

Working, Bending, Suffering:

Embodying Irrigation Infrastructure in Rural Ethiopia

Annapia Debarry

On a sunny day during the dry season in Ethiopia's northern Amhara region, a boy herds cattle along a concrete canal in the Koga irrigation scheme. What looks like a simple construction is in fact part of one of the country's first large-scale irrigation infrastructure projects,¹ providing water for about ten thousand households to irrigate their fields in a second agricultural season outside of the rainy period (Beyene 2018). The technical infrastructure consists of a large dam and reservoir that supplies water to the irrigation scheme. The water is channelled along a main canal from the reservoir to several catchments in the irrigation area, before being diverted into smaller canals from which farmers supply their fields with furrow irrigation. Due to the availability of extensive water resources such as lakes and rivers, the development of large-scale water infrastructure is a key aspect of Ethiopia's development policy aimed at modernizing and increasing agricultural productivity. Often considered merely as technical advances to sustainably intensify agriculture (World Bank 2020), such grand irrigation projects represent a major intervention in the lives of local people, creating new social inequalities in the process (Eguavoen and Tesfai 2012; Mulugeta 2019; Gebreyes et al. 2020; Müller-Mahn et al. 2022).

¹ The Koga irrigation project, partly financed by the African Development Fund, was initiated by the Ethiopian government in 2001 and completed in 2012 with the goal to enhance agricultural productivity.



Embodying Irrigation Infrastructure through Visual Storytelling

Although irrigation contributes to the improvement of livelihoods, it also increases the burden of work for farmers – mainly as a result of year-round farming. The crucial role of human labour in (irrigation) infrastructure projects, especially in contexts where there is a highly gendered division of labour, has only been explored to a limited extent.² Early feminist research linked irrigation and gender by drawing attention to women’s lack of participation and proposing gender-sensitive planning (Zwarteveen 1995), while more recent studies have deepened our understanding of the gendered impacts of irrigation in terms of vulnerability and poverty (Harris 2008). Recent feminist approaches rooted in political ecology ‘embody’ the growing literature on natural resources (Gururani 2002), water (Sultana 2009, 2011; Truelove, 2019) and infrastructure (Sultana 2020; Truelove and Ruszczyk 2022) through focusing on the body as a site of experience and inquiry. Although such embodied dimensions lead to nuanced encounters with power relations and social inequalities, they tend to be marginalized in the discourse on irrigation. This article seeks to link embodied approaches to the infrastructure of irrigation through visual storytelling, in order to shed light on the gendered and socially differentiated dimensions of infrastructural labour that are usually taken for granted by project planners and which therefore remain invisible.

All photographs illustrating this piece were taken by farmers – both men and women – living and working in various villages of the Koga irrigation scheme during fieldwork in September 2019, documenting their daily life with irrigation. Semi-structured interviews and group discussions were conducted with these farmers and translated from Amharic into English as part of broader ethnographic fieldwork in Koga between 2019 and 2022.

Boy herding cattle along a concrete canal in the Koga irrigation scheme.

Photo: Male farmer, Kolela village, 2019.

² Leila Harris’s (2006) study on irrigation projects in Turkey offers a detailed example of an emerging labour economy that is something of an exception here.

Infrastructural Labour: Powered by Labour Norms and Expectations

Without ongoing human labour, irrigation infrastructure would be inconceivable. This can be further illuminated by considering recent work that views infrastructure as non-material, social and ‘peopled’ (Simone 2004; Berlant 2016). In this sense, the working, walking, carrying, suffering and bending bodies of the women, men and children of Koga that find visual expression in the photographs included here are themselves infrastructure critical to upholding productivity. When exploring expectations and norms related to labour in Koga, it becomes clear that ‘infrastructural bodies’ are gendered, aged and classed. Women and men alike expressed how social norms have evolved to reinforce expectations around hard work, especially targeting women and girls. As farmers explained in interviews:

“Since the irrigation, women are expected to wake up early and prepare food, then expected to help in the fields, even when they are pregnant or breast-feeding. They are busy the whole year.” (male farmer)

“Now the women work both in the house and on the farm. Before, the women sometimes worked only at home, but now that there is irrigation and more labour is needed, we all work to benefit from irrigation.” (female farmer)



Boys applying pesticides on their family farm without protective clothing. An embodied agricultural activity in the Koga irrigation scheme that can cause harm.

