Food or flowers? Contested transformations of community food security and water use priorities under new legal and market regimes in Ecuador's highlands

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A B S T R A C T

During the past three decades, the Pisque watershed in Ecuador’s Northern Andes has become the country’s principal export-roses producing area. Recently, a new boom of local smallholders have established small rose greenhouses and joined the flower-export business. This has intensified water scarcity and material/discursive conflicts over water use priorities: water to defend local-national food sovereignty or production for export. This paper examines how including peasant flower farms in the capitalist dream — driven by a ‘mimetic desire’ and copying large-scale capitalist flower-farm practices and technologies — generates new intra-community conflicts over collective water rights, extending traditional class-based water conflicts. New allocation principles in Ecuador’s progressive 2008 Constitution and 2014 Water Law prioritising food production over flowers’ industrial water use are unlikely to benefit smallholder communities. Instead, decision-making power for peasant communities and their water users’ associations on water use priority would enable water user prioritization according to smallholders’ own preferences.

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1. Introduction

In the early 1980s, large farms with national and international financing started growing roses for export in Ecuador’s highlands, especially in some northern inter-Andean valleys. Since then, they have become key stakeholders in the geopolitical landscape. This boom started amidst a globalising, neoliberal environment, taking advantage of exceptional biophysical and societal features (Gasselin, 2001; Brassel and Montenegro, 2011; Harari et al., 2011). Rose agribusinesses can be seen as the latest player in a history of commoditisation and technologies — driven by a ‘mimetic desire’ and copying large-scale capitalist flower-farm practices and practices, generating new intra-community conflicts over collective water rights, extending traditional class-based water conflicts. New allocation principles in Ecuador’s progressive 2008 Constitution and 2014 Water Law prioritising food production over flowers’ industrial water use are unlikely to benefit smallholder communities. Instead, decision-making power for peasant communities and their water users’ associations on water use priority would enable water user prioritization according to smallholders’ own preferences.

acknowledging that flowers provide jobs, local communities have expressed concern about the impact on local water security and food sovereignty of a non-edible, individually-produced commodity, with high water demand, for the international market (Soper, 2013; see also Anderson, 2013). Flower farms retort that rose agribusinesses have modernised the regions where they flourish, and enhanced local purchasing power; thus, floriculture has contributed significantly, albeit indirectly, to improving local food availability (Zapatta and Mena-Vásconez, 2012).

The tense social context has been largely understood as a conflict between producing large-scale commercial flowers for export vs. local production for food security and sovereignty, a conflict that has included — as shown by Hidalgo (2010) — overt situations involving bribing, water theft, and mobilisations (see also Soper, 2013). However, the recent boom of very small rose farms managed by peasant families has rendered this dichotomy inadequate. Some local households have tried to follow the promises of modernisation, replicating capitalist technologies and practices, and now engage in the risky endeavours of export farming. This phenomenon intensifies water use for export crops in a region already suffering from water scarcity, and significantly adds...
complexity to irrigation water use and rights conflicts in the valley (Zapatta and Mena-Vásconez, 2012).

Aside from pollution and health problems (e.g., Breilh, 2007), water over-extraction and large water demands by a (flower-growing) minority generate tensions inside communities. Moreover, collective community water control faces internal divisions and new individualised needs. Local discourses defending water for food sovereignty are now being threatened. Concomitantly, many community members do understand their neighbours’ wish to ‘follow their dreams’ (see, e.g., Gasselin, 2001; Hidalgo, 2015).

Concurrently, institutional and legal settings are changing. The current (2008) Ecuadorian Constitution categorises water use types (Article 318); rose farms’ use is classified as ‘productive’, falling into the lowest status below ‘human consumption’, ‘irrigation for food sovereignty’, and ‘environmental flow’. The recent Water Law (in force since 2014) and its upcoming by-laws are expected to regulate and enforce this categorisation. Given the deep contradictions in actual water control situations, this seems to be more a formal declaration than an enforceable policy. In the field, local Water Users’ Associations (WUA) have traditionally defended their water rights against the agribusiness, but now must deal with their neighbours’ small local rose farms.

This article focuses on peasant families copying the capitalist export farming dream, producing new water-related complexities, and water rights prioritisation regarding agricultural water uses – ‘food versus flowers’ – both in everyday water rights conflicts and under the new Water Law. It discusses how the material/discursive water rights conflict between flower export agriculture and subsistence-based food production has evolved with diversifying local production relationships and changing national water priorities.

The main question for this article is: Will the Ecuadorian Government’s water use priority regulations support smallholders and ‘water-for-food-sovereignty’ communities in the Tabacundo flower production region? Four related subquestions that will be answered are (a) What modes of farming prevail in Tabacundo and why did some smallholders change from subsistence to small-scale flower production? (b) How did this induce conflicts over access to and control over irrigation water? (c) How does the Ecuadorian Government plan to intervene in water rights by prioritizing water use? And (d) How does the priority regulation affect the autonomy of water control by smallholder communities?

The study was conducted from October 2012 until October 2014, with follow-up research in 2015 and 2016. Fieldwork included participatory observation and 53 structured and 20 semi-structured interviews with large and small flower farms. Farmers were selected to be representative of all sectors in the watershed’s two main irrigation systems with flower production: The Pisque canal and the Tabacundo acequia. Interviewees were asked about production figures, rationalities and histories; the fundamental reasons for establishing their rose greenhouses; concerning their dreams, motives, aspirations, and desires; and role models who prompted this decision. Also, four authorities at various administrative levels, eight community leaders and twelve Latin American academicians involved in Ecuador’s debate on new water legislation and food sovereignty issues were interviewed. Structured feedback and debates on preliminary research findings were organized with 65 political ecology scholars in two Water Justice alliance meetings, in Quito (November 2013) and Cusco (November 2014). One small flower producer was studied in-depth in the Santo Domingo community. All interviews were in Spanish (by the authors). Additionally, two workshops were organized with community members to discuss current developments in agriculture and water, the impact of flower businesses on community dynamics, and the influence of new constitutional and legal regulations. An audio-visual documentary was made with food- and flower-growing communities, and used for discussion and reflection among researchers and peasant families. The maps were based on available satellite images.

This article first explains the conceptual framework using the concept of ‘mimetic desire’ to analyse what drives peasants to shift to entrepreneurial farming. Then, we summarise historical agrarian change, water management and conflicts in the region. To illustrate the ‘food or flower’ debate’s socio-economic and politico-cultural relationships and locally specific dilemmas, we describe a community where some smallholders have decided to grow flowers. Next, we examine whether the new water law and its changing legal water-use priorities could benefit smallholder communities. After a discussion, we present our conclusions.

