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Waiting for accelerations. Speculating on guar seeds in the Indian desert

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ABSTRACT
This article unfolds how an extreme acceleration in the price of a seed in 2012 changed farming in a rural area of India by reorienting the imagined sources of wealth in farming. The seed in question is guar which have been grown for centuries for cow fodder, but which is also used in fracking, and because of a growing international demand combined with a limited supply and wild speculation, the prices in 2012 grew exponentially with 1500% in a period of 3 months, after which it crashed at a similar rate. The article argues that this acceleration of prices caused an escalation that changed the perspective of change for farmers, it shifted the main focus from farming as a repetitive event tied to the seasonal weather changes, to one of future potentiality tied to sudden market movements. This shift in the scale of measuring change in farming moved farmers from producing seeds to also speculating in seeds, through methods of trading and stocking. The guar price acceleration opened up to imaginaries of new avenues of future income from farming that was not flowing in with the rain, but with the market.

KEYWORDS
India; farming; speculation; escalation; guar; trade

Introduction
In 2012, the price of a little hard seed named guar grown and sold primarily by Indian farmers in North India, increased exponentially in price with more than 1500% over a period of just three months (from approx. 2,500 rupees to 35,000 rupees per hundred kilos). In India, in the poor desert-state of Rajasthan, guar has been used as fodder for cows and camels, and as a good source of protein for poor farmers diet. Around 80% of the world’s total amount of guar is grown in India. In 2011, a boom in fracking in the U.S. coincided with peaking oil prices controlled by the Middle East, diverted the majority of seeds outside India towards mainly U.S. oil-companies, and made guar the number one export item of Indian agriculture, far exceeding the total income from rice and cotton. Guar gum powder, processed from guar seeds, is a key ingredient in hydraulic fracturing, or ‘fracking.’ When injected with water under high pressure into the underground, the thickening properties of guar gum cause the fracture of deep rock formations, which directs petroleum and natural gasses into wells.

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Only a few months after the prices had started accelerating however, the price of guar dropped again at a similar rate. Once the price had reached a stable level, double what it was before the boom, farmers were left with the feeling of having lost, as they had not sold at the time of the highest prices. The slowing down of the price changes did not simply have farmers ‘adapt to the market’ or bring things back to normal, the price acceleration was so extreme that it changed the way that farmers engaged with the uncertainties and potential profits of farming.

This paper is based on fieldwork between 2014 and 2017 in a guar-producing area of Shekhawati in India. It investigates the effects, material and immaterial, of sudden accelerating prices for farmers. I analyse the escalation that took place as a consequence of this price acceleration. In a theory of escalation, sudden quantitative change leads to qualitative change that involves a change in the way that change is measured (Lars 2020; Lars et al. 2018). I argue that the experience of extreme market fluctuation in the 2012 guar bubble, had the effect that it shifted the main focus, from farming as a repetitive event tied to the seasonal weather changes, to one of future potentiality tied to sudden market movements. This shift in the scale of measuring change in farming, moved farmers from producing seeds to also speculating in seeds, through methods of trading and stocking.

Indian agriculture makes up for 60% of the Indian GDP. As in the rest of the world, Indian agriculture is increasingly financialized, among other things evident from the growth in speculation in agricultural derivatives, traded both by national and international investors, since the commencement of the online National Commodities and Derivatives Exchange (NCDEX) in 2003 (Vijayshankar and Krishnamurthy 2012). This calls us to pay attention to shifts in practices, logics and devices reworking agriculture as a kind of financial space, rather than simply telling macro level stories of agriculture which there is a tendency for (Williams 2014). In the literature on Indian farming, the dominant understanding of radical change in Indian agriculture evolves around the epochs of colonization in the nineteenth century (Bhattacharya 2018) and the ‘Green Revolution’ in the twentieth century. The story of the Green Revolution is the story of how Indian farming as well as the whole Indian economy since the 1960s was completely transformed through the increase of production output first through genetically modified seeds and new irrigation systems, and later also the development of mono-culture farming as well as new credit possibilities. Richa Kumar challenges the fundamental assumptions of the Green Revolution and calls for alternative stories of change in Indian farming that take into account the creativity of the Indian farmers who tends to be portrayed as backwards (Kumar 2016). The focus on large-scale structural changes, inspired by a Marxist focus on modes of production, has meant that less attention has been given to the Indian farmer, as an agent of change. Change is often represented as something imposing itself on the Indian farmer, led by the state, often leading to marginalization and even suicides (Deb 2012; Münster 2012). An alternative to this approach for the study of agriculture, which does not start with preconceived ideas of the Indian farmer, is with an Actor-Network Theory inspired approach, to take crops rather than people as the vantage point for an analysis, that investigates the changing interaction between crops, technology and people. Recent studies focusing on the interaction with such crops as soy (Kumar 2016), tea (Besky 2016), wheat (Krishnamurthy 2018) and ginger (Münster 2015) shows refreshing approaches to Indian agriculture, that uncovers how farmers try to take advantage of changing
agricultural markets in creative ways. The existing literature on guar, nevertheless, is mainly written to guide large-scale national and international investors (cf. Rai 2015). However, guar is a crop that has a particularly interesting story to tell about Indian farming, which involves market volatility and speculation from below.