Photo: Female farmer, Andinet village, 2019.

Labour expectations are not only gendered but also depend on other social factors such as age. Many respondents stated that children are now much more involved in agricultural activities and are kept back from school on days when the family has a lot to do. This is also evident from the photo documentation, where farmers frequently pictured their children at work, including doing dangerous tasks such as spraying

pesticides. Application of pesticides is mainly the domain of men, but it is sometimes handed down to boys due to lack of time and insufficient knowledge about the dangers of such chemicals.



Daily wage labourers planting seedlings in a field in Koga. High-income families who own irrigated land hire additional labour on a daily basis depending on the season.

Photo: Male farmer, Andinet village, 2019.

Looking further through an intersectional lens, it becomes clear that labour in Koga is not only unequally distributed along lines of gender and age, but also in terms of social class and status. In the photograph below, a farmer has documented female daily wage labourers employed by families who own irrigated land. The work of these mostly female labourers remains extremely precarious despite the extended agricultural season in the irrigation scheme, as it continues to be seasonal, ad hoc and depends on the financial capacity of the landowning households to hire additional labour. But low-income landowners often find themselves in a precarious situation too as they are forced to hire labour to keep up with the time-consuming and costly demands of irrigated agriculture. As a female farmer explained:

“Irrigation requires a great deal of labour and capital. Farmers with a lot of money have a major advantage. We need additional labour, it costs us and the profit is small. But my husband and I cannot manage without hiring additional labour.”

To a State of Exhaustion: Embodied Experiences of Irrigation Farming

Embodied experiences of irrigation agriculture were related by many women to exhaustion, time constraints on self-care, a general burden and pressure, and the unequal distribution of work between men and women. In the images captured by

the farmers, we see the embodied dimension of agriculture expressed in the bending (female) bodies responsible for many exclusively female agricultural tasks. For women, irrigation has led to a cumulative dynamic in their workload as their traditional tasks – especially the time-intensive provision of drinking water – have become interwoven with gendered agricultural work. Due to this increased workload, women are under even more pressure to supply their households with drinking water. While there is now plenty of water for irrigation, the domestic water situation in Koga is still dire, although the project was supposed to improve it through a watershed management component (AfDB 2001). As a result, women must continue to fetch water from unsafe sources such as rivers and traditional wells and in doing so have to travel long distances, where they often feel unsafe and anxious. Fearing crime, many women do not let their daughters fetch water. As a female farmer reported:

“As the river is far from our house, we never allow our girls to go there alone. We fear that someone might take them by force to rape or harass them. As mothers we are not afraid, we have to go alone.”



A mother and her children weeding a field. Apart from ploughing, women carry out most farming activities with the help of their children.

Photo: Male farmer, Andinet village, 2019.

These protection mechanisms draw our attention to what Sultana (2015: 642) calls “feminization of experience”: women in Koga feel it is their duty to endure the suffering of fetching water and so they carry on.

(In)visible Labour: Thinking Infrastructure through People

Through a visual journey, this article has investigated how irrigation labour practices are unequally distributed in socially differentiated ways, thereby exposing gendered,

aged and classed bodies not only to stress and harm, but also to becoming living infrastructure themselves. Exploring micro-contexts like Koga by “sense-making through the body” (Shattuck 2019: 3) and thinking infrastructure through people by incorporating a non-material dimension can elevate our attention to social inequalities and gender-sensitive and intersectional perspectives on irrigation infrastructure. This becomes particularly important as human labour too often remains invisible to project planners, governments and even researchers.

Fetching water from a traditional well. Women in Koga often have to walk long distances several times a day to fetch water.
Photo: Female farmer, Kolela village, 2019.



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