
Collective Value Creation in Circular Textiles: Indian versus Dutch perspective

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Abstract: In the transition to a regenerative circular economy, collaboration and transparency are key. Collaborative business models include a collaboration among stakeholders with diverse backgrounds and values. This project investigates the discrepancy in collective value creation, from both Indian and Dutch perspective. Results show that both Indian and Dutch partners envision a collaboration in which partners fully share risks and values created by the collective. The partnership approaches the partnership with a Collaborative Value Model-perspective, using a holistic approach when prioritising impact. The more understanding and consciousness of the system, the clearer the mutual consequences of decision-making on others in the network becomes. We conclude that for collective value creation, the collective includes a plurality of perspectives in which partners embrace differences, resulting in collaboration towards equal and fair networks. To realise collaborative value models, it is crucial that partners create transparency on ecological (material passport) and social impact (social passport).

Keywords: Regenerative Circular Economy; Collaborative Value Models; Fairness; Equality; Transparency; Social and Material Passports; Global South; Circular Textile

1 Introduction

The textile sector is the second most polluting sector in the world, after the gas and oil industries. Cotton is one of the most popular raw materials for textiles. More than half of all produced cotton is processed into textiles. The current unsustainable production of cotton and textiles is exhausting the environment, due to use of artificial fertilizers and pesticides, large amounts of water consumption and high CO₂ emissions. Per average person in the EU, textile consumption requires 9 cubic metres of water, 400 square metres of land, 391 kilogrammes of raw materials, and causes a carbon footprint of about

270 kilogrammes. The vast majority of the resource use and emissions takes place outside of Europe (EEA, 2022).

The cotton supply chain is very complex, with many players involved, from cotton farming all the way to the end-product. This complexity, and the lack of transparency in the cotton chain, hinder the system to be more sustainable. Challenges arise at different levels in the system: it starts with the purchasing practices at farmer level and continues with the critical path of buying and re-selling. In the current linear value chain of textile products, chain partners work on the basis of a transaction, with unclear and often invisible margins. The chain is characterised by unfair prices, with a high negative impact on cotton-farmers' livelihood. When retailers are not paying a fair price to the garment factories, the factory in turn is not able to pay a fair price for the raw materials either. To increase fairness and sustainability, the business model needs a restructuring towards equal partnerships and a focus beyond only the lowest prices (Solidaridad, 2022). The report states that companies, and particularly downstream companies, can take much more responsibility for paying prices which enable producers and workers to earn a living income and to mitigate human rights violations and environmental degradation.

Cotton farmers worldwide, but especially in the Global South, are under pressure of middlemen. For instance, the high price of genetically modified seeds flooding the market, and (forced) use of expensive fertilizers and pesticides, are given as one of the reasons that these small-holder farmers end up in vicious cycles of debt. Many farmers (are forced to) turn to loan-sharks to pay for these items. These debts, together with the impact of unpredictable weather patterns, as long periods of drought, no rains, resulting in failing yields, are piling lot of pressure on these tribal farmers. India is experiencing its biggest wave of suicides among cotton farmers (The Guardian, 2014).

In this anonymous system, we observed that partners have lost the connectedness with each other and also with the soil and earth, leading to two types of (unconscious) abuse: socio-economic abuse (e.g. exploitation of farmer and textile workers) and environmental abuse (e.g. using pesticides). The consequences are an overall negative impact on the earth. This became painfully clear during the COVID-19 pandemic when many brands expected less sales due to lock-downs and suddenly cancelled all purchase orders, even if clothing was already in production. The cancellations of Western brands had a direct negative effect on the livelihood of Indian cotton farmers and textile producers. It led to unemployment, massive unfair loans, bankruptcy resulting in families starving to death due to lack of income.

To move towards a fair and equal circular textile system operating in India and the Netherlands, several new principles of entrepreneurship need to be developed, including other ways of working, organizing, doing business, earning, collaborating, and creating value. This means that organizations have to 'rethink' how they organize their business. This involves a movement towards an economy that no longer sees man and the earth as a resource, but as a partner in creating well-being for everyone in harmony with the earth (Spaas, 2020). We explored both the Indian and Dutch perspective on value creation in a research project in which partners took on the challenge to recycle cotton multiple times and retain and create value in each recycling step, by creating innovative ways of collaboration based on fairness and equality. Awareness of each other's perspective perspectives leads to understanding of the impact of partners' operations and decisions. In this, we include the role of transparency by using social and material passports as a means to open up and share the way they organize their business. The central research

question is: what is the discrepancy in collective value creation in a regenerative circular economy, from both the Indian and the Dutch perspective?

