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Review article

Gender disparities in livestock production and their implication for livestock productivity in Africa

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ABSTRACT

Livestock is a dominant agricultural activity in Africa, which is generally considered a key asset for most rural livelihoods and food security. This discussion is a synthesis of counter productive gender disparities in livestock production, focusing on issues of ownership, decision making and access to productive resources, and how these may influence livestock production. Livestock production in general, offers advantages over other agricultural activities and has been used as an entry point for promoting gender balance. However, the contribution of livestock production to household welfare in most cases has been insignificant due to various gender disparities. There are many measures which need to be explored with the aim of making the livestock systems become driving forces of rural household economies. Through the 'gender lens' the discussion also examines the roles, activities, responsibilities, opportunities and constraints of women in livestock production which compromise the achievement of greater equality between women and men within their spheres of interaction in household livestock production. One of the major factors responsible for the declining livestock productivity in rural areas is the relegation to the background of the contributions of women in the issues of livestock production. In this discussion, some of the strategic steps that can be adopted for future viable livestock production, include and not limited to the following: promotion of gender equality and equity in livestock production

systems in terms of equal access to productive resources and empowering women in livestock production decision making. Therefore, it is imperative to make a distinction among the types of responsibility that women have over livestock: ownership, control over decision-making, use rights and provision of labour in livestock production. Strategies and planning of livestock developmental models that take account of a gender dimension in livestock development policies should be reference guide for future rural sustainable livestock development programs and projects.

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1. Introduction

The crucial role of livestock production, within the agricultural sector, in contributing to rural livelihoods, and particularly those of the poor, are well-recognized (LID 1999; Upton 2004). The glaring gender disparities in livestock production are largely attributable to a range of multifaceted, though often subtle, communities and societal challenges women routinely face that cut across institutional, social, and cultural dimensions. Taken together, these disparities culminate into a bundle of negative effects that can limit women's participation in livestock production. In the last few decades, smallholder livestock production has undergone important transformations. Parallel to this, serious questions have arisen on gender roles and relationships in livestock production. Large proportions of rural households in developing countries keep livestock as part of their farming operations and these animals contribute to meeting household consumption needs, social needs at festivals and ceremonies, and income (Aklilu et al., 2008; Millar, 2001; Waite, 2000; Kurdistan, Shipton, 1995; Okali and Sumberg, 1985). Most of Africa's agro-ecological regions are predominantly agro-pastoral systems, with the smallholder rural resource poor farmers heavily dependent for their livelihoods on subsistence mixed annual cropping and livestock production. In all this, women provide much of the labour for livestock tasks in many developing countries (Gurunga and Lama, 2008). Yet their role in livestock production has been undervalued by policymakers and research on this issue widely ignored. The differentiated roles that women and men play in livestock production and use of knowledge requires additional focus if women are to continue to be critical actors in improving livestock productivity in rural areas. Many livestock development programs and projects in Africa, are unsuccessful because those who design and implement them know little of the rural setting in which they operate and the role of women and men in livestock production is not taken into account. It is assumed that failure to acknowledge and make a distinction in what livestock species are owned by which family members in livestock production, has resulted in misguided livestock intervention resulting in forgone livestock income and output to the intended beneficiaries. The recognition of gender specific activities in which household members participate in livestock production is the first step towards sustainable livestock and food security strategies. Therefore, it is hoped that understanding the link between gender disparities and livestock production will promote gender balanced development and strengthening the value of livestock knowledge and innovation for achieving food security and poverty reduction in rural areas of Africa.

