JUST AGRICULTURE
multidisciplinary e-Newsletter

Gender and Social Equity in Agriculture

Ankit Kumar Jena[1] and Rajeeb Kumar Behera[2*]
[1]Teaching Assistant, Dept. of Agril. Extension & Communication, FAS, Siksha "O" Anusandhan University
[2]Assistant Professor, Dept. of Agril. Extension & Communication, FAS, Siksha "O" Anusandhan University

ARTICLE ID: 22

Introduction

Gender issues are a recurring cause of concern for people in today's world. Gender rights activists urge equity and equity in the allocation of rewards and obligations (FAO,1999).It possesses debate whether the primary goals of empowerment and change should be equality or equitable rights. In numerous cultures, both genders have somewhat distinct responsibilities regarding farming and food production, and these social and economic backdrop shapes roles. In the modern world, roles and duties are changing as a result of urbanisation and migration among youth and men. Women are increasingly managing a greater variety of tasks in agriculture, including labour management, input procurement, and irrigation. Women are increasingly contributing to agriculture productivity in most locations (FAO 2017)."Everyone has equal rights and must be treated equally" is another way to put it.

Both men and women have the right to equal legal protection for their property rights under international human rights law (HRW, 2005). The goal of the Water, Land, and Ecosystems (WLE) CGIAR Research Programme has been to for practical ways to increase

JUST AGRICULTURE
multidisciplinary e-Newsletter

women's availability to technology, resources, services, and making decisions possibilities in order to challenge discriminatory social structures, norms, and attitudes. The objective has been to empower more women to invest profitably in technology and environmentally amicable behaviours, and to enjoy the rewards of these expenditures for both their kids and themselves. Modern agriculture has changed how men and women divide the task, often placing women in a more reliant role and increasing their task. It has taken women outside of their customary responsibilities in the workforce and reduced the wealth, influence, and standing they previously had (Momsen 2010; Moser 1993). Numerous studies conducted over several decades have produced significant information about how gender and wider societal differences affect the availability of commercial services, markets, networks, and productive resources in the agriculture sector.

Gender Equality and Equity in Agriculture

There is a difference between gender equity and gender equality. In order to be considered gender equal, the ability to exercise one's human rights is a must access and control resources, participate equally in decision-making, reap the advantages of growth, and have equal chances in the workplace and in all other spheres of their lives (FAO, 2008). Treating men and women equally based on their individual needs is known as gender equity (IFAD 2015).

