and when educational behaviour designed to empower women is included they are more likely to improve nutritional status (World Bank 2007a). A CARE Bangladesh programme showed that when women were included in the programme the household was more likely to continue with aquaculture after CARE's withdrawal and that the household economy and nutrition improved (Module 13, IAP2 World Bank, FAO, IFAD 2008).
57. The production of horticultural crops on a more commercial basis also increases the returns on land by about 10-fold compared to returns for cereal crops (World Bank 2007b). It generates considerable employment in the field—horticultural crops require about twice the labour input per hectare of cereal crops—and generates more off-farm jobs in processing, packaging, and marketing. Women hold many of these new jobs (Module 12 TN 1 World Bank, FAO and IFAD 2008). This not only increases local supplies of nutritious food but also female incomes which have an associated spending pattern on food and children. However, legislation and strategies should be in place to ensure equality and protection of male and female workers.
58. **Develop strategies aimed at increasing the number of women, representative of diverse social contexts, and their positioning at decision-making and policy influencing levels in the agriculture sector.** Women have traditionally been excluded from many avenues of governance, whether in local user groups, producer organizations, local councils or national government. Women need to be engaged at far more senior levels than is generally the case—in scientific research, in ministries of agriculture and in local government.
59. Governments will need to not only advocate but also to legislate and demonstrate gender mainstreaming in national and local governance. Internal reforms, including affirmative action for women, are required to increase female representation in ministries of agriculture and in local government. Such reforms should include action plans that set time-bound goals and mechanisms that ensure accountability. Training for women needs to provide them with the required skills, particularly in countries where female education levels are low, and to ensure that they are fully conversant with their roles and accountabilities. In India, the panchayati raj (village councils) reserve seats for women and for members of scheduled castes and tribes. Studies have shown that reserving seats for women increases investment in the type of infrastructure that is relevant to women and that village councils are more effective when gender-sensitivity training is provided to both male and female councillors.
60. To begin the shift in social norms, governments need to model good practices to the private sector and civil society. They should ensure that public-private contracts for service delivery such as agricultural extension have benchmarks and targets with respect to women's access to service and project participation, with penalty clauses for non-achievement.

Decentralization of resource management to user groups, such as user associations to manage water or communities to manage forests, should mandate participation of women. Not only should targets be set, but also reporting should be transparent to enable civil society to monitor target achievement and call for corrective action if progress is not made. For example, the Karnataka Watershed Development Project in India, designed to improve the productivity of the watershed, involved women from the beginning providing training programmes and explicitly including them in farmer groups. The project improved agricultural yield, crop diversity (from 4 to 9 varieties of crops) and household income went up by USD 373 in the community. More than 70% of women said the project improved their lives.

61. Producer groups or cooperatives for women are important elements that allow women to aggregate their harvests, negotiate better prices, introduce value added processing, and potentially provide better access to transportation for their produce.

62. Given women's lower levels of schooling, governments need to keep an eye on the future. Ensuring a pipeline of well-qualified female candidates for senior positions in public and private agriculture organizations will require increased emphasis on female education, including incentives such as nutrition sensitive school feeding, take home rations and/or cash transfers for the education of girls and scholarships for vocational and university training in agriculture sciences and policy. This is one element in ensuring that women's voices and their interests are better reflected in local, national, regional and global policy making.

63. **Invest in strengthening basic infrastructure for essential public services and rural institutions, and make these gender-sensitive.** This will provide girls with better access schooling and liberate women from time-intensive tasks, and will enable them to look for more rewarding and productive work. For example, in rural Mali provision of diesel-powered multifunctional platforms that supplied not only electricity for lighting but also motive power for labour-intensive work such as agroprocessing (milling and dehusking) and pumping water resulted in considerable time saving, fostered the development of processed products, and increased women's daily earnings by \$0.47 (Module 9 World Bank, FAO and IFAD 2008). Where fuel efficient stoves, and fuels other than biomass are available, women save 2 – 3 hours a day. Where mechanical energy is available to draw water, till and transport crops, girls schooling can increase one or two grades (UNDP 2001).