2. Understanding disparities in gender roles in livestock production to improve productivity

Despite their considerable involvement and contribution, women's role in livestock production has often been underestimated or, worse, ignored. Rural women and men play important roles in livestock management and use through their different tasks and responsibilities in food production and provision. While women's role in livestock-related activities is no longer a matter of debate, the fact remains that men still dominate farming and livestock-related markets in rural areas across Africa. However, in many instances, the roles women play in farming and production are not formally recognized (Dixon 1982). Women compose not only around 70 percent of the poor, they also make up the majority of poor livestock keepers. According to an extensive study by ILRI of the 600 million poor livestock keepers in the world, around two-thirds are women and most live in rural areas (FAO, 2011a;

Thornton et al., 2002). The State of Food and Agriculture report for 2009 concludes that rural women are as likely as men to keep livestock, although the number of animals they keep tends to be lower and they are more likely to own poultry and small ruminants than large animals (FAO, 2009a). The degree of gender specificity attached to livestock production, within a specific social context, depends not only on the way responsibilities are allocated among men and women, but also on the degree of autonomy each has over the areas of production they are active in. Gender inequality continuously hinders women's participation along the entire livestock value chain. This can be primarily attributed to multiple constraints (e.g. access to capital, cultural values and norms, limited skills, decision power and mobility, etc.) faced by women in accessing, managing and controlling livestock assets and production (Mupawaenda et al. 2009; Njuki and Sanginga, 2013; Jeckoniah et al. 2013). Consequently they have different needs, priorities, and knowledge about animals, hence through their different tasks and responsibilities, men and women influence the total amount of animal products supply and use. This has made it difficult to generalize about typical gender roles within livestock production systems, as it differs even on regional basis. Differences in gender roles have been cited in different livestock production systems which can be divided in for major categories namely nomads or transhumants, agropastoralist, intensive crop and livestock and peri-urban intensive systems. In this study the focus is on mixed crop and livestock system where income is derived from both crops and livestock (Bravo-Baumann, 2000).

Women's and men's roles and responsibilities vary across regions and cultures, they often follow similar gender divisions of labor. Limited participation of rural women in livestock value chain activities results from a fundamental misunderstanding of gender relationships but also the socio-economic and cultural roles of livestock at the household and community levels (Laven et al. 2009; Coles and Mitchell, 2011). To date, an understanding of women's role in livestock production in developing countries has been limited by cultural biases that underestimate women's contribution. Scientists and development workers have tended to concentrate on male-oriented activities (beef production, large-scale enterprises, etc.), thus neglecting those activities that women are generally engaged in, notably, milk production, the raising of small stock and poultry, meat and hide processing, etc.

David Kauck (2010) explains that to make a significant dent in chronic hunger and jump-start economic growth, global food security strategies must address the underlying social inequities between women and men. Gender inequality which undermines food production is a product of a series of interrelated social, economic and cultural factors. On the other hand, the economic, social and cultural constraints faced by women hinder them from fulfilling their responsibilities and/or striking the right balance with men when carrying out livestock responsibilities. Gender inequality in livestock production in most African communities cannot be an afterthought to our food security strategies, it must be the linchpin. One reason that Africa food security strategies continue to fall short is that they don't appreciate the on-the-ground realities of gender role differences in agricultural production in general. In such cases livestock production programmes in particular risk failure when they don't consider the social realities of gender –roles, that is, the distinct roles and norms assigned to women and men in a society in relation to livestock production.. Gender-differentiated livestock production knowledge plays a decisive role in maximizing production. Women can increasingly become important as animal products producers only if agrarian processes are gendered in nature. Gender equality can make a substantial contribution to a country's food production and economic growth (Abu-Ghaida and Klasen 2004), and it is the single most important determinant of food security (World Bank, 2012). Despite this acknowledgement, many agricultural programs struggle to capture the difference—or the 'gender effect'—that gender integration makes on key outputs and outcomes in food production (Kanethasan et al., 2013). The recognition of women's indispensable role in livestock in this case may result in maximum benefits being accrued in an attempt to improve production. This entails understanding the unique gender role differences of women and men in livestock production will have a far implications in animal products supply in rural communities. One theme running through a number of the quantitative studies on women's involvement in agricultural activities is that once gender differentials in programs characteristics are taken into account, they do not face any further gender-related obstacles in succeeding (Bardasi, et al., 2007). Livestock production policies should not be gender blind but should appreciate gender needs and priorities of men and women to seek to facilitate more gender equitable opportunities which result in maximization of production. Indirectly, the household and communities overall animal products needs are very dependent on the work of women than men. The change in roles is more unidirectional as when economic situation changes, but it does not appear that men are taking over household livestock production needs. Commercialization of livestock activities, there is a tendency with men increasing their participation because of