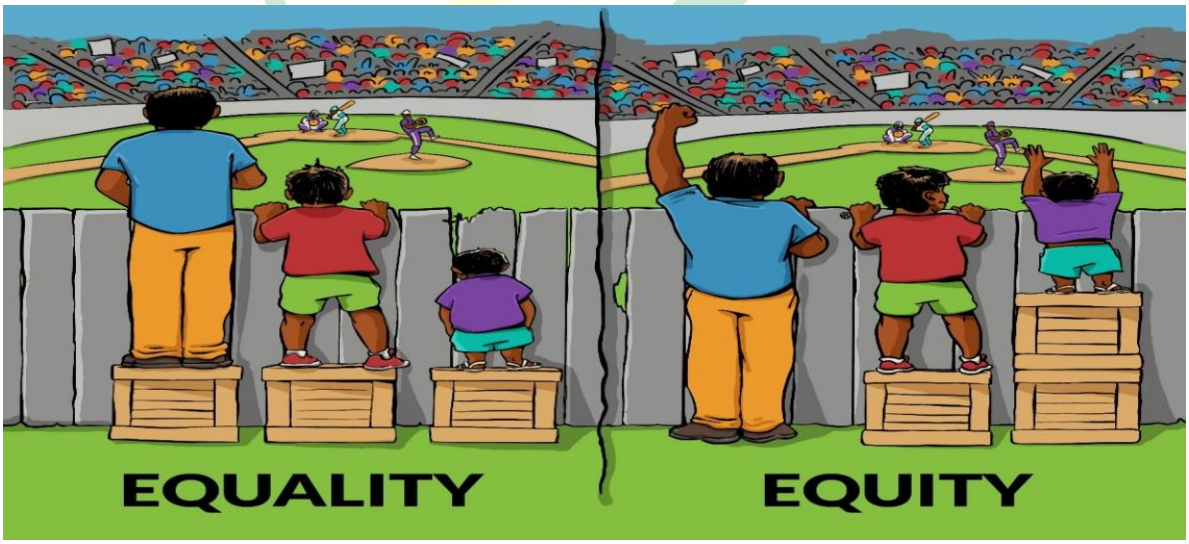
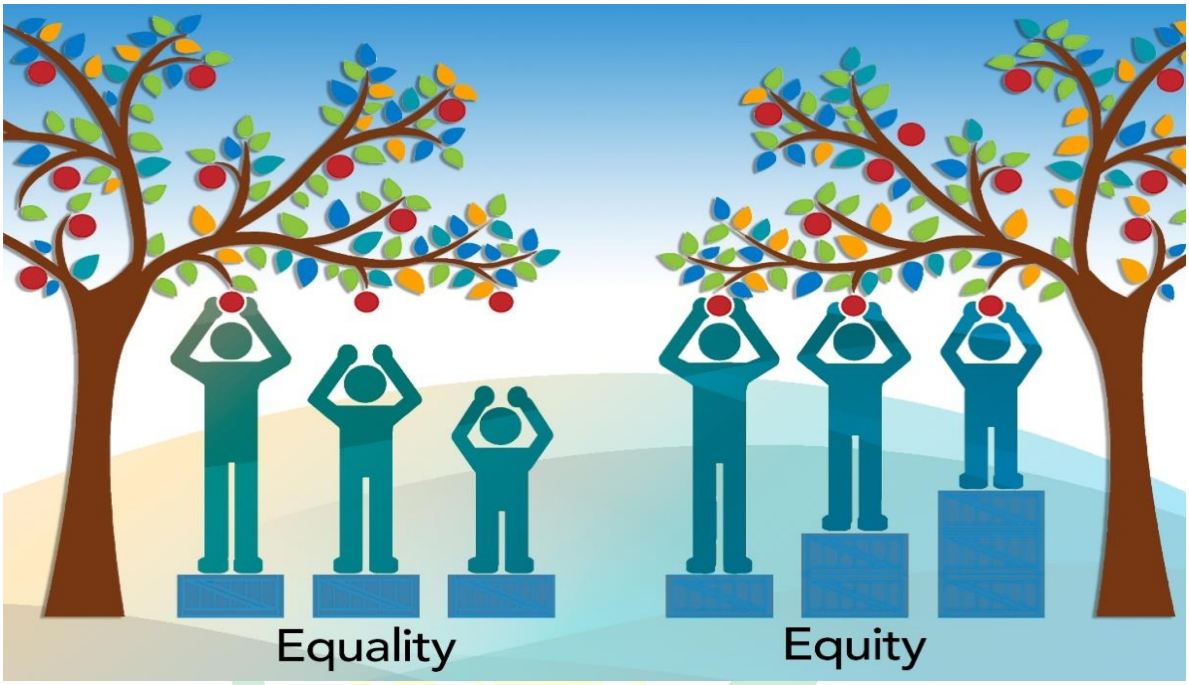


Figure 1. Equality vs. equity graphics used by gender development practitioners. Original image idea by Craig Froehle. This image by Interaction Institute for Social Change

JUST AGRICULTURE
multidisciplinary e-Newsletter

Legislation pertaining to agriculture rarely has gender equity as a particular goal. Women are important in this agricultural industry, but because women possess fewer resources along with restricted possibilities for monetary services, land, materials, and extension initiatives than men do, they are viewed as being less productive than males (FAO 2011).