64. **Building the human capital of women and girls through scaling up direct nutrition interventions, targeting educational efforts, and building their vocational skills thereby broadening women's choices, and strengthening their influence within their households and communities.** A series of well-tested nutrition-specific interventions can protect the nutrition of vulnerable individuals and communities and benefit millions of people if associated with nutrition-sensitive development policies in food security, agriculture, social protection, health and education. These interventions include:

- a) Empowering women so they can pursue optimal nutrition during pregnancy and after children are born, including antenatal supplements, breast feeding, appropriate complementary feeding from age six months and food related hygiene
- b) Enabling adequate intake of vitamins and minerals among those most in need, particularly pregnant and lactating women, through diverse diets, fortified food and supplements
- c) Ensuring that those who are undernourished have access and benefit from the food and nutrition they need for growth and good health, through special attention to local communities at risk, nutrition management of infection and therapeutic feeding of individuals who present under nutrition.

65. Special care will be needed to ensure that hard-to-reach populations can access the interventions that are being offered.

66. Investment in infant and child nutrition between conception and two years of age can avert the deaths of 1 million children per year, mitigate against disease and reduce the current and future burden on health care systems, increase school attendance and educational attainment, and improve economic prosperity and the ability of all citizens to reach their full potential. In economic terms, the benefit cost ratios of these investments are estimated to be 15.8 to 110. Investing in nutrition also enhances the resilience of societies in the face of price volatility and other shocks: well-nourished children are less damaged by shocks and bounce back more rapidly than those who are under-nourished. Investing in girls' schooling delays marriage and first pregnancy which leads to better future pregnancies and child nutrition outcomes.

67. These interventions need to be complemented by investment in gender sensitive social protection that ensure that women and children have access to social services and income in times of crisis. A study in Zimbabwe looked at the impact of the civil war in the late 1970s and exposure to drought in 1982 -84. It found that the shocks impacted on preschooler height for age. However, this impact in pre-school has a long lasting impact – had the nutritional status of these children been protected, such that it was equivalent to that of the median child in a developed country then they would have grown 4.6 cm taller, completed 0.7 additional grades of school. This translates into a conservative estimate of 7% -12% loss in lifetime earnings (Alderman et al 2003).

68. **The collection of sex-disaggregated data in food security and agriculture information systems is critical, and provides the foundation for gender-focused data analysis and for the better understanding of gender related constraints and more gender-aware policy decisions.** This gender analysis needs to take into consideration different gender constraints inside households, communities and nations. It should include nutritional impact assessments in food security and agricultural programming, at the early planning stages, to assure they are "gender sensitive", help improve nutrition, and mitigate potential adverse effects. Interventions that aim to remove the gender gap in agriculture and food security and nutrition need to be appropriately bundled and sequenced, and take account of their broader social contexts, including men, in the process. In the absence of such analysis, policies that may appear gender neutral will continue to have unanticipated impacts.

69. In summary, any agricultural and food security policy related to natural resources, technology, infrastructure or markets will affect men and women differently because they play different roles and experience different constraints and opportunities in the sector. Policies require an understanding of the gender dimensions at stake and the inclusion of a gender lens, which responds to the national context. Because some agricultural, food and nutritional policies and gender issues are location-specific, these may best be addressed through location-specific assessments and tailored policies and programmes. Interventions may have gender impacts that are difficult to predict so policies and programmes should include the collection of baseline data and rigorous monitoring and evaluation. Practitioners should be prepared to reformulate their activities in response to unforeseen developments. Making women's voices heard at all levels in decision-making is crucial in this regard.

70. In short, to effectively combat food security and malnutrition, will require focus on three main areas: the empowerment of women, the improvement of women's nutritional status and the eradication of the gender gap in agriculture.