profitable economic opportunity which will have arisen. The role of women as livestock producers and providers of animal products is often overshadowed by their primary role as care-givers at household level. However, at the same time a large number of women are engaged in most of the livestock farming activities, primarily the production and processing of animal products. In such circumstances women remain producing the majority of livestock household consumption and for feeding communities at large. The responsibility for ensuring that families' basic livestock products needs are met is vested on the women. It would be proper to suggest that women's role in family livestock keeping become the key to assuring effective animal products production for all communities.

Socio-economic challenges that limit women's access to productive resources in livestock production are derive from gender role insensitivity and often result in denying women full participation resulting inadequate animal protein for individual households. Most livestock production programs from the extension point of view, ignore the unique or distinct socio-economic role differences of gender in livestock production. If women are fully engaged in livestock production the expected result is that women are able to directly influence change within household structures (Khan and Bibi, 2011). A narrow focus on differences between men and women may mask more important differences among women leading to the flawed assumption that all women have identical resources to draw upon and, hence, the ineffective targeting of livestock interventions programmes issues (Quisumbing and Pandolfelli, 2012). It should be acknowledged that women's and men's expenditure patterns differ, with women spending more of their income on the household food needs, in particular, on children (Paxton, 2009).

National government should devote their attention to the issue of gender role differences and promote household livestock farming through empowering women. Improved livestock productivity is a result of full participation of women in all aspects of livestock production and marketing chain. Addressing discrimination in land ownership and tenure by taking immediate steps to guarantee equal rights to land, property and inheritance to men and women has profound implications on livestock production. The extra family role of women ought to be a major criterion that merits preferential policies or gender sensitive policies in livestock production. This may be realized by focusing on women's access to productive resources and other services which promote their involvement in livestock production. Due to women being the majority in most communities livestock production programs which do not take into account the role of women often run into problems. Due to their specific livestock roles many women are the repositories of knowledge on local livestock production. This means dedication to equality and the empowering women may translate into increased livestock production in most African communities. Livestock production strategies which pay attention to gender differences and women's rights and responsibilities are prone to succeed in enhancing food security. Some cultural values impinge negatively on the role of women to efficiently contribute to livestock, therefore, there is need to tackle such obstacles. Due to financial constraints, women most of the time can not afford to purchase animal products they need at market prices, and therefore social protection through gender sensitive policies are needed to improve their accessibility. Employment opportunities to provide remuneration work to women and enhance their buying power to buy animal products which are sometimes very expensive is less. This is because there are greater opportunities for men than women, therefore preferential treatment in this regard may be sought. In order to address these differences there is need to increase the negotiating power of women within the household, focus needs to be put on women to enhance their internal strength (Khan and Bibi, 2011). The World Development Report (2012) stresses that gender equality can lead to productivity gains, that women's increased control of household resources can improve outcomes for the next generation, and that empowering women as economic, social, and political actors can result in more representative decision making. In most cases men and women cohabitate in functional households in this regard as a result men and women roles become complementary. This result in diversifying income and food sources and dividing household labor, thereby spreading risk and enhancing household food security. The current trend is that there is a growing dominance of men in commercial livestock production and the concomitant decrease of women in the sector. This trend makes it more imperative than ever to take action to enhance women's ability to carry out their tasks in commercial livestock production and their other contributions to food security (FAO, 1996). Focusing the lens of social and economic development on women is the most inexpensive and effective tool in the fight against food insecurity. This can only work if men are active participants in strategies for empowerment of women in cultural change required for redistribution of tasks within the household. Unless such change takes place, improvements to the situation of women may remain only partial, offset by the inequalities in our African societies. Any approach that have an intrinsic benefit by advancing gender

equality will have an everlasting impact on the societies in terms of livestock production. Given the right possibilities, can allow women to be innovation leaders in livestock production for the benefit of most rural communities in Africa.