FAO, 2011 has determined the main causes of the gender productivity gap, which are as follows: i) either permanent user rights or property ownership ii) obtaining financing for agriculture iii) availability of fruitful agricultural inputs (such as pesticides, fertilisers, and farming tools); iv) efficient access to labour v) assistance utilising extension and additional rural consulting services vi) market and market information access; vii) obtaining access to arable land and viii) availability of data about the environment and events. Ladies could feed an extra 150 million people if they enjoyed the same access to advantages and assets as males. They could boost agricultural production by 20–30%. Justice and fairness in the way society perceives the idea of equality in society is centred on individuals. This means deciding on fair distribution principles, making sure that distribution adheres to these principles, and taking into account the distribution of authority, rights, resources, opportunities, and related items. Social equity in terms of climate risk refers to accountability for and breakdown of climate change strategies and consequences among centuries, races, and social groups, including who makes decisions and who does not (IPCC 2022). By keeping social equity in mind, project designers

JUST AGRICULTURE
multidisciplinary e-Newsletter

can take into account how social differences and related inequities may affect people's access to innovations that help them become more resilient or improve their quality of life. This includes the ways in which the planning and execution of a project might support the equitable distribution of results. Equity and equality are slightly different. To be equal is to be treated equally, or similarly. Equitable treatment of individuals may be necessary to remove obstacles standing in the way of attaining equal results, even though equity is also related to equivalency. This acknowledges that individuals do not all begin in the same circumstances and that their circumstances may have been created by unfair, unjust, or exclusionary practices (Rietveld, A. *et al*. 2022). Thinking on equality as a goal unto itself, without taking equity into consideration, might be comparatively harmful to the weaker group. Power dynamics must be taken into consideration since empowerment and equity can and should go hand in hand. While empowerment looks at how to take action to improve circumstances, whether for a group of people or an individual, equity deals with how benefits and disadvantages are distributed (Malapit *et al.* 2020). Remedial adaptations: measures required to deal with vulnerability's underlying causes as opposed to its manifestations one effective method that has been developed to increase agricultural systems' resilience (Few, R. *et al.* 2017). Resilience is enhanced by adaptation, which includes risk mitigation and pre-emptive measures based on climate change trajectory forecasts. These days, the effects of prejudice and injustices are felt throughout our society and food system in a variety of ways. For example, policies that have displaced Black and Native American farmers from their land over time, appalling working conditions for migrant farmworkers, or low-income communities (rural and urban) that struggle disproportionately to provide affordable, wholesome food, decent schools, high-quality healthcare, and a clean environment. The benefits of industrialization and economic concentration, which are primarily concentrated in the agricultural sector, have historically exacerbated the effects of discrimination because they benefit affluent populations that are less likely to face similar difficulties. Fairness in interactions with service providers, businesses, governmental institutions, and customers is embodied by social justice, which is applicable to all aspects of life on farms, in our communities, and in society altogether. There are numerous actions you may take to further the cause of equity, regardless of your profession—farmer, teacher, or provider of services. A few typical instances are as follows: Supporting women farmers; Recognising and appreciating the potential effects that various cultures, values,

JUST AGRICULTURE
multidisciplinary e-Newsletter

languages, and communication styles may have on farmer groups in your community; Encouraging first-time farmers and farmers of colour to have equitable and just compensation and treatment; Encouraging safe working and living conditions for farmworkers and farmers; promoting policies that directly address issues that other people in your neighbourhood are facing (such as a dearth of broadband, deteriorating environment, food deserts, or limited access to social services, health care, or education) » Organising or taking part in peer networks and community activities that promote participation of many ancestries and civilizations (Leach M. *et al.* 2018). Social equality can take two forms: moral, referring to the treatment of individuals or objects with appropriate decency, respect, or appreciation, and material, referring to the fairness of access to needs for a meaningful existence. In addition to addressing issues of Gender justice and the self-reliance of women, it also touches on other social divides that impact youth and other marginalised groups because of their caste, race, or other characteristics. According to Leach *et al.* (2018), there are several forms of equality, where divided into two categories: "equity of what?" and "equity between whom? (Pierce *et.al* 2021) Complex and multifaceted disparities that take the form of privilege or disadvantage within and across generations are the root cause of inequality. To successfully discuss the consequences of climate risk, taking into account the extent of personal and collective decision-making authority with regard to climate adaptation, it is crucial to comprehend how various social inequities and power relations intersect to determine vulnerability to climatic extremes (Araos, M. *et al.* 2021).It's well known that certain groups are marginalised and more vulnerable to the effects of climate change than others, including low-income individuals, women, indigenous peoples, older or younger people, ethnic and racial minorities, and people with disabilities (Whitfield, S. *et al*, 2021).As a result, the drawbacks and disparities manifest themselves at varying degrees and in various ways. They are usually linked to historical-rooted, contextually-specific structural inequities when it comes to exposure to climate risk. In order to define a hierarchy of equity can be used to describe the extent of justice (of how and between individuals) in the transformation of agricultural systems (Leach M. *et al.* 2018) be employed throughout project design and implementation. Four dimensions make up this typology of equity.