2. Conceptual framework

The research follows a political ecology approach to examine changing modes of farming, water conflicts and water-use prioritization, focussing on contradictions and interactions among community and commodity spheres (Golte and de la Cadena, 1983; Zoomers, 2010; Boelens et al., 2014; Higgins et al., 2014; Cid Aguayo and Latta, 2015), modes of farming and how the ‘mimetic desire’ mechanism shifts the social construction of needs and scarcity (Girard, 1961; cf. Illich, 1978, 2005; Achterhuis, 1988; Achterhuis et al., 2010). Finally, we link societal construction of needs to the Ecuadorian Government’s water priority regulation and analyse how it affects water-user communities’ autonomy and water control.

2.1. Commodification of peasant farming

To understand how indigenous peasants’ shift from subsistence agriculture to small-scale flower production, we start by looking at peasant households’ and communities’ production and reproduction, which have been influenced by capitalist farming. Three (interconnected and overlapping) modes of farming may be distinguished in Andean agriculture: peasant farming, entrepreneurial farming and capitalist farming (Van der Ploeg, 2008).

In peasant farming, families own most of the means of production. Implicitly, their main purpose and underlying rationality is to reproduce their livelihood: part for family consumption and any surplus can be exchanged or sold locally. Most inputs are produced on-farm. Farm families sometimes complement their income with off-farm employment (locally or by temporary migration). While necessarily engaging and being confronted with capitalist production environments, the inherent rationale is that non-commodity Andean relationships ensure long-term reproduction and offer protection against the vicious circles of poverty, debt and exploitation (Boelens et al., 2014; Mayer, 2002; Van der Ploeg, 2008).

In the entrepreneurial mode, a farming family also owns most means of production, producing mostly for market (local, national or international). Most inputs are bought-in. Family members

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1 We use the concepts of ‘indigenous’, ‘peasant’ and ‘community’ as contextual, dynamic, relational constructs. In the Andean region, as Boelens observes: “the class-based definition (peasant, campesino) melds with ethnicity-based identification (indigenous, indígena) in complex, fluid ways, depending on who uses which labels in what period, context or place ... Both campesino and indígena concepts are part of fiercely debated identity politics. In the Andes, indigenous groups commonly use territory-bound names to refer to their identity” (2015:36). All smallholders in the Pisque region are considered campesinos, and most consider themselves indígena. This paper does not distinguish between different types of smallholders, using ‘peasant’ and ‘indigenous’ interchangeably.
provide most labour force, but some might be hired. Often, government programmes support entrepreneurial farming. Specific training and credit programmes encourage small-scale farmers to invest in increased production for market. Nevertheless, in most Andean livelihoods, non-mercantile actions have survived these purely commoditised relationships, despite intensifying, long-running capitalist penetration (cf. Rodríguez de Francisco et al., 2013; Duarte-Abadía et al., 2015). Water control has especially been a mainstay of collective action. For local families and communities, irrigation cannot be sustained and reproduced within exclusively mercantile relationships.

Mercantile relationships — aside from unjust exchanges — can offer significant temporary solutions and opportunities, yet without guaranteeing stability for producers with scant subsistence resources. The unfavourable characteristics of Andean peasant agriculture (small, fragmented plots in fragile, steep terrain) and the asymmetrical market exchange relationship give peasants insufficient value for their products and labour to make a living in a purely mercantile economy: they need the non-mercantile economy, while balancing their interactions with the commodity economy (see Mayer, 2002; Van der Ploeg, 2008; cf. Shucksmith and Rønningen, 2011). The capitalist system exploits peasants who, in turn, engage coherently. Some peasants choose part of their household/community production and reproduction. ‘Community’-‘market’ dealings are mutual but not equivalent: they are grounded in unequal powers and continuous extraction of peasants’ resources.

Capitalist/industrial farming obtains the means of production (land, labour, machinery and inputs) through the market. Its goal is capital accumulation by investors. This mode is also frequently supported by national governments through agricultural-sector policies and infrastructure development.

These modes of farming do not exist separately but compete for land, water, labour and other resources. They are also mutually dependent and entwined through asymmetrical power relationships: peasants may work on entrepreneurial farms or capitalist estates as temporary labourers, so the estate benefits from reproduction of peasant labour, and peasants sustain their livelihoods partly by off-farm employment.

2.2. ‘Mimetic desire’ drives change from peasant to entrepreneurial modes

This article analyses what drives farmers from peasant to entrepreneurial farming. Many drivers trigger this shift. Enabling conditions are State programs for subsidies, credit, training and infrastructure (Van der Ploeg, 2008). Many regulations push entrepreneurs towards the market to intensify production. Also, a need for cash is socially generated in many regions as services (electricity, piped water, mobile telephones and consumer goods) become available and health care, education and other public services are increasingly privatized (Mayer, 2002). Literature has examined such societal and agro-productive change using approaches ranging from political economy to market/management studies.

A factor, not much highlighted in academic literature, is peasants’ changing aspirations and demands; the cultural-political and psychological inclination to ‘become like the big farmers’. René Girard (1961) and Ivan Illich (1978, 2005) called this ‘mimetic desire’. Neo-classical economics does not examine generation of demand, but studies demand through the price paid, price elasticity, and commercial exchange. So scarcity obeys the laws of demand and supply, in direct relation to ‘Nature’s available resources’. Political economy and political ecology studies, however, have shown how scarcities are not natural or Nature-based but politically and materially manufactured by dispossession. Girard’s notion of mimetic desire may deepen such a perspective, showing how in modernist (and commodifying/capitalist) societies’ demands cannot be satisfied; ‘scarcity’ and ‘needs’ are ever-expanding. The neighbour always has something ‘more’, new objects of desire; the goal ‘to be like the other’ can never be attained. This creates spiralling demand for productive resources. Being like a big farmer is impossible, because smallholders do not have the same networks, access to capital, market knowledge, political influence, or advantages of scale. Smallholders’ disadvantaged position entails great productive/financial risks and (self-)exploitation.

Girard (1961), Illich (1978, 2000, 2005), Foucault (1980, 2008) and Achterhuis (1988) have elaborated on this societal creation of needs: production also produces the very producer. Besides resources fall short of certain absolute needs, needs are strongly mediated by ‘Others’ conditions and possessions’. Unlike ‘absolute subsistence needs’, these ‘relational’ needs come from comparison among humans. Lack of material and immaterial properties is measured in accordance to what others value: it is fundamentally mediated by the norm-providing model. Girard (1961) shows how the mechanism of ‘mimetic desire’ means that we are not autonomous; we copy our desires.

Need for the object is relative, resulting in competition for scarce resources, always insufficient. Relative needs include material resources (water, high-tech infrastructure) and also to non-material/abstract ones (development services, irrigation expert knowledge). Moreover, these abstract needs increasingly expand the desire for material needs (Achterhuis, 1988; Illich, 2000), simultaneously reinforcing farmers’ dependence and subordination.