2 Literature

Linear, Circular and Regenerative economy

The current unsustainable textile value chain contributes to climate change, biodiversity loss and unequal distribution of wealth. Due to decoupling, the end-user is not connected to the textiles they use and/or wear. The textile transition to a sustainable, fair and circular system is therefore no longer a question but a task. The Dutch government aims to have a fully circular economy by 2050. "An economy in which as many sustainable renewable raw materials as possible are used, products and raw materials are reused and in which waste does not exist (Rijksoverheid, 2016).

In a linear economy, or a take-make-dispose system, raw materials are collected, formed into products, and eventually discarded as waste. Maximum value is created by producing and selling as much as possible with the aim of maximising profit. The earth is used as an inexhaustible source of raw materials, in which all values are lost. This is also known as disposable and substitute culture. This method of production has major, negative impacts on the earth and the environment. In a circular economy, waste does not exist, and raw materials are reused again and again. Waste becomes the new raw material. The environment is less polluted, and biodiversity is increased. A regenerative economy goes a step further. A regenerative economy means that the economy moves away from extractive business models (models that extract resources from the soil) and start reaching the potential for positive contributions for nature and society (SmitSchool, 2023). The goal of the regenerative economy is not to make financial profit, but to find a dynamic balance, in which humans and the planet can prosper (Circle Economy, 2022). For this, GDR (2023) indicate that the planet, people, other living things, and ecosystems need to be (re)balanced and restored to address the interconnected social and environmental challenges that we face.

Towards collaborative business models

Collaboration is recognized as key competency for implementing a circular design (Sumter et al., 2020). Brown et al. (2019) indicate that a high level of collaboration supports more system innovation. Innovation processes create more leverage for change than other processes within the organisation. These innovation processes need to outreach collaboration in a chain, it requires decisive and conscious sharing of resources and risks by all stakeholders, and transparency and trust are essential (Janssen and Stel, 2018). Inter-organizational collaboration is needed to create new business models which focus on closing the loops. This means that extending the resource's lifecycle is possible when different actors in a production/use chain collaborate. This way of collaboration is considered to be a key element in closing the loops and therefore critical for realizing a circular economy (Bocken et al., 2016). It is important to include all stakeholders when aiming to close loops (Korhonen et al., 2018) starting with the design phase.

Sustainable business models show how value is created and captured “while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries” (Schaltegger et al., 2016:6). Although these sustainable business models (claim to) delivering net-positive impacts to society and the natural environment, socio-ecological problems such as climate change, biodiversity loss, and global inequality seems to be worsening, not improving. Sustainable business models include a collaboration among stakeholders with diverse backgrounds and values (Boons & Lüdeke-Freund, 2013; Pedersen et al., 2019). It is important that the value range includes the full spectrum of activities, carried out by different stakeholders, since the product and its value continually circulate in the system (Rohrbeck et al., 2013; Fogarassy & Finger, 2020). Therefore, the collaborative nature of a business model means that both for the network as well as for the different stakeholders, the business model must create added value (Kraaijenbrink et al., 2019). This includes companies not only focusing on their own financial gains, but also considering the optimisation of the entire system, aiming at positive ecological and social impact. Dentoni et al. (2020) indicate that the key organizational component of sustainable business models, that explains how these models create social and environmental value for a broad group of stakeholders, comes with good partnerships. Organisations need to realise that each choice or decision they make, will have consequences for someone else in the system. According to Whiteman et al. (2013), this has to do with making choices between good and bad; it is about moral righteousness and moral justice. One of the pre-conditions to stimulate innovation towards an equal and fair value creating system is that companies need to understand the context of their operations and be proactive to advance their transitions. In order to understand the interconnected flows in this circular system, value network actors need information from the origin of the material till its end of use.