- **Recognitional Equity** –how human identity, values, social norms, and rights are acknowledged and respected. Relationships with the environment and nonhuman

JUST AGRICULTURE
multidisciplinary e-Newsletter

species may fall under this category. Forms of political and cultural dominance, which usually have historical and structural bases, might serve as the foundation for injustices resulting from recognition disparities. As a result, this calls for altering power structures and thinking about ways to provide individuals the ability to speak up and influence change. Putting recognitional equity first could lead to more democratic and inclusive forms of government. In a directive for operational justice to manifest itself via the exercise of governance and judgement, recognitional equity first creates the framework for an intervention.

- **Procedural Equity –**how choices are made, and how much room there is for various groups of individuals to have a say in them or to have their opinions and information represented or taken into account through participation, governance, and institutional responsibilities. Governance and decision-making are central to procedural equity. It takes into account questions of social inclusion and exclusion as well as knowledge dynamics. It could also include choices about how to value non-human animals or the environment in farming systems.
- **Distributional equity –**how funds, expenses, and gains—including those from climate or environmental initiatives—are allocated to various individuals and organisations. Distributional equity contributes to recognitional and procedural equity processes later in the intervention cycle.
- **Intergenerational equity –**how generations affect the persistence or evolution of justice and injustice. A long-term perspective is presented by agricultural system transformation. Though it may begin with today's youth, future generations' tastes should also be taken into account. This may or may not fit the way smallholder farmers now think about stewardship.

In underdeveloped nations, there is a substantial correlation between gender and agriculture. The UN's inquiry into the condition of women from 2000 states that the likelihood of women engaging with tasks associated with agriculture is twice the rate of men. The proportion of women employed in agriculture varies by country, but generally speaking, women play a major part in operations pertaining to agriculture, food manufacturing, and consumers. Women in this field by producing support their family member with food. However, it includes Food preparation with additional value and advertising in addition to

JUST AGRICULTURE
multidisciplinary e-Newsletter

farming. However, the primary resources—such as land—that are necessary for their agricultural activities are typically not owned or controlled by women. Typically, these are the purview of men. In the past, women were given limited exposure to formal communication networks and information related to agricultural extension and research. Therefore, agriculture and rural development in underdeveloped countries may be characterised by complementary, conflicting, and collaborating gender roles and interactions (Poats *et al.* 1988). All the same, the new ICTs are transforming how the world functions, including how natural resource management and agriculture are carried out. ICT modifies knowledge management. It is now essential for networking, quick issue solving, and the dissemination of fresh information for business ventures and investments (Mansell and Wehn 1998). Leveraging information and communication technology, rural communities can address the factors that contribute to poverty, such as isolation and lack of knowledge, absence of possibility and lack of access to health and educational assets for productive work. ICTs are driving transformation in knowledge and data systems associated with agriculture even in the world's poorest countries. A farmer can ask a far-off relative for a financial transfer by calling a rural telecentre, and a few days later, the monies will be sent to them digitally. To confirm costs and set up transportation for a produce sale, farmers can utilise a cell phone. Email, fax, or mobile phone can be used by rural radio programmes to facilitate quick information sharing and distribution. Toargue in favour of and correspondence between politicians and attending and debate groups on agricultural broadcast, the Federation of African Media Women (FAMW) in Zambia, for example, employs these tools. Following their discussion of what they heard, the teams listen a radio broadcast addressing a subject linked to progress. They then share their thoughts and ideas with the programme producer, who forwards them to the appropriate government agencies and political figures. It is through this process that constituents and politicians are mobilised. It has long been acknowledged by practitioners that new technologies bring about changes in gender roles. Similarly, local economies, cultures, and environments are impacted by technology use. These patterns seem to be followed by ICT. Gender relations can be impacted by access to ICTs, for instance by assisting women in achieving economic empowerment and literacy (Hafkin and Taggart 2002). This link to agriculture is significant because, in many developing countries, women may improve their own and their family' nutrition and income through agriculture, either directly or indirectly. There have always been