Mimesis is part of smallholders’ drive toward agro-export farming and high-tech modernisation (see Faussig, 1993). Over three decades of research in Andean countries have shown how mimetic mechanisms — imposed, e.g., Lukes (2005) or through unconscious capillary forces of normalisation, e.g., Foucault (1980, 2008) — strongly underlie, accompany and complement the cultural politics of water control and the political ecology of livelihood development.

Following Foucault’s (1980, 2008) ideas about capillary power and disciplinary normalisation, capitalist flower growers, engineers, and local water users are all effects and vehicles of this power producing them as ‘subjects’. The more all want to join in modern agribusiness and water management values, knowledge and benefits (and thus be ‘equal’) and under mutual scrutiny and self-surveillance, the more this normalising power is deemed productive, beneficial, and efficient. It generates a desire to fit into a ‘modern water culture’. This ‘equality imperative’ makes it easy to measure subjects according to the degree to which they fit the model. Hence, normality is not a stationary condition but the potent desire to belong to the model’s mirror community and become its image. Previously excluded groups feel the obligation and need to participate in a game with new rules for their lives, communities, irrigation systems, and households. Yet, despite these

2 We do not suggest that mimetic forces have more explanatory power than other politico-ecological theoretical bodies. Many variables facilitate the move towards flower production (for instance: access to credit, knowledge, market prices for inputs, labour and flowers, etc.). However, mimetic desire addresses the question of why a smallholder would want to change farming mode. Political economy/ecology and modernisation/developmentalist studies often neglect this understanding of smallholders’ drive to agro-export farming mimesis.

3 The relationship between the subject (peasant family) and the desired object (flower smallholding) is not direct, but triangular: subject, model (capitalist entrepreneurial management, technologies, etc.) and object. The model is the ‘mediator’ – ‘external’ when actually beyond the subject’s social reach, or ‘internal’ when subject and object have the same social standing, which makes the mediator a rival, and an obstacle to acquiring the object (Girard, 1961).
unleashed desires, the less privileged cannot meet the equalisation standards. Their participation often results in frustration due to a constant self-measuring in relation to a continuously refined and unreachable norm (Boeens, 2015; see also Illich, 2005; Allen, 2013).

In Andean communities, just some decades ago, this mutual comparison was restricted by explicit social hierarchies and cultural barriers to the ‘equalisation mechanism’ (often also through violence and oppression): ideologies of colonialism, inequality and natural hierarchy prevented comparison with the feudal landlord. However, modernist/capitalist production rationality builds on the (neo)liberal promise of equal opportunities for all (in a market-commoditised environment of supposedly equal, individual utility-maximisers). This generates the need to consume expert knowledge for modern production and water-distribution techniques, and also produces subjects who ask to become like (mirrored) ‘successful actors’ and follow their expert models. These new ‘needs’ actively generate new water scarcity; water-intensive market crops replace local-market and food crop security mixtures: as market-competitors, new producers claim ‘their’ (usually larger) portion of available water, ignoring local balances of ‘social water efficiency’ and abolishing local rationalities of supply and demand (Boeens, 2015; see also Achterhuis et al., 2010). Thus, water scarcity is a not natural phenomenon but socially constructed by stakeholders’ needs (Mehta, 2005; Samuel and Robert, 2010). Similarly, Snyggedouw (2006) shows how social production of water scarcity is a common water-governance strategy to make markets seem ‘inevitable’ – water markets depend on the existence of scarcity. Lynch (2013) shows how the Peruvian Government, by over-stimulating capitalist export producers’ water demand, actively engineers water scarcity, including the need for large-scale infrastructure and water markets.

2.3. Conflict, water rights and water use prioritization

Water is essential for agricultural production. In arid and semi-arid regions, the spiralling demand creates conflicts over water control. Most regions regulate access to irrigation water through a rights system: benefits and obligations regarding water use and also rules about authority, grouped in particular norms and values (Zwartveen and Boeens, 2014). The ‘initial distribution’ of water rights is not important to neo-classical economics, since free-market conditions will grant those rights to the most competitive producer, by ‘efficient economic allocation’, ‘good for all’ (the ‘Pareto efficiency’). By contrast, political ecology theorists feel water rights distribution is essential to sustain smallholder livelihoods. Peasants will refrain from selling their water rights (controlled collectively) and the money obtained from selling them would not be sufficient to sustain livelihoods and communities.

Unlike government-granted water rights — usually in Andean countries for individuals paying fees — community water rights (as in the Andes) are granted to families belonging to a collective and meeting the corresponding collective-labour, organisational and fee obligations (Achterhuis et al., 2010; Gelles, 2010). Families build identity, and identify with collective water cultures, by fulfilling irrigation tasks and obligations; individuals’ rights stem from, and are embedded in, their collective rights and duties (Boeens, 2015).

Similarly, water rights and usage norms are part of the overall community norms. Water-related infractions may be penalised in other fields of community life and vice versa. By contrast, in regions and systems where water rights have become strongly individualised, rights and duties have become ‘dis-embedded’ and separated from other fields of community life (Boeens and Seemann, 2014). Usually, individualised right-frames allow holders to transfer property (lending, renting or sometimes even selling it, even if not legally allowed, as in Ecuador). This commonly has redistributed rights according to prevailing socioeconomic relationships and buying power. Users compete within their systems, which used to be collectively managed, often endangering their reproduction and aggravating conflicts (see, e.g., Achterhuis et al., 2010; Lynch, 2012; Roa-García, 2014). To avoid such internal competition, Andean communities and water collectives make great efforts to keep their members ‘inside’.

Enacting a law to redefine water use priorities is commonly debated fiercely, as a potential, fundamental intervention in existing on-the-ground water rights and local water-use practices. Previous neoliberal governments in Ecuador, since the early 1990s, have attempted to install market-based water allocation mechanisms with as few social priorities as possible, but the current regime — urged by social movements that initially helped get the government elected — has strengthened social and livelihood-based water use priorities.

3. Flower production and water control in the Pisque watershed (Ecuador)

3.1. The rise of flower business in Ecuador’s Pisque watershed

The Pisque watershed (Fig. 1) has been an agricultural region since pre-Inca times, first mainly for native corn, potatoes and other tubers, later intermingled with European crops (wheat, barley, onions, alfalfa and cattle pasture). The colonial hacienda (large feudal landholdings) dominated the area’s socioeconomic and political landscape for centuries, using forced labour (by the land’s original owners) and encroaching on their land and water rights (Becker and Tutillo, 2009). Even if large landowners allegedly provided safety, education and catechisation (the encomienda and mita institutions), the relationship was actually slavery (Mayer, 2002). Labourers were counted as property and lived in extreme poverty, which included very limited access to water. Some haciendas became immense estates and the indigenous population was gradually pushed towards higher, colder, unproductive zones in the Andes (Mayer, 2002). Agrarian reforms were enacted in the 1960s and 70s to redistribute land but achieved little in terms of structurally improving indigenous subsistence agriculture (minifundismo) (Zamosc, 1990).