Transparency and Digital Passports

The absence of transparency in the network increases the difficulty of influencing the system at crucial points. Schnackenberg and Tomlinson (2016) define transparency as: ‘the perceived quality of intentionally shared information from a sender.’ They propose a framework by suggesting that transparency is comprised of three primary dimensions: disclosure, clarity, and accuracy. The addition of the word "perceived" in the definition of transparency is essential. The way one party in the network perceives information may be different from another. An interesting view on transparency and its relationship with trust is expounded by Jensen (2001) and Hofstede et al. (2004). They state that transparency implies honesty and openness. Transparency enables one to understand the effects and consequences of a decision or a behaviour and furthers understanding of environmental circumstances. That means transparency improves a global consciousness of cause-effect-connections which enables all human beings to orientate themselves in a complex environment, to reach their targets in an uncertain environment and to participate actively in all areas of human mankind

This is where the usefulness of a Digital Passport comes into play, best defined by Ibitz (2021: p2): ‘A Digital Passport is a digital representation of a physical product, storing relevant information, from production, distribution, operation to recycling’. Digital Passports become increasingly important when collaborating companies aim to make a transition to a (sustainable) circular approach and to share and rate the value creation in the collective system. Effective Passports lead to transparency and therewith

trust. Trust leads to cooperative behaviour among individuals, groups and organizations; cooperation and teamwork are the framework for transparency in the understanding of an effective information exchange between business partners (Jones & George, 1998). But if 'transparency is imposed from outside the netchain, or if the netchain is in fact institutionally a hierarchy and the leader impose transparency', transparency and trust contradict each other (Hofstede, 2003b, p. 8). Developing and implementing Digital Passports must therefore be done from intrinsic motivation and voluntariness of all network partners.

3 Method

Case: Circular Cotton Cascade

This research is part of a two-year project (raak.mkb13.020), in which Dutch companies (especially SMEs) from the entire textile chain are working together with Indian companies to design and record the process of a regenerative, circular system in which cotton is reused multiple times before it finally returns safely to the biosphere. The Circular Cotton Cascade research project is a collaboration between Avans University of Applied Sciences and Yassasree BV, together with a consortium of 12 Indian and Dutch partners. The project aims to create multiple uses of cotton, by creating innovative ways of collaboration based on fairness and equality. Together, the project partners took on the challenge to recycle cotton multiple times and retain and create value in each recycle step. As final step, the cotton will return safely to the biosphere as a nutrition for the soil, after which a new cascade can begin: a continuous cycle in the form of regenerative cotton cascades.

The design of the Cotton Cascade aims to maximize resource effectiveness by creating the most economic value over multiple use-times. The research is focusing on both the technical feasibility of the cotton fibre as well as the development of collaborative business principles, based on values, trust and open communication. The partnership envisages the Raddis®Cotton to be used in workwear, T-shirts, and hand towels before the cotton will be recycled and returned to the soil as landscape fabric. The journey starts with regenerative in-conversion to organic cotton, creating positive impact for the complete eco-system of planet & people from the seed onwards.

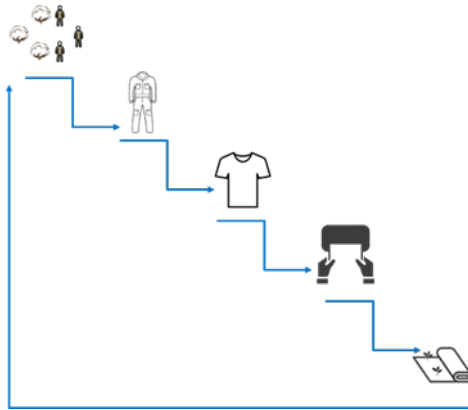


Figure 1 Circular Cotton Cascade

Research Design

Decisions about the final design of the cascade are made on the basis of what partners collectively consider important. The Indian farmers are seen as a full partner in this collective system. In this, we explicitly denote the vulnerability of the farmers here and emphasize the importance to keep them in the value creating process. We explored: (1) motives for collaboration and impact the envision to make and (2) the role of material passports in creating a transparent and trustworthy system.

An explorative case study approach is chosen to gain insight into these new (Symon & Cassell, 2012). We used a case study approach with semi-structured interviews since this provides the opportunity to ask ‘why’- and ‘how’- questions and get a thorough and in-depth overview of a situation. To gain more insights into the aspects that each partner values, we asked them to prioritize impact areas that they feel is important for the Circular Cotton Cascade. For this, we drew up a list of a list of statements that partners could prioritise in order of importance by dragging each statement one or more position higher or lower.