The Green Revolution did have a major impact on the production of such commodities as wheat and soy, but it simultaneously led to a neglect of non-irrigated farming, including guar, which was not integrated into the state-led management programmes aimed at educating farmers in proper use of new technologies for farming. Thus, the Green Revolution as an interpretative frame for understanding change does not tell the whole story when it comes to guar farming; for that we need to look more into trade than on production. With this article, by unfolding the exceptional case of the guar price acceleration while working with a theory of escalation, I hope to present a fresh perspective on how change can come about in a relatively unknown rural area of India, in order to shed light on larger issues concerning the interconnection of the temporality of accelerating change and increased financialization. The change I am uncovering is neither tied to changes in modes of production nor to weather changes but to sudden accelerating changes in market prices. For guar farmers, the temporary explosion in the price of guar opened up to another kind of transformation, not just located in developments in material structures, but also in the awakening of new dreams.

From cow fodder fields to goldmines

Not only does India produce up to 80% of the world’s total guar, most of this guar is grown in the region of Shekhawati in Rajasthan. Most of the year, the landscape of Shekhawati stretches out as golden-brown slopes, divided by bushes into small fields in which a number of barren tree trunks are spread out. People themselves call it a desert. This is an area where despite scarce rainfall there is by and large no use of irrigation, because the underground water has too high a salt content and the national water canals that have transformed farming in other dry areas, have not made it here (Kumar 2016). The eco-system, however, is optimal for guar, which demands extremely hot weather, sandy soil and just a little rain. It is sown at the same day of the first monsoon showers around the beginning of July. If the monsoon comes as anticipated, in the beginning of August the landscapes turn light green, and flourishes until harvest in October.

The guar farmers are small-scale farmers, most of whom took over small plots, previously owned by aristocrats, during the land reforms of the 1950s. The majority are of the agricultural Jat caste, who in Rajasthan are classified as ‘Other Backward Class,’ a collective of people considered economically and educationally disadvantaged. Apart from producing the basic ingredients for their diet, each household of joint families makes around 1500 dollars a year from farming for selling around 50–100 kg bags of guar, pearl millet used for flat breads and mung seeds used for dal. Whereas the older generation of farmers was only doing farming, the younger generation has a secondary income. Apart from the seasonal work in the fields done early mornings and evenings when it is not too hot, they work in low paid government jobs or in small businesses, where they make slightly less than from the household farming, depending on the year.
Today, despite the increased yield due to genetically modified seeds, farming is often not enough to feed a family. With an equal divide of land between brothers, the farm plots are shrinking while expenses, especially for the education of boys, are going up. In the young generation, few male wants to do farm work but aim for governmental job associated both with financial security, prestige and the possibility for getting a beautiful wife. Nevertheless, the guar price acceleration opened up to imaginaries of new avenues of income from farming.