Haciendas usurped water from local people’s early irrigation systems or forced local workforce to build new ones, but aimed only to produce for self-sustenance and some local marketing (Becker and Tutillo, 2009). This changed notably in the 1960s when haciendas fully entered the national market. The impossibility of expanding the agricultural frontier to higher grounds and State-led protection against international competition encouraged them to use their flat, irrigated lands for cattle grazing, needing less labour, while indigenous peoples were even more confined to marginal lands (Korovkin, 1997). Many communities started to combine minifundio staple foods with livestock. In the region, milk and its products were generally perceived as contributing to food sovereignty, part of the local diet, or sold on local and national markets.

Floriculture was a new shift strongly fostered by neoliberal policies in the early 1980s (Cremers et al., 2005; Soper, 2013). International investors and landowners noticed the exceptional bio-physical niche, abundant, relatively cheap labour, and market-oriented government regulations. They established export-rose farms on the remaining hacienda lands (Korovkin and Miguel-Valderrama, 2007; Hidalgo, 2015). Relatively good roads and the nearby airport enabled flower transport (Guerra, 2012). Favourable fiscal and market conditions enhanced competitiveness, bolstered by foreign investment (Acción Ecológica, 2000; Sawers, 2005; Hidalgo, 2010; Soper, 2013).
In 2014, Ecuador was the world’s third-largest flower exporter, after the Netherlands and Colombia (UN Comtrade, 2015). Volumes rose from ca. 8000 tons in 1990 to ca. 139,000 tons in 2014, increasing from 0.5 to 4% of Ecuador’s total exports, from 14 million to 798 million US dollars (Guerra, 2012; UN Comtrade, 2015). The study area is one of the world’s main flower production zones in transitional economies, along with Bogotá (Colombia), Naivasha (Kenya), Arusha (Tanzania) and Central Rift Valley (Ethiopia) (Bont et al., 2015). These zones lie close to the equatorial line and benefit from several comparative advantages: constant day-length and high insolation; cool temperatures in mountainous areas; low labour costs, and proximity to international airports. In all of them, communities and flower agribusinesses share irrigation water, often with conflicts.

The Pisque watershed has most of Ecuador’s big flower companies, some 150 big (>2 ha) companies producing for export. They average 11 ha with greenhouses. The flower sector employs some 48,000 direct and 55,000 indirect workers (Harari et al., 2011; Guerra, 2012). A decade ago, peasants started their own small flower greenhouses. In 2015 some 300 small (<2 ha) greenhouses were established by smallholders.

In the Pisque watershed, several systems use water from the highlands for irrigation (Zapatta and Mena-Vasconez, 2012). The watershed’s main irrigation system used for flower farming, the Tabacundo acequia (Fig. 2), typifies developments in the area, a five-sector, multi-community scheme combining small and large farms. Some communities, especially those at higher altitudes and less urbanised areas, have managed to curb the strong proliferation of rose farms; others show notable, continuous growth of greenhouse area over the past three decades.

Water runs along primarily earthen canals and reaches plots via open secondary and tertiary canals starting at gates (óvalos), controlled manually by schedules mainly following seasonal variations. Some main canal gates are used by entire communities, but others are dedicated for one large farm, especially for flower businesses. While traditional agriculture depends on surface irrigation, many cattle grazing farms use sprinklers, while floricultural farms use high-tech drip ferti-irrigation. Large farms possess reservoirs and rain-collecting facilities to ensure continual water delivery; some even have deep boreholes to pump underground water (Ochoa, 2013).

3.2. Drivers for change from peasant to entrepreneurial farming: the case of Ana Farinango

“...To be like them. It was the promise of the politicians, the justification of the technocrats, the illusion of the outcast. The Third World will become like the First World, rich, cultivated and happy, if it behaves itself and does what it is told, without saying anything or complaining.

WE CAN BE LIKE THEM, proclaimed a gigantic illuminated billboard along the highway to development of the underdeveloped, and the modernisation of latecomers.

‘But, what can’t be, can’t be, and more than that is impossible’ [...] The precarious equilibrium of the world, poised on the brink of an abyss, depends on perpetuating injustice. The majority must be deprived, so the few can waste.”

(“Ser Como Ellos”, Galeano [1995]).

To provide greater insight into drivers for change from peasant mode to entrepreneurial production, the next section will portray one typical Pisque watershed community, Santo Domingo, focusing in particular on an illustrative smallholder case.4

The community of Santo Domingo II, in the upper Pisque watershed, was part of a large hacienda that belonged to the Dominican order. Later, after the Liberal secularisation in the early 20th century, it came under State administration. It was partially

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4 Opinions and information from key actors also include material assembled to make the documentary “Ana, Volar sin Alas” (Jellema and Cremers, 2014), part of our research programme.
distributed among its workers after the 1960s and 70s agrarian reforms. Nowadays, most plots have been divided among the original workers’ heirs as small parcels. The community has some hundred families grazing cattle for milk and cultivating potatoes and corn, mainly for self-supply. Many people work for large neighbouring rose farms, where they perform basic tasks.

The small-flower farm boom started a decade ago, when some veteran workers for large rose farms decided to venture into establishing greenhouses on their own plots. The Pisque watershed had no under-one-hectare greenhouses in 2002, while in 2013 there were over 300 (Fig. 2). As Fernando Chencusi, President of Santo Domingo’s WUA explained, most peasants combined crops and meadowland, but the area has changed:

“They used to cultivate crops here. Especially potatoes, maize, wheat, barley ... Flowers arrived around 1993, 1995 ... It is either cattle or flowers here. Each plot has its assigned water. In case people want to cultivate flowers, they can do so. But if all four hundred hectares were flowers, there wouldn’t be room for cattle or producing cheese and yogurt.”

Ana Farinango, a woman in her late thirties, is one of the mini-fundistas who decided to establish a rose greenhouse on her land, a 6000 square-metre plot (Fig. 3 a, b). Having worked for some years at a large rose farm, she learnt planting and marketing. Becoming a rose farmer was her great dream: “Everywhere I looked, I saw flower farms, and I wanted to do it too.” Divorced, with three children to maintain, rose farming would take her out of poverty, just as the billboards and mass media advertisements explained on every corner of Cayambe’s streets, on television, in the local shops: the road to progress, becoming a modern farmer with good income. Roses would also enable her to afford higher education for her children.