It should be noted from the beginning that gender can be a socio-economic variable used to analyze roles, responsibilities, constraints, opportunities and incentives of people involved in agriculture (Poats 1991). Realizing that gender issues focus not only on women, but on the relationship between men and women, their roles, access to and control over resources, and division of labour and needs is important (IFAD, 2003). Thus, a 'gender lens' approach in livestock production is needed to identify and address optimal outcomes, as well as the most effective use of livestock productive resources. Gender analysis in livestock production usually suggest appropriate interventions required to improve a given livestock system for maximum and efficient production. This takes into account that women and men have different needs and constraints related to livestock production systems, therefore an attempt to address gender in livestock production programs entails identifying, understanding the relevance of, and addressing the different livelihood needs, priorities, interests and constraints of men and women along lines of age, ethnicity, socioeconomic status and ability (FAO, WB, IFAD 2008). Scrutinizing livestock activities it seems that men and women contribute to the enhancement of gene flow and domestic animal diversity through local knowledge systems, as well as disease prevention and treatment. However different groups (men, women, boys and girls) often have different knowledge and livestock skills according to their roles and responsibilities. Hence, gender analysis in livestock production will focus at examining the gender related factors that affect efficiency level of livestock production as contributed by men and women in households. However, there is to acknowledge the need to balance positive and negative aspects of livestock production as is made clear by the title of the recent State of Food and Agriculture (SOFA) report 'Livestock in the balance' (FAO 2009), where gender sensitivity has been cited as being central to achieving this balance. Nevertheless, a complex set of rights and obligations reflecting social and religious norms prevail within rural communities; these dictate the division of labour between men and women and act as constraints on gender participation in livestock production. Gender differences may also change over time according to new pressures and opportunities and the way gender relations adapt to these in the rural livelihoods (Boserup, 1970). Understanding of gender roles in livestock production in developing countries has been limited by cultural biases that underestimate women's contribution. Development agencies have inherited this anomaly, therefore tend to concentrate on male-oriented activities (beef production, large-scale enterprises, etc.), thus neglecting those activities that women are generally engaged in, notably, milk production, the raising of small stock and poultry, and meat and hide processing (Yisehak, 2008). An understanding of gender differentials, its importance and these constraints is a prerequisite to devising policies to improve livestock productivity and socio-economic development and achieve gender equality. This means that genuine and balanced livestock development and growth will be achieved only when gender inequalities in livestock production have been redressed. The essential point in all this, is that women usually do a great deal of the work in livestock management, a fact that development initiatives frequently ignore or underestimate, hence unsuccessful livestock programmes interventions. This emanate from the fact that information may be channeled to men only, while inadequate consideration of the role of women in terms of their time and labour contribution in livestock production. This perpetual mistake by developmental agents has threatened the initiative's success of livestock programmes (Niamir-Fuller, 1994). The influence of gender differentials in livestock production in meeting the challenges of livestock development cannot be overemphasized. Both men and women have crucial role to play, but men seem to take more of the livestock decisions and control the productive resources (Rahman, 2008). This is on the background that most literature recognizes that rights, resources, and responsibilities of household members—especially men and women—may be different. Household members in fact have different livestock production responsibilities, then designing policies while relying on a model of the household that assumes that individuals share the same preferences and pool their resources—the unitary model—may lead to policy failures (Haddad, Hoddinott, and Alderman 1997). Cognizance of gender disparity to increase livestock productivity; which can only be achieved when women are perceived as subjects of development. The greatest challenge to the rural livestock sector is to increase production and the value of livestock products to improve household nutrition. Such an increase will have to be based on intensification and on adding value to livestock products. Culturally, obligations of men and women in farming communities are clearly defined. Gender participation as key human resource in livestock production, their productivity depends on the rate of their involvement in farm decision-making. In spite of the important roles women farmers play in agricultural production, it is observed that research and documentation on their activities is very limited (Ezumah and Didomonica, 1995). Constraints to livestock