Impact areas and statements

To come to a list of impact areas, we reviewed the indicators of a variety of impact assessment tools, standards, and reporting initiatives, such as those mentioned by the WBCSD (Measuring socio-economic impact; A guide for business), ISO 14000, 26000, and the full set of GRI standards, to get an overview of impact areas used for similar projects. This first exploration revealed a high degree of similarity between the impact areas in various reporting initiatives. Based on discussions with the consortium, we settled on basing the list on the impact areas of a certification framework, namely the ‘MVO prestatieladder’, what is already used by one of the consortium partners. The MVO prestatieladder is a certification scheme presented as a ‘practical application of people, planet, profit’ (p.1) inspired by ISO 26000 and ISO 1400. To make the list of impact areas suitable to the consortium’s dedication to the idea that ‘less bad isn’t good enough’ (Braungart & McDonough, 2009), the consortium rephrased, where possible, the 31 themes to showing dedication to ‘doing more good’, rather than operating less bad. As

examples: a statement such as ‘The organization ensures that its presence and its activities have no, or as few as possible, adverse effects on the biodiversity in the surrounding habitat’ (p.35) was rephrased to ‘The cascade has a regenerative effect on biodiversity in the surrounding habitat’. Another example: ‘The organization makes greenhouse gas emissions, production of waste and discharges of (environmentally) hazardous substances transparent and takes measures to limit them’ rephrased to ‘The cascade is carbon-negative and actively contributes to reducing CO2 emissions and sequestering carbon in the soil’. Where rephrasing was less intuitive, such as for ‘The cascade minimizes transport, and minimizes the effects of transport on the environment and ecosystems’, as it is harder to see how transport can have a net positive effect, we kept the original statement.

Eight Dutch partners of the consortium have individually prioritised the Impact Areas and statement, though an online questionnaire, based on what they consider important from their own perspective as a partner in the collective. The results were collected and compared in order to indicate the top three of impact areas. In the following month after the questionnaire, we have been visiting the Indian partners in India, including visits to cotton farmers and processor (ginning), and also several production facilities (spinning, knitting, confection). In addition, three Indian project partners of the farmer supporting NGO have been interviewed on their missions, the collaboration with Dutch partners, the collective value creation and chain transparency.

Back in the Netherlands, the researchers have shared their experiences with the partnership, by sharing a photo presentation with the story of the Indian farmers and processors. Immediately after the presentation, the Dutch partners were asked to prioritise the Impact Areas for a second time. We explored if experiencing the processes and motives of Indian companies (rather than interpreting figures) is a must for collective value creation. Subsequently, we planned online one-on-one meetings with each partner (eight) to explore how they envision collective value creation to support a fair and equal collaborative business model in a regenerative circular economy. We reviewed their choices and the trade-offs that had led to that choice. On a small, but intensive and in-depth scale, we further discussed which aspects these stakeholders considered important when collaborating from seeds onwards to the end of use of the material. In this, we additionally focused on transparency and the role of social and material passports as a catalyst. Through this interview, more insight was gained into the context and interpretations of partners on the Impact Areas and collective value creation in the Circular Cotton Cascade.

4 Results

Motives for collaboration and impact

The growth and use of cotton is seen as a problem since the conventional way of processing cotton is exhausting the environment. The CircularCottonCascade-partnership turns this thought around. They believe that cotton can be the solution as well. Both the Indian and the Dutch partners work together in the CircularCottonCascade-project, because of the holistic approach. One of our Indian partners explains: ‘The spirit of cotton cascade is unifying. It is bringing everything together to the same level.’ In

addition, much inspiration comes from the Cradle2Cradle philosophy, which ultimately returns the raw material to the soil.

Indian perspective

Indian partners' motives are based on what they noticed when working with small holder farmers. These farmers are poor and vulnerable due to a power disbalances in the chain and due to climate change. They observe a leakage in the system: 'The leakage goes beyond finances; they are directly associated with human life. The suicide rates have been very high.' They call for a radical system change, including continuous improvements from both sides: 'The value for the farmer, the most vulnerable partner, cannot be countered unless we walk the system. I cannot let go of the European buyer, if I really want to create a tangible difference in the life of farmers.'