What the ‘success’ stories and dreamlike promises by commercials did not explain were the manifold risks she had to face: wind and hailstorms can damage even the most sturdily built structures. Hydrologically, irrigation water is waning, especially during dry spells, as climate change affects Mt. Cayambe’s icecaps, while competing users block water flowing to her canal. Legally, her plantation was located too close to a potentially residential place and could have to be dismantled. Technically, she did not have post-harvest facilities or a vehicle to carry her flowers, rendering her dependant on third parties who were not always readily available, fair in their prices or punctual in their payments. Financially, although she had been able to repay loans with few delays, the shadow of confiscation loomed. Using varieties that were not necessarily the most sought-after in the continually changing market for speciality roses was always risky. Also pests, plant diseases, work-related health issues, and dropping world-market prices for flowers threaten her business.

Weakly informed about these threats, or closing her eyes to them, Ana followed the rose imaginary and decided to change to floriculture in November 2012. To build the drip-irrigated 1/3-ha greenhouse and to buy rose stocks and scions, as well as the first batch of fertilisers, she sold her cow and acquired a debt of USD 45,000 from a State bank and a private loan institution. To obtain these loans she mortgaged the plot, practically her sole possession. The greenhouse frame was built with local eucalyptus poles. She used high-quality plastic material for the greenhouse walls and roof, and set up a basic but apparently effective drip irrigation system (Fig. 3c). Most of the loan was spent on plants and chemicals. She was assisted by her new husband and his older sons, whom she paid the minimum monthly wage (US$ 350).

Ana harvested her first roses in August 2013, and initially delivered to a local intermediary, Andrés Cacuango, who managed the post-harvest and exportation phases: “Most of my flowers go to Russia, Ukraine, Kazakhstan, Amsterdam.” Ana explained: “He offered to buy my roses, once I produced them ... he is my only buyer.” Even if this person was paying her as much as 47 US$ cents per stem for selected varieties (a relatively high price), payment deferrals built up and she is owed over 9000 dollars. Retrospectively, Andrés’ remarks about the risks of the job, once Ana had invested everything she had, sound bitter: “If Ana didn’t have me, she wouldn’t have started. In my office, there is a saying on the wall: ‘Only those who dare to fail will reach great heights’. Everything is a risk.”

“The problem is they don’t pay!” exclaimed Ana after the first year.
of flower farming. “I have many loans to pay. In total around 75,000 dollars. And I have to pay the breeder’s rights, one dollar per plant. I have 40,000 plants, so ... Damn, how do I pay that?!” This also jeopardized the entire production process. For instance, roses need continual irrigation but Ana did not pay her water bill for three months, so the WUA closed the gate. “I can’t pay, because they haven’t paid me ...”

Her sister understands the deep worries Ana has, but she can no longer help her as she did before. Then they worked as a family, embedded in community collaborative and social-security structures, in an entirely different financial and livelihood context.

“Why does my sister have so many debts? Her kids have to go to school and she owes so much ... It’s difficult to owe so much. When I owed less I was already crying, even if my husband still had cows. You don’t have cows, to help you pay. Only selling flowers you could go on, slowly ...”

In 2015 Ana found a new associate, a Russian intermediary who paid only 22 cents per stem. Evidently, she was struggling intensely to maintain the greenhouse; she even had to reject surgery on a twisted ankle (a work-related accident) for she could not afford to leave her business for long. After the accident she limped notably, and walking the 200 m from home to the greenhouse took her 20 min. She hoped that after paying her debts she would start to net enough money to improve her quality of life, and even start post-harvest activities by herself with potential associates.

One could be her brother, who started his own greenhouse beside Ana’s. But, in general, intra-family relations had come under great stress after the transformation. Ana: “Since I told my father that I started a greenhouse, it seems he makes a distinction in our family. To me, all flowers are equal, but he isolates me.” Unlike her mother, who died two years earlier and encouraged her to follow her dreams, her father refused to collaborate or even speak to her.

“With a lot of worries you don’t sleep well, tyred and exhausted, with so many questions. You just hope that the next morning you’ll wake up again, and a new day will begin. Just that, and for us to be together, to share things together again.”

Ana deeply expressed how much she misses family and neighbour collaboration, as before. “I’ve felt alone. I’ve lost my mother, my brothers and sisters.”

Individualisation of everyday livelihood production also affected even irrigation water control, the one activity that, in times of State-led centralisation and market-based neoliberalisation and privatisation, has always been Andean communities’ bastion of collective action. Ana got her water as part of a small irrigation system. Water came down from the Blanco River, a tributary of the Pisque, via an earthen canal to a reservoir located 1 km east of the community. The community WUA administered water rights locally. A non-local company intended to establish a large rose plantation and even built some greenhouses, but the community opposed it and the facilities were abandoned. The community leaders had their own regulations establishing, for example, that the community’s own smallholders could intensify their subsistence production. This included for users to establish up to 1-ha flower greenhouses. However, community president Alonso Quimbamba explains the community’s fierce risks and deep conflicts:

“There you see Ana’s greenhouse. As a community, we don’t have much contact with her. She’s just started the greenhouse. It is a rose farm that might help her family, but will harm the village at the same time.”

Roses demand more water than pastures and building more small greenhouses would worsen the conflicts.

“In our village there are currently six greenhouses. There are eight more about to start. This worries us …. There’s been conflicts between villagers because of the greenhouses. Some people do not agree, the WUA has seen conflicts. There is a water shortage, especially during the summer, but the rose farms irrigate their plants day and night. The others receive the water only one day a week and the greenhouses every single day. This creates tensions.”

Indeed, the WUA had claimed that Ana used too much water, affecting the others, even though she denied this. They decided to curtail her allotted water, forcing her to build a small emergency reservoir.

Alonso admired Ana’s courage while feeling sorry for her deeply stressful, market-dependent situation, subjugated to outside rules and power-abusive intermediaries (cf. Bryant and Garnham, 2014). Time would tell if she would be one of the ‘successful few’. The community’s president, Alonso, allowed intra-community small-holding floricultural development; however, he was firmly decided to let collective water control and community survival prevail. Without it, the irrigation system and the community would fall apart, prey to harsh market forces and nearby powerful encroachers. That would jeopardize everyone else’s livelihoods, and rather than intensifying water collaboration in times of crisis, people would face off as competitors, unleashing a water race among individualised commodity producers. Alonso foresaw the threats of unbridled mimetic desire, deepening rather than solving scarcity.
“Why does one get water and the other not? If they get water all week long, we want it too! That is the problem with the arrival of the rose farms. It creates a divide among the village people.”