When the farmers sowed guar seeds in July 2011, the price was around 2000 rupees or 30 dollars per 100 kg bag of guar, what resembles the price of approx. 50 litres of milk. Most had sown around 20% of their fields, which for a farmer with an average-sized plot of 1 hectare, would give them around 10 bags of guar. But in December prices suddenly started rising, and tripled within a couple of weeks. Most farmers sold their guar around this time, getting prices much higher than expected. Yet, after they sold, the prices continued to rise. Around, three months later, the price had risen beyond 30,000 rupees per bag, which for many was equal to six month’s employment pay. There were stories of prices having gone all the way up to 40,000, 7,000 more than what is in any official record. At this point, farmers were comparing guar with gold, however, most guar was in the hands of traders.

At the beginning of July, the price dropped below 20,000. As prices were still unprecedented high, farmers who were earlier growing only little guar were now growing mostly guar, knowing that they would have to buy pearl millet and lentils for their personal consumption in the coming year from the market. At the time of harvest, after a relatively good monsoon, it became clear that immense amounts of guar were coming into the markets, and the prices dropped close to 7,000 rupees despite a continued high demand from the fracking industry. Many farmers short on cash had to sell most their guar at this time, but if they were able to, also kept guar, somewhere between 1 and

**Figure 1.** Graph of development in prices of guar bean in Rajasthan and neighbouring state Haryana 2003–2015.
50 bags, in the hope that the price would go up again. In the newspapers there were reports of farmers who held rallies in order to mobilize farmers to refrain from selling guar out of need in order to raise prices again. Prices did rise slightly in December, before they dropped again (Figure 1).

Among farmers, there was uncertainty about where the sudden demand came from. Some thought it was caused by a destructive flood in Pakistan, the second largest guar producer which had caused a shortage in guar, others said they had heard about an increasing demand from Middle Eastern oil-companies from relatives working there, and others pointed towards a growth in the Chinese pharmaceutical industry, who had long been using guar gum as thickener for pills. In newspaper and on online trading sites, regulators and traders stated that part of the reason was that the initial rise in price due to increased demand from the U.S., had new actors without previous experience in food derivatives speculate in guar by investing money from the black economy. This resulted in a magnitude of speculative buying, alongside with an over-reporting of demand and circular trading, where traders would keep buying and selling from one another back and forth, in order to create an idea of higher demand than was actually the case. I am not trying here to figure out what really happened, but what are the effects of the price acceleration for the guar farmers in Rajasthan.

Desert-town millionaires and losers

When I came to Shekhawati at the end of June 2014 the price that farmers were able to get from a jute bag filled with 100 kg guar seeds was around 5000 rupees, which when 80% production expenses were withdrawn, could cover one month’s food expenses for a joint family. Many farmers still had guar from 2012 stored inside their houses, in bedrooms and living rooms, hoping for prices to come up again. The women of the houses were complaining about the guar eating mice eating out of holes in the jute bags. Despite the overall elevation in price level, farmers who sold their guar for 7000–10.000 were left with the feeling of having lost money. Even the farmers who had not grown any guar at all that year expressed that they had lost money, because they had lost the potential for money. The temporary acceleration in the price of guar meant that farmers started measuring its value in terms of what they could have gotten, rather than in relationship to the pre-existing price level or the adapted price level after the price acceleration, which was still double than before the boom.

Even though the farmers were making more money than previously from guar, they were still holding on to their guar from 2012 that they thought was containing a loss. The value of the guar was locked into the value that they were hoping to get for the guar, during the price acceleration. This guar, as a cash crop, resembled a kind of ‘special monies’ (Zelizer 1989), which could not just be integrated into the current everyday economy, as they carried with it a value associated with another time, different from the everyday of the now. The farmers continued to grow additional guar after 2012, which they sold off in smaller quantities throughout the year, while maintaining the stock of guar from 2012.