JUST AGRICULTURE
multidisciplinary e-Newsletter

gender disparities in farming, particularly since many people have traditionally seen women as housewives and elder and child carers. Nonetheless, women have a critical role in rural areas' agricultural labour force. Malawi has a significant gender disparity of 28%, but Nigeria has an even greater percentage—more than 30%. Considering that there are only 12 countries in the world where women and men are equal, this should not be shocking. The following are some of the contributing causes to gender inequality in agriculture as identified in a UN Women policy brief:

- less availability of male family workers;
- fewer premium crops as a result of discrimination in the product market;
- reduced rights to land and credit;
- obligations associated with gender, such as household care, which reduce time available for farming; and
- Less access to equipment and cutting-edge technologies is caused by lower incomes.

Getting even the most basic equipment is a labour-intensive task. For example, women might increase productivity and efficiency by using a harvesting equipment that was also produced in a tiny size to harvest hundreds of acres or a small part of the farm. However, several women have shown how important they are to building a stronger food system. Consider Jeet Kumari, a 16-year-old bride from Nepal who never attended school. She continued to run their little farm while struggling to pay for health care after losing her husband and one of her four children. But after receiving official training and founding a women's agricultural cooperative, Kumari has become a well-respected farmer who proves that poor soil quality cannot hold her down. Carr and Hartl (2010) point out that labour-intensive, traditional agricultural technologies used by women are often disregarded when it comes to technical support, especially when it comes to methods for energy production, weeding, drying, and preparing land. The instruments that are accessible are typically extremely large or culturally insensitive for women to utilise easily, and they are typically designed with men's bodies or activities in mind. Though ICT-borne information services are perceived as ways to make up for the absence of institutional farming information networks that both men and women have access to, women's access is generally lower than men's, therefore they cannot profit equally from these systems. Agricultural extension agencies do not often view women as farmers, and fewer women attend community meetings or visit demonstration plots. These factors contribute

JUST AGRICULTURE
multidisciplinary e-Newsletter

to the fact that Women have far less chance of finding official sources for agricultural promotion and development (Ragasa, 2012, World Bank & IFPRI 2010). Men are better connected to organisations that function outside of their immediate community and are more formalised, while women tend to engage with smaller, more informal groups within their communities. In situations additional consideration needs to be paid to how numerous organisations could promote women's issues and objectives when extension facilities are unable to assist them. (Agarwal, 2000; Perez *et al.*, 2015; Westermann *et al.*, 2005). In her small corner of Nepal, Kumari is just one smallholder woman farmer bridging the gap between gender equality and food security. In the meantime, as global hunger rates rise, female farmers are proving how crucial they are to agriculture. Women farmers tend to encourage other women farmers more, and they frequently form cooperatives like the one Kumari started. In order to boost crop yields, these cooperatives facilitate networking and offer agricultural assistance to women-operated farms. In addition to being better stewards, female growers battle the effects of climate change on agriculture by employing sustainable methods on small-scale farms. On 24 percent of agricultural land, smallholder farmers produce 29 percent of the world's crop yields overall. Additionally, they make approximately 32% of the food supply, a large portion of which is contributed by female farmers. Thus, reducing food insecurity may depend on assisting smallholder women growers by providing more finance, providing the required tools, and providing improved training. According to new research, different circumstances will call for different approaches to address gender inequality. Many times, women farmers' access to information about weather patterns, alternative agricultural production methods, and the effects of climate change plays a significant role in affecting adaptation and mitigation of the phenomenon as well as a number of other outcomes related to gender equality. Vietnamese women farmers who got education on better rice farming techniques and technologies, pest and disease control, and crop production and management enhanced their agricultural output and brought in more revenue and variety of products. Their involvement taking decisions regarding agricultural selection, executives, and preparation in households followed. Because they helped to increase rice yields and earnings, 75% involved women farmers claimed that their reputation in their families and society had gotten better, and 84% claimed they were more esteemed by their partners, their young people, and additional relatives (Chi, Paris, Anh, Duy, & Loan, 2015). (Huyer, 2006) As I have previously indicated, when women are able to use