productivity such as lack of capital and access to institutional credit, competing use of time, poor technical skills and lack of access to improved extension services affect women more than men, and may further limit the participation of women and their efficiency in all-purpose livestock production. Overall, research on gender responsibility in livestock is limited, especially gender disaggregated data on work sharing, access to resources and benefits (Yisehak,2008). Livestock production systems offer potential for introducing a wide range of programs relating to gender mainstreaming, including improved production methods, and redistribution of intra-household tasks and responsibilities (SADC, 2000). This can only be achieved when the function of livestock for men and women is understood. The various gender roles played in animal management and the economic and cultural roles of livestock within the household and the community play an important part in sustainable livestock production. Identifying and supporting gender differentials in livestock ownership, use of livestock products, while sharing and strengthening gender decision making power and capabilities are key aspects in promoting households economic empowerment. Much valuable research already exists on the different roles of women and men in various crop farming activities, however there is now growing recognition that men and women often have very different rights and responsibilities with respect to resource use in other agricultural production activities (Adepoju and Oppong 1994; Bryceson 1995; Dey 1981; McSweeney 1979; Whitehead 1985). It has been acknowledged that livestock are particularly important for women, for whom they represent one of the most widely held and important assets, and one of the most rewarding income-generating activities available (Okali, 1992; Richter, 1997; Niamir-Fuller, 1994; Itty et al., 1997). Much of the variation in gender roles in the livestock sector has been recorded in reviews over the past 20 years by Finney (1988), Valdivia (2001), Tipilda and Kristjanson (2008), IFAD (2007) and Kryger et al. (2008).

3. Disparities in livestock resource allocation

Given the important role women play in agricultural production around the world, focusing on the unique challenges women face and the resources they lack is key to increasing overall agricultural productivity (IFPRI, 2010). Discrimination against women on productive resources has a far reaching implications for food production and security. Women face gender disparities in access to and control over land, as well as lack of access to other productive resources and services. Extensive evidence from the 1990s (Quisumbing 1996) and a review of more recent literature (Peterman, Behrman and Quisumbing 2009) have documented gender inequalities in agricultural inputs that disadvantage women as agricultural producers. The absence of law and security for women concerning land is one of the most serious obstacles to increased farm production and higher incomes for rural women. Unequal access to land is also an obstacle to increasing food production and incomes of rural women. FAO (1994) cites limited access to resources as one of the main reasons that women are unable to better contribute to food security, and recognize that the causes of this stem from a series of inter—related social, economic and cultural factors. Women are often marginalized and have minimal control over access to factors of production like land, inputs such as seed and fertilizer, credit and technology. In most systems, women provide labour for the various tasks related to livestock but may or may not control the process of decision-making, particularly over the disposal of animals and animal products. Similarly, women may be involved in production, but may or may not own the means of production: livestock, land, water, etc. This is on the background that women play a central role in food production in Southern Africa. Their contributions to agricultural productivity at the household, community and national levels are limited by a diverse range of social and economic constraints. Women continue to face many specific barriers preventing them to fulfill their potential as food producers and this has undermined food security. This is despite the fact that women are the majority, contributing significantly to food production in meeting the nutritional household needs in Southern African. The majority of labor in agricultural production is provided by women and children. However , their access and control over productive resources is greatly hampered and undervalued due to inequalities constructed by patriarchal norms (Doss, 1999). Given that women constitute 60-70% of all agricultural producers, any service or program that excludes women is bound to have a very limited and temporary impact on overall development and productivity (FPRI, 2004). This underscores the importance of including women farmers in all agricultural programs. Limited access to, and control over, productive resources and services has emanated from the perceived cultural, traditional and sociological roles which are discriminatory. To a large extent, constraints in access to land cannot be dissociated from access to other productive resources that can augment women's productivity—i.e., credit, inputs such as high-quality varieties of seeds can augment farmers', farming equipment, and extension services. The failure to acknowledge that women are already engaged