### References

- Alderman Harold, John Hoddinott, and Bill Kinsey 2003 Long-Term Consequences of Early Childhood Malnutrition. Discussion paper 168. IFPRI
- K. Allendorf, 2007, Do women's land rights promote empowerment and child health in Nepal. *World Development*, Volume 35, Issue 11, pages 1975-1988.
- Barwell Ian. 1996. "Rural Transport in Developing Countries." In *Engendering Development*, Policy Research Report. Washington, DC: World Bank.
- Blackden, Mark, and Chitra Bhanu. 1999. "Gender, Growth and Poverty Reduction," 1998 SPA Status Report on Poverty in sub-Saharan Africa, World Bank Technical Paper 428, World Bank, Washington, DC.
- Darnton-Hill, Ian, Patrick Webb, Philip W. J. Harvey, Joseph M. Hunt, Nita Dalmiya, Mickey Chopra, Madeleine J. Ball, Martin W. Bloem, and Bruno de Benoist. 2005. "Micronutrient Deficiencies and Gender: Social and Economic Costs." *American Journal of Clinical Nutrition* 81 (5): 1198S-1205S.
- Deere, Carmen D., and Cheryl Doss. 2006. "Gender and the Distribution of Wealth in Developing Countries." UNUWIDER (World Institute for Development Economics Research of the United Nations University), Research Paper No. 2006/115, UNU-WIDER, Helsinki.
- Delgado, Christopher L., and Chandrashekar G. Ranade. 1987. "Technological Change and Agricultural Labor Use." In *Accelerating Food Production in Sub-Saharan Africa*, ed. John W. Mellor, Christopher L. Delgado, and Malcolm Blackie, 118-35. Baltimore: Johns Hopkins University Press.
- FAO. 2011. *The State of Food and Agriculture 2010-11, Women in agriculture: Closing the gender gap for development*. Rome
- Goldstein, Markus, and Christopher Udry. 2005. "The Profits of Power: Land Rights and Agricultural Investment in Ghana." Economic Growth Center Discussion Paper No. 929, Yale University, New Haven, CT.
- Grebmer Klaus von, Bella Nestorova, Agnes Quisumbing, Rebecca Fertziger, Heidi Fritschel, Rajul Pandya-Lorch, Yisehac Yohannes 2009. *Global Hunger Index The Challenge of Hunger: Focus on Financial Crisis and Gender Inequality*. IFPRI, Welthungerhilfe, Concern Worldwide.
- Haddad Lawrence J. John Hoddinott, and Harold Alderman. 1997. *Intrahousehold Resource Allocation in Developing Countries: Models, Methods, and Policy*. Washington DC: Johns Hopkins University press.
- Higgins, P.A. and Alderman, H., 1997. Labor and women's nutrition. A study of energy expenditure, fertility, and nutritional status in Ghana. *Journal of Human Resources* 32 (3) pp 577-595.
- Hoddinott, John, and Lawrence Haddad. 1995. "Does Female Income Share Influence Household Expenditures? Evidence from Côte D'Ivoire." *Oxford Bulletin of Economic and Statistics* 57 (1): 77-96.
- Low Jan W., Mary Arimond, Nadia Osman, Benedito Cunguara, Filipe Zano, and David Tschirley 2002 *A Food-Based Approach Introducing Orange-Fleshed Sweet Potatoes Increased Vitamin A Intake and Serum Retinol Concentrations in Young Children in Mozambique*. *The Journal of Nutrition* 137(5): 1320
- Kennedy, Eileen, and Pauline Peters. 1992. "Household Food Security and Child Nutrition: The Interaction of Income and Gender of Household Head." *World Development* 20 (8): 1077-85.

Özaltın Emre, Kenneth Hill, S. V. Subramanian 2010. Association of Maternal Stature With Offspring Mortality, Underweight, and Stunting in Low- to Middle-Income Countries. *Journal of the American Medical Association*. 303(15):1507-1516

Shyam, K. C. 2007. "Rural Accessibility and Gender Differences in School Enrollment in Nepal." Paper presented at the World Bank Roundtable on Mainstreaming Gender in Transport, Washington, DC, June 20 cited in World Bank, FAO, IFAD 2008.

Smith Lisa, U. Ramakrishnan, A. Ndiaye, Lawrence. Haddad, and Reynaldo. Martorell. 2003. The importance of women's status for child nutrition in developing countries. Research Report 131. Washington, DC: International Food Policy Research Institute.

Udry Chris., John Hoddinott, Harold Alderman and Lawrence J. Haddad (1995). "Gender Differentials in Farm Productivity: Implications for Household Efficiency and Agricultural Policy." *Food Policy*, 20(5).

United Nations Economic and Social Commission for the Pacific (UNESCAP), "Women in Small Business in Indochina: Issues and Key Approaches," Women in Development Discussion Paper 4, <http://unescap.org/esid/GAD/Publication/DiscussionPapers/04/series4.pdf>.

UNICEF. 2006. "Progress for Children: A Report Card on Water and Sanitation." Report, United Nations, New York.

UNSCN 2010 Sixth report on the World Nutrition Situation.

World Bank, FAO and IFAD. 2008 Gender in Agriculture Sourcebook.

World Bank 2006 Repositioning Nutrition as Central to Development. A Strategy for Large Scale Action. Washington DC: World Bank.

World Bank 2007 From Agriculture to Nutrition: Pathways, Synergies and Outcomes. Washington, DC: World Bank.

World Bank. 2007. World Development Report 2008: Agriculture for Development. Washington, DC: World Bank.