JUST AGRICULTURE
multidisciplinary e-Newsletter

information and knowledge to control resources and assets, make decisions that impact their lives, and feel more confident or positioned personally, it can result in gender equality. Diversity policies and gender equality goals are essential components of every developing society. These GOALS include, but are not limited to, guaranteeing the equality of men and women in the pursuit of higher education, encouraging diversity and gender equality in studies that are globally recognised and incorporating those fields into university instruction, and working to create an environment that is family-friendly for staff, faculty, and students as a whole. Among the principal suggestions are:

- To promote a work environment where gender competency and awareness are valued,
- To put into effect a policy for personnel that seeks in order to attain balance,
- Incorporating integrating gender metrics into organisational procedures and tools,
- To gather and examine data on equality in a methodical manner,
- Using assets (financial and human) to promote gender and cultural diversity research and empower women, as well as to develop, execute, and assess programmes and initiatives targeted at areas identified throughout the analysis process that have gaps and potential for change.

About 60% of the workforce is employed in agriculture, which is India's single greatest industrial undertaking. Agriculture used to contribute 50% of GDP, but over time, that percentage has steadily declined to 25%. It is called the "feminization of agriculture" phenomena since women are increasingly involved in this activity at the same time. 75% of all female workers and 85% of female workers in rural areas are employed in agriculture, according to statistical data. The majority of economically engaged women and men work in the agriculture industry. 75 million women and 15 billion men are estimated to be dairy farmers. The proportion of women working in agriculture increased between 1977 and 2001. In a similar vein, the percentage of female cultivators increased from 14% to 32%. Women's contribution to agriculture has also been highlighted by the notably high and rising number of households headed by females. In rural India, almost all women engage in employment that might be characterised as "framers," either as unpaid labourers in the family farm business or as agricultural labourers, or as a combination of the two. As men are drawn away to higher paid jobs, some farm tasks that were formerly performed by men are now being done by women also. Thus, a phenomenon that could be termed the "feminization of agriculture" is taking place

JUST AGRICULTURE
multidisciplinary e-Newsletter

in rural India. In many parts of the world, there is an increasing trend regarding whatever has been labelled the "feminization of agriculture these days. Women have an increasingly important role in agricultural production as men's involvement in the sector shrinks. HIV/AIDS deaths, illnesses, and war have all decreased the number of people living in rural areas, particularly among men. The movement many men migrating from rural to townships, either domestically or internationally, in pursuit of paid work, is another significant contributing factor to this issue. The number of households led by women has increased as a result of this trend. In sub-Saharan Africa, women currently lead almost one-third of all rural households, and in the nation of India, a rate of 10. of families are managed by women. Statistics demonstrate that women who are the heads of households typically exhibit a smaller amount of education and are younger compared to their male peers. On average, they additionally have fewer assets, fewer acres, and more labour on the farm to earn it.Heads of households in which women are frequently compelled to modify farming systems and cropping patterns due to a lack of capital and manpower. Production has decreased as a result of these changes, and in certain situations, crops that are less nutritious have replaced others. Unsurprisingly, there is frequently a rise in malnutrition and food insecurity in these households.

Conclusion

Without the participation of every member of the population in development, a society or a country cannot advance. In a nation like India, where there are more than 1.32 billion people living there, including about 0.65 billion women, it is critical that women participate in all aspects of development, including projects for rural and agricultural development. Raising awareness and educating people is the first step towards that goal. In this context, the recent bill of rights to education is a suitable move. It is true that women have demonstrated throughout history—from the pre-independence era to more recent times and the present—that, given the correct chance, they can succeed in any sector, including politics, science, administration, and the battlefield. To proceed towards sustainable development, it is necessary to view things from the correct angles and provide equitable opportunities to all societal segments, regardless of gender, caste, or creed. Similar strategies are also needed for agriculture's sustainable growth, with a focus on rural livelihood and food security. In terms of resources in contrast to men, women tend to be less prone to be granted access to markets, time, land, other financial options, information and knowledge, and essential services. This uneven