The Indian partners also address the effects of climate change: 'This year, we have seen flooding of 32 days. No one has seen this before. Here, 42% of cotton crops is just washed away.' They highlight that this not just a problem for farmers, but also for the brands that need the cotton for their production. The Indian partners believe that projects, like the CircularCottonCascade, can mitigate and alleviate both the climate and the farmers' livelihood. They are very much intertwined: 'There is a connection between people and nature. We focus on impact and farmers having a sustainable better live. Farmers are not aware that they got sick from the contamination with pesticides and chemicals. We tell it to the farmers.'

Indian partners filled in the Impact-Prioritisation questionnaire a few weeks after the interview. They indicated that 'Ecological Value' remains the most important thing for the CircularCottonCascade: 'The crux of cotton cascade is lying in the ecological niche, is all about the ecological impact. It is about changing the way the market is operating, the cycle take-make-waste has to be broken.' They address that since the CircularCottonCascade includes partners from the European Community, 'Human Rights' and 'Fair Businesses' are set by default for the Western partners. However, in India, 'Fair Business' is really a problem: 'In India, stringent legislation around what is fair and what is not fair or what is allowed and what is not allowed, are not set. People can even get away with whatever they can, like they do with farmers.' The Indian partners indicate that 'Ecological Value' is very important, from the perspective of the collective of the CircularCottonCascade. Then 'Human Rights' and 'Fair Business' will follow: 'Human rights, thus no exploitation of humans, is key. I don't see anything else working as a fair business.'

Dutch perspective

The Dutch partners mention that they find transparency in the textile industry very important, because in the current economy, this is almost non-existent. The partnership wants to show where the cotton comes from, that it is grown based on the principles of regenerative agriculture and that something valuable can be created out of (potential) waste-streams. The way the Indian partners grow Raddis©Cotton was very appealing to them. One of the Dutch partners explained: 'We see how much love, attention and effort farmers put in the production of regenerative cotton. A lot is going on, so then it's actually a shame if it is converted into a product with limited use and then discarded as garbage.' From this point of view, the Dutch partners want to use the cotton as long as

possible: 'Due to use and mechanical recycling, the cotton fibre will become shorter and shorter. Eventually, we have to work towards something that meets the decreasing quality of the fibre.'

When prioritising the Impact Areas for the first time, the 'Ecological Value' and 'Economic Value' are in most of the top 3. One respondent clarifies: 'Ecological value creation is actually what stakeholders want from us. This is also in line with our business strategy and what we as a company want to achieve.' The aspects 'Human Rights' and 'Fair Business' are prioritised next, which was explained as important, but also as something that was taken care off in the Netherlands by legislation and regulation – so not the main goal of the CircularCottonCascade.

After sharing the experiences of the Fieldtrip to India with the partnership, partners prioritised the Impact Areas again. This time, most of them indicated both 'Fair business' and 'Human rights' as 1st or 2nd. The partners who addressed the 'Ecological Value' in relation to compliance with standards in Europe, now addressed the notion of being more proactive as a partnership with Indian partners as well: 'We try to make a difference as much as possible. That goes naturally on the social part, in which we would prefer to do even more than compliance. ... Value creation should perhaps be more about all chain partners and how to distribute it with the Indian farmers who are in it. Seeing this, makes the partnership unique, that we now have speakers who can represent this.' The influence of sharing the story of Indian farmers was directly noticeable. One other respondent indicated: 'We must value human rights, no child labour, no forced labour. And we also have to think of the environment.' The 'Ecological Value' remain important: 'For me, ecological impact jumps to the fore, because there is a huge waste stream. A consortium with a cascade-model contribute to that as well.' That partners are working in an economic system that evolves around money is also addressed by others: 'Well, the economic value creation, which is purely that there should also be a good business case. For companies, you have to be able to survive and right now, of course, the world is still based on money, so that's why it's at the top there.' But at the same time, the partners address caretaking of other partners abroad: 'I find it difficult to make a choice. If there are huge human rights things in India that are also involved in our project, and we know we can help and contribute to that, then, if it is in our sphere of influence, then 'Human Rights' may go up again.'