The reason why long-term stocking of guar is even possible, has to do with the guar seed itself. Guar, can keep for a very long time, some will say up to 20 years, without losing its quality, partly because insects keep away from it. Even before the guar price
acceleration, guar was used as a cash crop, and unlike mung and millet, was not sold off immediately after harvest but brought into the market in smaller quantities throughout the year. Thus, it was not only the usage of guar, in the oil industry, but also its qualities in terms of storage that makes it interesting as a commodity for speculation. After the acceleration guar is not just used as ‘money in the bank,’ with a poor interest rate, but more as stocks, which they keep in the hope that it will rise in value at an exponential rate.¹

Even though I encountered few farmers who had considerably benefitted from the price acceleration, farmers had a clear idea of what one could potentially gain from speculation in guar exemplified in the traders working in the wholesale market. Most farmers I interacted with knew of Suresh, the jat farmer turned trader, who became rich from the guar boom. Suresh grew up in a small village 30 minutes away from the market town, in a family who owned more land than most, and also had a small shop in their village. Having the money to employ workers in their fields, he started trading in seeds and bought a licence to act as a commission agent in seeds in the mandi, the whole sale market regulated by the government. With the licence he was allowed to charge 2% commission on all trades that he facilitated between farmers and brokers buying seeds to sell for mills or export. During the guar price boom Suresh made lots of money from this commission, but also from himself buying guar while prices were still going up. With the money he made in 2012 he could afford to buy a newly constructed commercial building in town and send his oldest son accompanied by his wife to do a one-year course, which was to prepare him for entry exams to the prestigious Indian Institute of Technology (IIT). Now, Suresh was known in town as the successful farmer turned trader who with real estate and a son enrolled in IIT had moved up the social ladder.

Most of the farmers I came across could, according to their household income, be classified as lower middle class. They had food on the table, well-kept houses and a motorcycle for transportation between the village and the market town. The number one financial concern was the money needed for education, which easily costed one person’s full year salary. The streets of the market town and the surrounding villages are full of posters with pictures of kids of the area with their good grades printed in large numbers, serving as advertisements for private schools. The wish for additional money in their family economy, was primarily a wish for social mobility for their kids through education. Ajkal sab log jaldi paisa chahta hai, ‘nowadays everyone wants quick money.’ Quick money was money independent on one’s social background, and which did not demand any manual labour. The guar acceleration brought about a new dimension to quick money and Suresh’s example, opened up to imaginaries among farmers of different possible futures.

New actors and spaces for speculation

Having witnessed the scale of profit that could be generated from the trade and short term stocking of just a single bag of guar, farmers started not just producing guar but also buying guar, in the hope of benefitting from sudden price changes. Before 2012 there had been maximum one local trader per village. These traders, who were also themselves farmers, had a weighing scale in their home in the village, where farmers could bring their seeds without having to go to the market town to sell. As less farmers keep a camel nowadays (which are now trained to dance at weddings as entertainment) they do not have the
transportation facilities for bringing the seeds to the market. By selling the seeds to farmers also working as traders in the village, farmers could save the time and money from bringing bags in auto rickshaws. Once the farmers had accumulated enough seeds from the village, they rented a truck, and brought it to the whole sale market or directly to the mills in the area. These farmer-traders had been making their money on the 50–100 rupees difference between the price they bought for and what they sold it for. This did not necessarily make them rich, and therefore they maintained their own farming work as another source of food and income.

In 2012 more farmers started acting as such (unlicenced) traders out of villages, and suddenly there were about three such farmer-traders per village of less than 1000 households. These new farmer-traders did not get involved in this work to make money from the difference in price in villages and the whole sale market, as had been the case for the existing village traders, but to profit from price changes over time. They bought seeds that they could store with a trader at the wholesale market for a fee of 5 rupees per bag per month. If not enough space for storage at the wholesale market, the traders load off bags to state-supported storage facilities meant for seeds circulated through the NCDEX, but which like the wholesale-markets in reality are used for long-term storage.

The local farmer-traders, while themselves speculating on when to sell the seed of the farmers, furthermore enable farmers to stock seeds beyond the storage facilities of their own house. After harvest, even if the farmers want to wait with selling their seeds in hope that the price will go up, they can hand it over to the farmer-traders (who thus can build up credit from selling it off before they have to pay the farmer). Once the farmer-trader have procured the seeds without payment, the farmers can any time call and say that they wish to sell the seeds, and they will get the money within two days. This system of exchange I was told was called a ‘village ATM,’ as it allowed farmers to ‘withdraw’ money at any time when ready to sell. These new village ATMs can be used not only for guar, but also for other seeds such as mung, which like other pulses in India has an increasingly volatile price as more and more are speculating on its price in NCDEX.