JUST AGRICULTURE
multidisciplinary e-Newsletter

degree of access is influenced by and supported by the gender standards of the surrounding culture. Empirical evidence indicates a correlation between empowering women and significant outcomes such as food security in the home and diversity in diets through context-specific mechanisms, which may vary between and within contexts. Numerous facets aspects of the agricultural products system, including access, utilisation, waste creation and administration, manufacturing, transportation, commerce, retail and output can have an impact on social equity and social justice elements (and determinants). In agrifood systems, labour rights, salaries and working conditions, gender equality, health equity, and trade concerns are all important. Concerns about dietary choices such as eating more meat in high- and middle-income nations, animal welfare, rights for individuals, ecological responsibility, advances in technology, safety, the responsibilities of companies, marketing, and commerce, and the utilisation of crops for energy and animal feed in a world where famine and malnutrition are widespread in just a few examples of the ethical issues surrounding food systems. Increased complexity in food systems can lead to an increase in unclear and unpredictable risk variables. Applying the precautionary principle can promote interdisciplinary problem-solving to handle complicated concerns. There is little proof that reducing the gender gap in agriculture can enhance food quality or nutrition outcomes. rules to reduce gender wage disparities, programmes for women to title land, and fair land inheritance rules are just a few of the many measures that could address gender imbalances in agriculture. Inequities in agriculture could potentially be addressed by agricultural initiatives, provided that elderly men are not disproportionately benefited or burdened. For many rural livelihood initiatives, including gender disparities in decision-making, workload, and access to inputs, services, markets, and social support, a thorough understanding of gender dynamics in agriculture is necessary. If gender equity is seen as a normative objective in and of itself, then such strategies are beneficial for lowering poverty and enhancing well-being in addition to potential advantages to food security and nutrition.

References

Araos, M. *et al.* (2021). Equity in human adaptation-related responses: A systematic global review, One Earth 4(10):1454–67.

Carr, M., & Hartl, M. (2010). Lightening the Load: Labour saving technologies and practices for rural women. Rugby, UK: International Fund for Agricultural Development and Practical Action.

FAO (2008) Making sustainable biofuels work for smallholder farmers and rural households. Food and Agriculture Organization of the United Nations, Rome

FAO (2011) The state of food and agriculture, 2010–2011. Women in agriculture: closing the gender gap for development. Food and Agriculture Organization of the United Nations, Rome

FAO (Food and Agriculture Organization of the United Nations). 2017. The future of food and agriculture – Trends and challenges. Rome, Italy: Food and Agriculture Organization of the United Nations (FAO). Available at http://www.fao. org/3/a-i6583e.pdf (accessed on December 12, 2017).

FAO. 1999. "Inter-Regional Project for Participatory Upland Conservation" Rome, Italy.

Few, R. *et al.* (2017). Transformation, adaptation and development: relating concepts to practice, Palgrave Commun 3.

Garcia, O. A., Skinner, W., & Pennarz, J. (2017). Evaluation synthesis report on what works for gender equality and women's empowerment–a review of practices and results.

Hafkin, N. and N. Taggart. 2002. Gender, information technology and developing countries: An analytical study. Washington, DC: Academy of Educational Development/Learn Link. http://learnlink.aed.org/Publications/Gender_Book/ Home.htm (accessed September 16, 2002).

Hossain, M.M and Mishra, S.N. (2002) studies on involvement of women in agriculture and allied activities in Kalahandi District of Orissa, Manage extc. Res. Review, Vol. III A(1), pp. 88-96.

Hossian, M.M. and Mishar, S.N. (2002) Studies on involvement of women in Agriculture and allied activities in Kalahandi district of Orissa, Manage Extn. Review, Jan –June 2002 pp.88-96.