in farming and seeking ways in which to increase their production and earnings has made the situation worse. Closing the gender gap in access to productive resources such as land, credit, machinery or chemicals could eliminate yield gaps of 20% to 30% among women and men, increase domestic agricultural output by 2.5% to 4%, and mean up to 100 million fewer people living in hunger (FAO, 1994). Observation has been made that when women obtain the same farm inputs as average male farmers, they increase their yields for maize, beans and cowpeas by 22 percent (FPRI, 2004), which may mean that gender constitutes the most profound differentiating division in food production. When women received the same education and similar inputs and assistance as men, overall farm yields could rise by as much as 22 percent (FAO, Women and Population Division, 2007).

Overcoming gender-related barriers requires innovative and practical solutions informed by a context-specific understanding of how to initiate and sustain gender transformative change in food production. Gender inequalities has constrained women's roles in agriculture and food production, and in the long run undermines achievement of food and nutrition security in the region. Furthermore, women's productive capacity or opportunities are limited by entrenched customs and legal barriers in many parts of Southern Africa, which may result in restriction on their ownership of land (McFerson 2008). Corrective measures on legal barriers and customary norms will have a profound implication on food production. Land provides financial security, food security, and can be an important asset in the case of emergency (Denton 2002). In many cases, women have access to land, but limited control over it, since they do not own it and cannot make decisions on its use. Limited land ownership means diminished rights to productive means, limited access to safety nets and reduced economic security.

Gender often acts as a determinant for resource allocation, and directly impacts decisions about saving and risk aversion (Paxton, 2009). One way to improve women's decision-making power within the home is to increase women's access to control over material and non-material resources (Boden and Zoe, 1997). Women clearly do the majority of the work related to food security, yet their capacity to make independent decisions about such issues is limited. This has resulted in food capacity decline. Women's potential as food producers can only be realized if productive resources are made available to them, and also involving women in decision making in food production related issues. Lack of independent decision making for women who are responsible for food production has social consequences. Due to the fact that women do not own productive resources such as land and livestock, this makes a critical difference to whether they can produce enough food for themselves and families or for sale. If afforded the opportunity to own land, women are likely to invest in land management and produce food and have stable incomes. The lack of credit for women because they do not possess collateral to access bank loans has worsened an already fragile situation. Food insecurity will persist in the midst of adequate aggregate supplies because of lack of credit opportunities for the resource poor women and the absence of effective social safety nets. There is greater need to provide support and access to credit facilities to women so that they compete on a more equal footing in food production with men. National governments should sought policies to improve women access to productive resources such as land, agricultural inputs and credits. Investing in women to have equal access to inputs and other productive resources is cheap and will take a shorter time to achieve more wide-reaching, multiple, and long-lasting developmental outcomes. In addition to productive resources, access to markets has continued to be another hurdle which women need to overcome in food production. Women's roles are generally undervalued and constrained by limitations on their access to resources and market availability. This compounded with poor roads which limit access to markets, women can not profitably take their produce to markets due to increasing transportation costs. Women have failed to sell their produce to high end markets due to bad state of roads.

The different forms of discrimination women face makes it difficult to disaggregate the various obstacles women encounter when seeking to improve food production in local communities. However, removing obstacles women face in accessing productive resources in food production may translate into increased food production. "Removing the barriers women face in their roles as food producers, farm workers, and primary caregivers is achievable and inexpensive," said Lourdes Adriano, Practice Leader for Agriculture, Food Security & Rural Development in the Regional and Sustainable Development Department at ADB. Challenging the constraints women face must therefore be treated as a key component in the fight against food insecurity. Removal of these obstacles through gender-sensitive approach would result in significant productivity gains benefiting not only the women concerned, but their households, communities, and the region as a whole. Adoption of policies and enacting laws that would ensure equal access to economic resources by women and men will improve food production and security. Due to a convergence of appropriate logistical, cultural and economic factors, women are