The Dutch partners mainly address the intertwined approach of their dual mission, namely the social and the ecological mission. That these go hand-in-hand was nicely explain by one of the partners, who is closely connected to India: 'My approach is that if the people in the system are well taking care off, then the ecological value will also follow. I think, that if you are not cornered as a farmer, or if you don't have heavy debts or problems, you will take care of the land naturally. Nobody is going to poison or use poison or damage systems for fun. ... We actually have to make sure that clamps or distress are no longer there and then the rest will follow.' The transformation of the whole value chain, the system, is key in this transition.

Transparency

This holistic approach is also mentioned during the topic 'transparency'. Findings show that partners put emphasis on a holistic approach of transparency, integrating both the socio-economic and environmental impact that must be made visible due to a transparent system.

Indian perspective

The Indian partners indicate that transparency is crucial to understand the impact on the wellbeing of Indian companies when a decision is made somewhere in the network: 'We dream of a system of transparency which can have a major positive impact on the farmer. That is our major focus, that farmers have a better life.' In addition, Indian partners think that transparency is more than disclosed, clear and accurate information in the form of facts and figures. Experiencing and understanding the processes, communicating with people executing these processes, seeing how the cotton is cultivated, where it is coming from and where it is going to, is at least as important as interpreting abstract traceability data. They believe that this kind of a transparent system enables conscientious, empathy and trust. Interesting to mention is that transparency for consumers ('understand your buying choices') is stated more often by Indian partners compared to Dutch partners.

Dutch perspective

Dutch partners primarily see the purpose of transparency as a justification for responsible (re)use of materials to avoid greenwashing. Also, having proper insights to jointly (re)design products is mentioned as one of the purposes: 'It is important that you already consider the recycling of the product when you design it, so design for recycling. In this, transparency is the basis.' However, they are very willing to learn about, gain insights in and create awareness of the socio-economic impact in India. They really believe that this will encourage trust and collaboration.

Both Indian and Dutch partners give high priority on 'Fair Business' and indicate the importance of 'Economic Value'. In relation to transparency, they endorse the relevance of effectively sharing financial information on costs, transactions, investments, and profits gained, based on a jointly agreed revenue model. In this context, a transparent system can generate commitment from decision makers in the network, not only from top management but also from shareholders as well.

The use of Blockchain Technology

Partners believe that blockchain technology can contribute to transparency. By reading and recording required product and process data, information is real-time available to all parties. Because of the immutability of information and the transparency of the system according to jointly made agreements, it becomes difficult for false information to go undetected. This increases product quality, trust between parties and encourages collaboration. However, partners realize, to effectively deploy blockchain technology, that there are still challenges to overcome. For example, there is a need for standardization of the data recorded and shared on the blockchain. Knowledge of the technology in the chain must be increased and the investments needed for development and adoption must be made concrete.

Collaborative Value Network

The CircularCottonCascade envision a partnership in which partners fully share the risks and the values created by the collective. This means that the current margin structure - a percentage margin is calculated for each process in the value chain, making it grow

exponentially - is questioned. Most partners have not yet given it a lot of thoughts how they would like to formalise the partnership and allocate investments and return on investments. However, some respondents have some thoughts, like 'The person taking the largest risk gets the largest profit.' The next questions would be, how 'the largest risk' is defined. The respondent explains: 'A farmer works for 8 months and can lose everything in 1 day, but he/she still works for 8 months. And let's say, the ginning mill, which purchases the fibre and sells the lint, processes the cotton in less than a single day. No calamity can stop them from producing, they can manufacture in rain and sun, and store it.'

The partnership rethinks how the financial flows can be reorganised in hybrids models, so that they are truly equal and reciprocal, taken the discrepancies between different stakeholders and nationalities into account. For instance, one respondent explains the use of privileges: 'It is about privileges. Companies don't open a factory, or start a brand, unless they have certain privileges. The most vulnerable person is the farmer.' This Indian partner aim to work with a source of privileges for the farmer as well, like an acre fee. This means that a farmer gets a gratitude, a fixed fee, to grow the cotton. On top of that, the cotton is sold for a premium price after harvest. Collaborative business models are about raising awareness: 'Bridging the gap between partners, like farmer and brand, creates value. It's the global partnership.'