These kinds of deliveries with delayed payment are an inversion of the kind of ‘sowda’ futures trades of the Marwaris in nineteenth-century Calcutta as described by Ritu Birla (Birla 2009), characterized by exchange without or with delayed delivery. This infrastructure around exchange enabled a kind of speculation from below in price changes for traders who did not have access to money but access to seeds. Traditionally, it has been the merchant caste of Marwaris from this area, who have been associated with speculation in price differences in agricultural products across the country (Birla 2009). The guar price boom pulled new actors, farmers, normally not associated with trade, into the speculation in agricultural commodities, which they were themselves also the producers of. This created new networks for stocks of seeds hidden to any public records in the village, interconnected with the hidden stocks in the wholesale market and in NCDEX storage facilities. The way that the speculation materializes here is not as a ‘fictious’ market but as a growth of a physical market out of circulation. The sudden increase in farmers also acting as traders, show how, as a reaction to the guar price acceleration, a speculative market evolved at the village level. The guar prices accelerated with such a speed that it pulled more farmers into speculative trade and thus altered the systems of exchange and storage in the villages.
Technologies of acceleration

While escalations are ‘sudden,’ I suggest that there are changes that go prior to the guar price acceleration that enabled it to have the effects of reshaping farming. These are material changes that have made the escalation I am identifying an event specific to the twenty-first century. In line with a traditional focus on rural change, I am here paying attention to the introduction of new objects (Gold 2012), namely the tractor and the cell phone.

In the area of my research, until just one and a half decade ago, ploughing and sowing were done with the help of camels or bulls. This process easily took a month starting in the summer season as early as in May, and demanded hard work from both animals and farmers in the boiling heat. Guar was given as ‘fuel’ to animals because with the high fibre content it gives them strength, or taggat, uttered while contracting the biceps. With the tractors that started to enter the villages at the beginning of this century, what before took weeks of hard labour for both farmers and animals could be done in a couple of hours. Most of the strength from guar is now exported out of the country in return for money used to buy fuel, which is then ‘fed’ to the tractors. Many bulls, which are illegal to sell for slaughter, are now wondering the streets out of job together with the holy cows unable to provide milk. The most labour intense and time-consuming part of farming is the work with removing weeds during the monsoon season and applying the cow dung, which takes a couple of weeks depending on land size, as well as guarding the fields at night against hungry bulls and cows.

Farming is emphasized as hard work. Yet, the actual work in the field is limited. Today, most of the work of the so-called chaumasa, four months, part-time farming consists of waiting for the rain. Unlike the limited irrigated farming in the rabi winter season, for which fertilizers, pesticides and insecticides are used, which demands a daily work with arranging the irrigation system and monitoring the growth in case some chemical is needed, the non-irrigated monsoon farming, once planted is largely left to itself until harvest, during which the tractors are again rented for threshing. The introduction of the tractor thus enhanced the experience of farming as an activity of waiting, since less time was spent in the physical activity of working the fields. In this time farmers just wait for their ‘luck,’ as it is beyond their control how the monsoon will play out. This, however, is not a passive form of waiting where the present is experienced as a void, but an active mode of anticipation and imagining that involves an interplay between hope and doubt (Kaur and Bandak 2018), the hope for appropriate amounts and timing of rain and doubt – or more so fear – of drought or strong showers too early destroying the plants. After the guar price acceleration, farming furthermore went from being an activity of waiting for rain to an activity of waiting for prices.

Here it is important to know a bit more about how price can be monitored by farmers. This is a very politicized topic, as there is an overall concern whether farmers are getting a fair price by ‘realizing price,’ which was one of the main arguments for establishing a governmentally regulated wholesale market, the mandi, and later agro-products derivatives at the NCDEX which represented a single platform for price-information. Before NCDEX, price was decentralized and settled through auctions after which the mean prices of the day were printed in the local newspapers. These prices, however, were not easily updated, so farmers mainly got the prices from asking the last person in the village who had
been to the wholesale market. As farmers started getting cell phones in the first part of the twenty-first century, they could get updated prices by calling the commission agent at the wholesale market directly. As the commission agents later also got a smartphone, he could sit in the wholesale market and access the prices of the NCDEX online, and follow minute-by-minute prices changes in the futures markets. This means that the prices that are reported to the farmers can change with a faster speed. These material changes do not simply have the potential to change farming and trade, but the engagement with change and time itself.