able to benefit fully from food programs and services. Food insecurity can be prevented if food programs are more focused, strategic, and aligned with the challenges and capacities of women. Women's equal access to and control over productive resources is critical for the achievement of gender equality and empowerment of women, and for equitable and sustainable food production and security. Gender equality in the resource allocation and services, has positive multiplier effects for a range of key development goals, including food insecurity reduction and the welfare of household food needs. Allocation of necessary productive resources to strengthen gender sensitive food security, accompanied by gender responsive services can help to enhance food production. There is without question, a need to address issues related to women's low status that is evident in their minimal access to resources like land, inputs, credits etc, and the fact that productive resources are essential to ensure that women can participate in sustainable development and contribute to food security. Women in general have less access to the means of production in comparison with the extent of their labour contribution.

4. Disparities in decision making in livestock production

Research indicates that decision making patterns about the use of productive resources varies greatly. Small farm households are not necessarily consensual or cohesive decision making units (as planners have generally assumed), but a complex interaction of needs, incentives, and interests of both male and female household members (Feldstein and Jiggins 1994). One of the key issues on the perspective of economic empowerment of women in developing countries can be understood in terms of increasing their influence in decision-making processes (Deere and Leal, 2001). Given the traditionally limited role of women in decision-making processes at the household, village and national levels in most cultures, their needs, interests and constraints are often not reflected in policy-making processes and laws which are important for poverty reduction, food security and environmental sustainability. The causes of women's exclusion from decision-making processes are closely linked to their additional reproductive roles and their household workload, which account for an important share of their time. Although the involvement of women in livestock production is a long-standing tradition all over the world, but livestock patterns differ widely among ecological zones, and socio-political systems (Niamir 1990). In societies where women manage only the livestock kept at the homestead, they may or may not have control of the overall management strategies, such as the animals' disposal, marketing, etc. These women may be responsible primarily for the tasks but not for the decision-making. Women are entitled to receive milk from the herd but have little influence on the quantity given, unless the animals are owned by the women or their children. Once the milk is received, a woman is free to decide how to allocate it (Waters-Bayer 1985).

5. Disparities in gender livestock ownership

Husbands (men) and wives (women) both usually have a say over the use of resources, although there may be "unequal, often conflicting claims on resources for the satisfaction of basic needs" (Shumaker 1991). Men's ownership rights over animals are guaranteed by a near universal set of inheritance rules that are gender biased and rooted in religion and patriarchal kinship systems (Dahl 1987). Women are repeatedly referenced for their work with small animals, especially in backyard systems (Kryger et al., 2008), and in milk production (FAO, 2006a). In many countries, women are often denied ownership rights for large stock (cattle, camels, horses), but 'allowed' to keep small stock (sheep, goats, rabbits, poultry). One of the reasons is that livestock ownership patterns are linked to social class, religious systems and paternalistic cultures – this means women have weaker ownership rights than men, especially in times of stress (**Gurunga and Lama**, 2008). Concerning livestock development, there is a high level of agreement in the literature that socio-economics and institutional frameworks play an important role in determine who does what, and who gets what (Bravo-Baumann, 2000). Social and cultural norms dictate the division of labour and control of assets. The distribution of ownership of animal species between men and women depends not only on the society considered, but also on the type of animal species raised. Policy and institutional structures often restrict existing sources of support to women, particularly credit to acquire large ruminants. Women in general have less access to the means of production in comparison with the extent of their labour contribution. Ownership of livestock is particularly attractive and important to women in societies where, due to cultural norms, women's access to land and mobility are restricted. Livestock ownership patterns especially for small stock and poultry appear more equitable than that of other assets such as land capital and knowledge (Bravo-Baumann, 2000). A rural household which owns different livestock species will better cope with shocks and

stresses, such as droughts. Poor rural women and men have very limited livestock species. Socially constructed gender roles and relations also influence women's and men's access to livestock and the benefits obtained from these. Gender-based inequalities often result in women's and girls' limited access to large ruminants, which generates implications for income generation. Women face a variety of gender-based constraints as members of the household in terms of ownership of livestock. However, some projects have targeted women and some of the most detailed gender documentation on the livestock sector covers development interventions that build on the role of women, and their reputation in many locations for being able to control or take