Indeed, Ana was not alone in her risky search for prosperity. When interviewing local heads of families who had their own rose plantations elsewhere in the watershed, we heard very similar explanations for starting the ‘rosy dream’. Illustrative expressions were the following:

Guillermo has owned a 3000 m² rose farm since 2012. He mentioned being fascinated by the prospect of living like the large rose farmers: “I also wanted my own enterprise, to be able to live better, to put my children in universities, to be able to see some more of the country and maybe even other countries…”

Rosa has also operated her own 3000 m² rose farm since 2012. She used to cultivate tomatoes and alfalfa, as she said “entirely for self-sustenance”. With admiration she witnessed the entrance of this new world and world-view of rose growers, their technologies and what she thought would be financial autonomy. “Roses seemed to be a great business and we could even gather rainwater from the new rooftops… We wanted to be independent, to be able to sleep more than a few hours per day, to build a better house, and maybe even hire people”. Making the step from being a peasant farmer to becoming an entrepreneurial farmer and buying additional labour and resources, ‘just like them’, would make life easier. Her definitive dream was to show that she could also become a modern flower farmer.

Mariana told a similar story. Like the others, she saw the large flower companies as her ultimate role models, but particularly also copied the dreams of her smallholder ‘equals’, in her direct surroundings. She has owned a 1500 m² rose farm since 2013. “I was dazzled by the good rewards after having worked for a large farm for 17 years. Some neighbours started their own greenhouses and I became convinced that this was the way to go, to become prosperous and to stop working for others”.

Mariana added to this, emblematic for many of the smallholder rose farms in these years of crisis and suddenly worsening rose prices: “Unfortunately, all those dreams of becoming like the big ones have been shattered…”

In a visit to Ana’s home in February 2016, we learnt that the price per rose stem plunged to 12 US cents or less per stem (from ca. 45 US cents in 2013), due to low oil prices, Ecuador’s use of US dollars as its currency (very strong, making supplies more expensive, among other issues), and the Russian crisis, and seemed to be affecting both large and small rose farms. Ana was selling her roses to Chile and the local market. Besides the financial pressure, this meant that her relatives, who were convinced by Ana’s dream and started their own small greenhouses, blamed her for the unfulfilled promises. As explained in footnote 3, the ‘internal mediator’ is seen as the rival, triggering conflicts among ‘equals’, while the big flower business’ imaginary and model is not questioned.

3.3. Communal water control

Pisque has been served for centuries by various irrigation systems (Zapatta and Mena-Vásconez, 2012). Roses, cultivated in greenhouses with drip ferti-irrigation, have relatively high water requirements. Unlike traditionally irrigated crops, roses are not seasonal and need daily watering year-round. To top off their shortfall, big companies built large reservoirs and rainwater collection tanks. Some had drilled wells to mix aquifer water with acequia water. This extraction at the expense of minifundio subsistence agriculture generated major conflicts in the watershed (see, e.g., Hidalgo, 2010, 2015). Irrigation water has been always critical in the region, and flows fell short of these competing needs; Ochoa (2013) estimated a 40% shortage at peak demand times.

Conflicts over the basic resource are characteristically along class/ethnic lines. Peasants’ latest overt protests against water accumulation happened in February 2006, when 3000 peasants took over the Tabacundo acequia, one of the main irrigation systems in the Pique watershed, at that time managed by the Municipality. Protesters felt floriculture was receiving most irrigation water from bureaucratic managers. These mobilisations got the canal turned over by the State water authority to a new community-based institution (Castillo, 2006). This inter-community organisation (CODEMIA) operated and maintained the Tabacundo acequia, established shifts and collected differentiated fees from small traditional farmers and large agribusinesses. Nevertheless, each community established its own rules, for example, to decide whether to allow floriculture in their territory. CODEMIA faced some difficulties: smallholders complained about entrenched favouritisms towards larger users who paid more and monopolized water. All command-area communities received water regularly, but the percentage of redistribution has been relatively small. Table 1 shows the considerable imbalance water use by grower types, in terms of both acreage and flow. Ochoa (2013) estimated in 2013 that smallholders used some 15% (2 Hm³) of the irrigation water, cattle haciendas some 30% (4 Hm³), and flower agribusinesses some 55% (8 Hm³). Smallholder communities get only 15%, though they have almost 60% of the irrigated land. The new boom of smallholder flower businesses intensified water conflict inside already water-deficient communities.

Clearly, ‘food versus flower’ water conflicts in the watershed were about accessing water but also about decision-making authority. Different stakeholder groups typically used different rules and laws to defend their interests and claim certain resources, ranging from formal State and market rules to highly diverse, historically-rooted customary frameworks, forming a context of legal pluralism (Boelens and Vos, 2014; de Vos et al., 2006). Characteristically, Pisque’s subsistence growers and flower companies each gave legitimacy to different authorities: the former tended to respect customary and community-rooted rule-making while the latter often turned to formal regulatory bodies.

Another conflict was among the different discourses defending or challenging particular water policies and hierarchies. In a Foucauldian manner, both ‘food sovereignty’ and ‘modernist flower’ discourses shaped reality by relating knowledge, truth, and power, aiming to construct their subjects and worlds. In Pisque, floricultural representatives claimed that their agribusinesses were driving progress and that the region became modern since their arrival. Water use for food sovereignty was circumvented and food sovereignty was confronted by claiming people with monthly wages had more purchasing power and could buy a wide variety of foods, which then boosts the economy (see also Patel-Campillo, 2010). Local leaders, on the other hand, tried to curb flower expansion on grounds of food sovereignty, health and environmental issues (for the different conceptual frameworks to examine food sovereignty politics, see Maye and Kirwan, 2013).

In recent years, however, water conflict has both deepened and changed. Flower-growing water competitors came ‘from outside’, but increasingly involved peasant farmers who used to share in the ‘water for food’ framework. Many peasants saw roses as a risky, but important alternative to escape marginalisation and thus disregarded or even sacrificed food-related considerations.

Simultaneously, over the last decades after the agrarian reforms, the peasantry has managed to organise, federate and claim control over several irrigation canals; their struggles have continued up to the present – even more intensively when powerful adversaries increasingly claimed more water for export farming (Hoogesteger...
et al., 2016).

Protests against water accumulation by powerful rose farms in a water-scarce context motivated their mobilisation (Acción Ecológica, 2000; Gaybor, 2011). Then, rose farms spreading to larger irrigation areas in local irrigation systems jeopardized collective water control, and the system’s survival. In adverse highland contexts, such as the Piscue watershed, irrigation canals only can be managed as a collective endeavour (see Boelens and Vos, 2014). While this is already a difficult aim to accomplish, void of any romanticisation (see, e.g., Colloredo-Mansfeld, 2012; Boelens, 2015), in the Tabacundo system capitalist farmers characteristically fenced off their farms, materially and socially, to focus on just individual farm management, neglecting the overall system (Hidalgo, 2010, 2015). This created water insecurity and shortage in the rest of the system, and particularly in tail-end communities (Hidalgo, 2015; Hoogesteger, 2012).