5 Conclusion

Collective value creation

Collaborative value models: equality and fairness

In the transition towards a regenerative, circular economy, business models turn into collaborative value models, in which all partners are valued for the knowledge and capacities. The allocation of investments and return on investments is fair and based on equality. In this, the collective includes the plurality of perspectives and embraces the differences. Awareness of these differences leads to understanding impacts of partners' operations and decisions. It results in a network in which partners fully share and participate in the risks and values created and exchanged in the collaborative value network. A value system that does justice to the collective and empathised with the welfare of all companies and their employees, other than only having knowledge of it. Actual experiencing the processes and motives of (Indian) companies - rather than interpreting figures- will stimulate joint initiatives improving the system. Assigning buyers/brands to dedicated farmers is an example of how markets can be responsive to the necessary change for the long-term reality.

Holistic approach: impact areas are intertwined

Considering the Indian perspectives and the Dutch perspectives on collective value creation, we conclude that all partners take the other partners' perspectives into account, when they approach the Impact Areas from the collective. The partnership really approaches the project from a Collaborative Value Model-perspective. Especially, when

the awareness of each other's challenges increases, like it did after the presentation of the Fieldtrip in India, the partners use this holistic approach.

This means that the Indian partners prioritised 'Ecological Value' for the collective, since 'Human Rights' and 'Fair Business' are default for European organisations. When they approached it from their own perspective, Indian partners prioritised 'Human Aspects', like the welfare of cotton farmers. With their work, they support and educate these farmers, who live in extreme poverty and can barely support their families. Something that can only be improved by 'Fair Business'.

In contrast, from their own perspective, the Dutch partners prioritised 'Ecological Value', like minimizing energy consumption and reducing CO2 emissions, since those are the demands from their stakeholders. However, when the partnership created awareness on the more vulnerable partners in the collective, they realised that they should not take for granted that 'Human Aspects' are taken care of automatically. They realised that they themselves could step up for other working conditions for partners as well. Therefore, for the collective, they prioritised 'Human Rights' and 'Fair Business'. We conclude that the more understanding and transparency of the chain, the clearer the impact of decisions affecting the welfare of Indian companies.

Impact in context: experiencing each other world

The ranking of the impact indicators made also clear that the areas need to be evaluated in the context of where they exist. Experiencing the processes and motives of Indian companies (rather than interpreting figures) is considered as a must for collective value creation. For instance, fairness is promoted by empathising with the welfare of Indian companies and their employees rather than just having knowledge of it. This shows that if partners are aware of the conditions in India and know that they can actually make a difference, they are more willing to do something about it and go beyond the standards that are in place. The more understanding and consciousness of the system, the clearer the mutual consequences of decision-making on others in the network becomes. Partners promote holistic interests between buyers and sellers rather than only financial gains. Transparency enables network partners to understand the effects and consequences of a decision and furthers understanding of environmental and socio-economic circumstances.

Material passport and social passports

Transparency

The importance of transparency on ecological, social and economic impact is endorsed by all parties. We believe that passports, both on ecological impact (by using a material passport) and on social impact (social passport) can be a catalyst for transparency. Where a Product Passport includes information on all product's components, materials, chemical substances and on reparability, parts replacement, and proper disposal, a Social Passport should include aspects as fair business, good employment practices and human rights. However, it is important that information-needs concerning material and social passports will be interpreted as the same by all partners. This is challenging because the exact interpretation of values by different partners can be different. It is therefore crucial that these passports are jointly developed and adopted from intrinsic motivation and

voluntariness of all network partners. After all, if transparency is imposed from outside the network or if one party forces to make it mandatory, transparency and trust contradict each other. This also counts for financial information on costs, transactions, investments, and profits gained, based on a jointly agreed revenue model as both Indian and Dutch partners give high priority on fair business and indicate the importance of economic value creation. The integration of digital material and social passports is therefore considered as an effective contribution to gain insights into socio-economic and environmental impact in the network, preferably with figures, photos, and videos as relevant content. Not only for partners and their customers but for consumers as well.

Use of blockchain technology

There is a believe that blockchain technology can contribute to transparency. Because of the immutability of information and the transparency of the system according to jointly made agreements, it becomes difficult for false information to go undetected. This increases product quality, trust between parties and encourages collaboration. However, future research will have to reveal whether adoption of blockchain is feasible. Aspects as data standardization, costs, skills and controlling the technology are often seen as hurdles that first must be concretised.

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