decisions over livestock and livestock products with which they work (see for example Dolberg et al., 2002 on poultry; Millar, 2001 and Ssewamala, 2004 on dairy; and Deere and Leon de Laal, 1986 on sheep and goat production in the Andes). Rural women contribute to livestock production and management systems; as small livestock keepers but also with their involvement in various activities necessary to bring livestock products to final consumers (IDRC, 2000; FAO, 2011). While women's role in livestock-related activities is no longer a matter. Quisumbing (1996) documents the difficulty in comparing levels of productivity between men and women. The author attributes this to methodological and conceptual difficulties, which arise from defining appropriate measures of productivity in different farming systems, omission of individual characteristics in attempts to measure productivity differences by sex, and the lack of clarity regarding the measurement of sex and gender differences. Despite the volume of attempts to document male-female productivity differences, relatively few studies control for individual characteristics of the male and female farmers such as education and physical assets. Measuring differences in agricultural productivity according to the sex of household head is complicated and may vary between different types of farming systems, social-ethnic groups and cultural institutions in general (Quisumbing, 1995).

6. Disparities in gender labor allocation in livestock production

Livestock production for small-scale farmers, many of whom are women, lack of incentives for their labor for example, a woman who labors on a livestock enterprises may not be the same person who transports the milk to the market and gets paid. Despite women's labour the earnings don't automatically trickle down to them, meaning she often has little say in how the earnings are spent and may have little interest in continuing to work in livestock production. This can affect the success of livestock activities at household level, which often depend on women's labor without considering how they are compensated for it within the household. There is need to better understand the varied relationships within livestock farming households as well as the gender labour dynamics involved. More research should provide an insight on unique experiences of men and women on labour contribution in livestock production. This type of contextual evidence should drive how we design programs that aim to boost livestock productivity in rural communities, as well as help farmers – men, women and entire households – profit from their labor contributions. However, the division of labour as dictated by tradition in a given society is not necessarily always followed, and women often perform tasks reserved for men because of labour shortages or other socio-political factors. The extent to which persons of the opposite sex will assume the responsibilities of the other depend not only on labour shortages but also on the nature of the task, and the intensity with which people adhere to role ideals.

7. Implications

Despite the indispensable socioeconomic role played by women, their full participation in livestock production and their opportunities to benefit fully are limited. One of the prime concerns of the various livestock production development programs have been to analyze this situation with a view to overcoming various obstacles in this regard. Livestock development agencies designing and promoting new livestock intervention programs must assess first the potential impact of their strategies on women's status and economic control of resources in livestock production. Until women have stronger ownership rights to different livestock species, not limited to only small such strategies will be futile. However, livestock development programs which target small stock such as goats, sheep, pigs, rabbits and poultry etc keeping are the most potential lucrative enterprise for women empowerment. Maximum benefits can be accrued by increasing involvement of women through working more with women's groups and making funds available to women for income-generating activities through credit facilities. Women have been denied the access to credit in order to purchase livestock. Therefore, removal of the

social and economic barriers which influence the under estimation of women's potential in livestock production will contribute immensely to increase livestock productivity in general. In most cases the gender-blindness in livestock intervention projects is partly the result of a paternalistic bias, but also of the attitudes of women themselves, who may have been conditioned by their culture and society to undervalue the worth of the work they do in livestock production. Education and training may also indirectly facilitate the shift in thinking within women themselves as a result becoming more productive. Access to productive resource in livestock production by women may deserve special attention to maximize the participation of women in livestock production. Appropriately addressing gender disparity and the prevalence of gender stereotypes, especially regarding women's roles in livestock production will encourage women in the developing world to fully participate in livestock production and improve productivity. There is need for increasing understanding and appreciation of women's pivotal role as livestock producers and their critical contribution to household food security.

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