Besides this individualisation and undermining of collective water control, community organisations also criticised rose agribusiness for other social and environmental impacts. Studies have documented problems with human health (Breilh, 2007; Mena Pozo, 1999), ecosystem integrity (Breilh, 2007; Guerra, 2012), food sovereignty (Korovkin, 2003), real-estate price speculation (Gasselin, 2001), community and social relations (Brassel and Montenegro, 2011), and exploitative labour relations, dismissing union rights (Guerra, 2012; Harari et al., 2011; cf. Patel-Campillo, 2012; Raynolds, 2008). Korovkin concluded that, in particular, women’s conditions and rights are under stress in the region, finding also.

“a progressive decline in women’s capacity to maintain and influence family networks and community institutions. Until recently, women have been able to preserve rural communities despite male migration and increase their own influence within them. This community-based empowerment came to halt with their incorporation into the flower labour force. Cut-flower employment has a highly negative effect on the amount of time spent by women (and men) on communal work and assemblies” (Korovkin, 2003:36).

Communities had been weakened in their long-established roles and protective capacities, including autonomous decision-making “but also helping their members meet basic food requirements, provide them with potable water and financial credit, support rural schools, and socialise children in the norms of solidarity and cooperation” (Korovkin, 2003:36).

Despite these disrupting transformations, the ‘rose culture’ imaginary has become region’s the new icon. Throughout the country and internationally, large companies, transnational export federations, and loan-providing banks expressed pride and promoted the discourse of modernising formerly ‘backward regions’.

They were proud to offer numerous steady jobs to a formerly emigrating population, to use water with advanced technology, and to make the country famous for their flowers (ExpoFlowers, 2011, 2012). An on-line presentation states: “[w]ith less than 4000 ha, floriculture is the third-largest non-petroleum export commodity. Besides, it is the largest employment generator and the main currency generator per productive hectare” (ExpoFlowers, 2013). Largely disregarding environmental protests or claiming to produce “green flowers” (ExpoFlowers, 2012), their main concern seemed to be the unfriendly political environment created by the current Government’s reluctance to sign economic treaties with main trade partners, unlike neighbouring countries. In this respect, President Correa’s Government, advocating “21st-Century Socialism”, was highly ambivalent, entwining a populist-centralist State apparatus with neoliberal policy practices (see: Radcliffe, 2012; Terhorst et al., 2013; Boelens et al., 2015; Hoogesteger et al., 2016).

Amidst these contradictions among classes, ethnic groups, local and international players, environmentalist and capitalist discourses, food versus commodity production strategies, conflicts seem to spread and deepen with the boom of local families—usually ex-workers at large rose agribusinesses—starting small-scale versions of these capitalist flower farms (Fig. 2).

3.4. Proposed regulations to prioritise water use

This food-or-flowers and water for food sovereignty issue is becoming increasingly urgent. As a climax, in August 2015 thousands of peasants, workers and indigenous people took the streets, throughout the country, protesting against the Government. Although water for food sovereignty has been prioritised on paper and in official discourse, peasants and indigenous peoples experienced different governmental practice. As they argued, the Ministry of Agriculture had enforced a ‘productive value chain’ policy fostering agribusiness logic, while depriving smallholder communities of opportunities to self-manage their means of production (see also Hidalgo et al., 2013). Nation-wide marches involved protests against current water reforms supporting ‘neoliberal practices’.

Since 2008, Ecuador has a new Constitution based on the principle of Sumak Kawsay (Kichwa: ‘a dignified, full life’ or ‘a good way of living’), supposedly incorporating indigenous traditions and concepts into a modern Constitution, including the Rights of Nature (León, 2008). Constitutionally, Article 318 prioritises different water uses: 1. Human consumption (domestic water); 2. Irrigation for food sovereignty; 3. Environmental flow; and 4. Productive activities.

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* This table shows how the overall water allocation to the three different types of users is estimated from the irrigated area and the net irrigation requirements for the respective crops. One Hm³ is one million cubic metres.

Source: Ochoa (2013) and Mena-Vásconez et al. (forthcoming).

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total irrigated area (ha)</th>
<th>Number of units</th>
<th>Average landholding per unit (ha)</th>
<th>Average water use per hectare (m³/year/ha)</th>
<th>Average irrigation water use per sector (Hm³/year)</th>
<th>Percentage of total water use (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smallholder subsistence agriculture</td>
<td>2400</td>
<td>2535</td>
<td>1</td>
<td>800</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Large flower companies (&gt;2 ha)</td>
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<td>91</td>
<td>11</td>
<td>8000</td>
<td>8</td>
<td>55</td>
</tr>
<tr>
<td>Dairy cattle haciendas (&gt;10 ha)</td>
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<td>26</td>
<td>38</td>
<td>4000</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
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<td>–</td>
<td>–</td>
<td>–</td>
<td>14</td>
<td>100</td>
</tr>
</tbody>
</table>

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5 See e.g. “Manifestantes retoman las movilizaciones en las calles”, Diario El Universo, 20 August 2015.
The recently enacted Water Law (August 2014) takes this no further; its forthcoming regulations may concretise this prioritisation, which can be interpreted and implemented in several ways. Basically there are three options: (1) assigning new water use rights when new water infrastructure is built (2) when water is occasionally scarce, (3) re-assigning previously assigned or historically vested water rights in existing water distribution systems. The Constitution and Water Law are not clear what interpretation or implementation should be given. However, most actors presume it is only the first and second interpretation.

According to a former high-level water allocation administrator (Juan Pablo Hidalgo, pers. comm., October 26 2014), the prioritisation order would be quite difficult to implement in practice, especially inside each irrigation system: “There are too many actors and norms, besides the water users’ associations (still) have a high level of autonomy”, he stated. Engineer Charles Cachipuendo, who has worked for many years on Pisque irrigation matters (pers. comm. October 25 2014), said the enforceability of this prioritisation would depend on collective action generating public policies locally: “Construction from the bottom upwards, and not the contrary, would be worthwhile. If not, governmental officials would become inquisitors.” He felt that socio-environmentally-friendly production systems could develop through incentive-oriented policy based on socially responsible water use, at all levels (from provinces to WUA). The most practical way would be through differentiated costs according to water use: highest for ‘productive uses’.

Interestingly, but not surprisingly, agribusiness representatives agree. A large rose farm owner (pers. comm. January 16 2013) agrees that only differentiated tariffs could accomplish this prioritisation. Regarding multi-user systems, he asks: “How is it feasible to prioritise certain uses over others? If, for example, there is a potato field after my greenhouses, are they going to get all the water needed or available first, even if my roses are upstream and I have a legal concession?” The Provincial Government, formally in charge of Pisque irrigation, has been preparing a Provincial Irrigation Plan acknowledging prioritisation. One of its main objectives was to support food sovereignty and agro-ecological practices, but the published summary says little about the ongoing agribusiness expansion and possible ways to materialise water-use priorities (GADPP. 2014).