HRW, (2005). Women property rights, Women's right, Defending human rights worldwide: Human Right Watch.

http://unstats.un.org/unsd

https://agrilinks.org/post/gender-equality-agriculture-essential-food-security

https://www.iucn.org/news/commission-environmental-economic-and-social-policy/202104/gender-fisheries-equality-vs-equity

IPCC (2022). Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner*et al.* (eds)]. Cambridge University Press.

Leach M. *et al.* (2018). Equity and sustainability in the Anthropocene: a social–ecological systems perspective on their intertwined futures. Global Sustainability 1, e13, 1–13, citing

Leach M. *et al.* (2018). Equity and sustainability in the Anthropocene: a social–ecological systems perspective on their intertwined futures. Global Sustainability 1, e13, 1–13

Malapit, H.J., Quisumbing, A.R. and Hodur, J. (2020). Intersectionality and addressing equity in agriculture, nutrition, and health, A4NH Strategic Brief. Washington, DC: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/p15738coll2.134153

Mansell, R. and U. Wehn. 1998. Knowledge societies: Information technology for sustainable development. UN Commission for Science and Technology for Development. Oxford: Oxford University Press.

Mishra, S. and Sasmal. S. (1997) Gender implication in livestock production and management in rice-based farming system, Journal of Extension Education, Vil. Ii (1,2) pp.126.

Momsen JH (2010) Gender and development, 2nd edn. Routledge, London/New York

Moser CON (1993) Gender planning and development: theory, practice & training. Routledge, London/New York

Perez, C., Jones, E. M., Kristjanson, P., Cramer, L., Thornton, P. K., Forch, W., & Barahona, C. (2015). How resilient are farming households and communities to a changing climate in Africa? A gender-based perspective. Global Environmental Change, 34(September), 95–107. Retrieved April 24, 2016, from http://doi.org/10.1016/j.gloenvcha.2015.06.003

Pierce Colfer, C.J, Ihalainen, M. and B. Siapati Basnett (2021). Intersectionality. In A.H. Akram-Lodhi, B.M. McKay, B. Engels and K. Dietz (eds.), Handbook of Critical Agrarian Studies. Edward Elgar Publishing; Nyantakyi-Frimpong, H. (2020). Unmasking difference: Intersectionality and smallholder farmers' vulnerability to climate extremes in Northern Ghana, Gender, Place and Culture 27(11): 1536–44.

Poats, S.V., M. Schminck, and A. Spring (eds). 1988. Gender issues in farming systems research and extension. Boulder: Westview Press.

Ragasa, C. (2012). Improving gender-responsiveness on agricultural extension. In A. R. Quisumbing, R. Meinzen-Dick, T. L. Raney, A. Croppenstedt, J. A. Behrman & A. Peterman (Eds), Gender in agriculture and food security: Closing the knowledge gap. Amsterdam: Springer.

Rietveld, A. *et al.* (2022). Methodologies for gender transformative change: from diagnosis to action, unpublished.

Sen, A. (2009). The idea of justice. Cambridge, MA: Harvard University Press.

Tejaswini, C.N., Chandra Shekar, V., and Narayana Gowda, K. (2004) performance of farm women in agriculture and income generation activities, Manage Extn. Res. Review, vil . (1), pp.68-73

Timsina *et al.* (1996) "Gender Involvement in Farming sector"- Mainstreaming Gender, Vol III, 1996, Bangladesh, pp-34-39

Westermann, O., Ashby, J., & Pretty, J. (2005). Gender and social capital: The importance of gender differences for the maturity and effectiveness of natural resource management groups. World Development, 33(11), 1783–1799.

Whitfield, S. *et al*, (2021). A framework for examining justice in food system transformations research. Nature Food. 2, pp. 83–385

WLE (CGIAR Research Program on Water, Land and Ecosystems). 2017a. Poverty-gender-agriculture nexus in the northern region of Bangladesh: Challenges and opportunities. WLE Briefing Series No. 20. Colombo, Sri Lanka: CGIAR Research Program on Water, Land and Ecosystems (WLE). 4p. Available at https://cgspace.cgiar. org/handle/10568/80750 (accessed on December 12, 2017).

World Bank & IFPRI. (2010). Gender and governance in rural services: Insights from India, Ghana and Ethiopia. Washington, DC: Author.