The former technical director of the organization managing the Tabacundo acequia, also director of the Cayambe Municipality water agency, Mauricio Ochoa (pers. comm. September 25 2014) perceived a great gap between the recent prioritisation and the way water issues are currently settled:

“Some neighbourhoods do not even have any domestic water, while there is plenty for rose irrigation. There is a big challenge for communities and governments. Beyond the official categorisation, there is institutional competition and a lack of coherence regarding drinking and irrigation water distribution in large mixed systems such as the new canal that will replace the old acequia.”

He viewed the transformation from traditional agricultural practices towards small rose agribusinesses as disguised outsourcing mostly benefitting large flower farms and capital accumulation, affecting food sovereignty. Some communities might be able to cope with it through differentiated tariffing (or even banning flower export farms), but many others would succumb. He believed that district-level governments would have to establish peasant community protective norms pursuant to the Constitution. In the field, the official prioritisation has not been internalised and/or used, but WUAs clearly see that certain uses have priority over others, particularly domestic and food sovereignty water uses over watering roses and other agribusinesses. This perception, however, has various manifestations. In Paquiestancia, close to Santo Domingo, land was still owned communally and the community had decided against allowing any flower farms. Their decision was significantly grounded in water stewardship, collective land and water control, and food sovereignty. However, most other community leaders interviewed had a somewhat middle-ground position. For example, Fernando Chencusi, of the Santo Domingo WUA, considered it necessary to prioritise uses (as per the Constitution), but “on grounds of water availability and not of type of uses” — flower farms were allowed, but had less priority in times of water scarcity.

Similarly, César Caturucuago (pers. comm. 25 Sept. 2014), leader of the acequia’s Tupigachi sector, described to materialise a prioritisation scheme. They were developing a plan in which only the water left over after watering all food crops and meadowlands of smallholdings could go to large farms’ reservoirs (supposedly without affecting their concession rights).

As in Santo Domingo, the big dilemma was how much to let small rose farming develop because, at that time, “you get water if you need it and pay for it, whatever the use.” Increasingly, community leaders wanted to put this issue of ‘needs’ on the agenda, how these were moulded by the powerful and deeply-rooted agribusiness model. Many of them questioned how these modernist models generate new scarcities—of water, technologies, finances, services and knowledge—in a context where families did not previously experience such needs. César agreed with Fernando:

“The Constitutional prioritisation is okay, but it has to be implemented with things like supporting family agriculture, which does not happen: traditional agriculture has to deal with bad weather, lack of financial credit, fluctuating markets, so they shift their gaze towards cultivating flowers.”

Their struggle was to show their fellow smallholders that there were and must be alternatives, collectively defined and defended.

4. Discussion

During the last ten years, next to capitalist flower company development, hundreds of small rose farms have been established inside communities of the Pisque watershed. Fieldwork has identified diverse drivers and enabling conditions, and one is peasants’ copying the capitalist mode of flower production and its associated discourses. ‘Mimesis’ is powerfully expressed in the assumed superiority of Western science-based flower agribusiness and water management techniques and models. Copying and internalizing these rules and values — framed in terms of individualised water control, commoditised water rights and users rationally pursuing the economically most beneficial water use — was a precondition for the model to work. Consciously and unconsciously, the cultural, political and technological standards for ‘equality’ and thus, for normalising the abnormal, were set by the powerful flower export business discourse. Smallholders took high financial risks, financial losses and accumulating debts.

Small flower producers belong to communities that have been opposing rose farms for health, pollution and food-sovereignty concerns. This new small-scale flower production intensifies both water scarcity and material-discursive conflict over water-use priorities. In contexts such as Pisque, submerged agribusiness-led globalisation, with smallholders increasingly cut loose from their community ties, protections and restrictions, generating water scarcity was a fundamental for ‘almost equal’ competitors striving to ‘become equal’. This comparison to the norm-providing model, mimetic desire, generated both disenchanted self-measurement compared with flower agribusiness models, and rivalry among
internal, intra-community competitors.

Although some communities have chosen to abandon flower-export production entirely, most leaders and collectives were rather pragmatic in their choices to defend ‘community’ and ‘food sovereignty’. They felt it would be unfair to restrict local smallholders who decided to plant roses pursuing increased income. At the same time, community leaders chose directions curbing unlimited growth of inequity, scarcity and environmental harm. While they commonly blocked intrusion by more capitalist agribusinesses, they neither embraced nor denigrated smallholding floriculture development; and the market offered complementary resources needed for reproduction.

The new small flower businesses individualised the (necessarily) collective irrigation system management. Therefore, strategic decisions by community leaders aimed to: a) strengthen endogenous control over decision-making about why, where, how and when to relate to the flower market; b) ensure collective, equitable, organised access to markets; c) balance interaction between commodity and non-commodity spheres.

National policy debates and local livelihood pressures focus on priority uses and reallocating water use rights by these priorities. The discursive battle in many Pisque region communities was whether water should get priority for local and national food sovereignty or to produce for export markets and industry. Research shows that the answer to this question is complex and depends on local discourses and circumstances. Therefore, general, top-down legislation about water use prioritization will not resolve local water use rights conflicts. With their own valuation languages and under collectively-established water and resource control institutions, many communities will need to ‘re-balance’ water use priorities. Their collective institutions are indispensable to preserve and defend local livelihoods for mutually dependent families. Therefore, these institutions cannot be supplanted by individual, State or market solutions.

5. Conclusion

For the last two decades, peasant and capitalist modes of production have existed side-by-side in the irrigated areas of the Pisque watershed. Recently, hundreds of peasant farmers have started small flower-production enterprises, a shift caused by many factors: credit, experience and flower workers’ production knowledge, need for financial means, and especially the desire to become an entrepreneur, make money and acquire a lifestyle with consumer goods and private services such as health care and education. Smallholders mimicked big export flower companies, but have less access to credit, trading networks and production knowledge-technology. This results in high financial risks, and cultural conflicts with the peasant communities they belong to. The increase in smallholder flower producers has also increased conflicts over water.

The new Ecuadorian Constitution (from 2008) and Water Law (2014) regulate priority uses of irrigation water: (1) human consumption; (2) irrigation for food sovereignty; (3) environmental flow; and (4) productive activities. Thus, water for big rose companies could be curtailed and priority use granted to peasants in specific circumstances (e.g., droughts). However, in practice vested water use rights and allocation rules are not reconsidered, because of local power constellations and dependency relations. Instead of top-down prioritization, peasant communities should have continued, increased water allocation. Additionally, decision water allocation inside communities should be delegated to the communities themselves rather than governmental organizations. Each community can then regulate allocation for subsistence or flower production and priority rules in case of drought.

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