**From weather to price temporalities**

According to Michel Serres, in modern times our understanding of time has moved away from its connection to the weather, inherent in the French word for temps, ever since the general population have moved away from agriculture (Serres 1993). I suggest that for Indian farmers still living in the rural areas, the price acceleration has escalated into a new sense of urgency of the market, which has brought the weather to the background as a driver of change. As we will see, the escalation in this case refers to the new perception of change as something that can potentially suddenly speed up. Time in India, have been emphasized as cyclical, not with references to farming and seasons, but with Hindu cosmology, where not only reincarnation brings humans back to life again and again, but where the universe itself moves in cycles each consisting of four epochs (Clayton 2000). Rather than thinking of the perspective of time as one overriding ideology, Laura Bear suggests that we in order to grasp modern time look into the pragmatics of time, how people work with time, and orient themselves in various ‘time maps,’ and how these may be hierarchically ordered (Bear 2014). In the following, I examine how the shift of time away from its connection with agriculture and weather takes place not as people gradually move away from agriculture, but as agriculture becomes increasingly entangled with speculation due to sudden accelerating change in price.

The weather of Rajasthan, despite its yearly variations, has a certain rhythm to it that farm work is organized around. In agriculture, every year, around the same time, set in motion by gradual changes in the weather, the same processes take place, with ploughing, sowing, weeding and harvesting. Droughts, however, are an ever-present risk. This in the past has made the stocking of seeds from year to year a mode of weather insurance. Before the guar escalation, exceptional events in farming were the complete absence of rain in the case of drought resulting in loss of what was invested. Elder farmers have clear memories of years of drought, which made them dependent on loans within the village and in a few cases state insurances.

With the guar price acceleration there was a new kind of extremity around which time could be organized. The extreme in the market was represented with a possibility for profits thousands-fold of what was invested, and in reverse, losing the anticipated profit. Prior to the guar acceleration, fluctuations in market price never exceeded the fluctuations in personal yield due to variations in rainfall. The guar price acceleration, however, illustrated that change in price due to market speculation can exceed the change in price due to weather variations.

Initially entering the field with a long list of interview questions focused on perceptions of the weather, I was surprised to find how little farmers engaged actively with weather
uncertainties. Unlike the engagement with market prices, they did not check weather forecasts. This was not that rich knowledge on the weather did not exist in the area, where there was a long tradition of rain gambling (Birla 2009). In fact, it was the interest in rain gambling that brought me to the field, where I wanted to explore parallels of weather forecasting in farming and in rain gambling, as methods of dealing with weather uncertainties. Yet, by and large there were no farmers among the gamblers. Neither did the otherwise very religious farmers pray to the Hindu god of rain, Indra, or the goddess of wealth also associated with water, Lakshmi (Gregory 2018). For prayers to affect rain, a priest would have to get involved and do a proper ritual around it. However, this was a method that was used less and less, because it was too expensive, I was told, to have the priest perform such a ritual, even when money was collected from a whole village, and today people would rather spend their money on consumer items. Without divine interference, farmers agreed that farming is a gamble, which in the end depends upon kismet or luck, which is difficult to predict or control.

The trade in seeds for profit based on price changes was also termed a gamble, however, this was of a different kind. First of all, this was a gamble that was not just about survival, but about making large profits. Many farmers dreamt of making enough money from trade in seeds that could suddenly go up in prices for their children to be able to follow an alternative path, that ideally did not involve farming at all, or perhaps paying others to do the farm work for them. The gamble of trade in seeds was, unlike that dependent on rain, one that it was believed one could master through the kind of knowledge and insight that the big traders, many of them from the Marwari caste, believed to have, and that farmers could learn from imitating them.

It did make sense that rain and farm output could be connected to personal luck or destiny as opposed to trade that was more linked with knowledge, when I came to realize that rain was a very localized phenomenon. Within a single village, one farmer could experience a year without any rain at all, while another farmer had good rain. This is due to the nature of the monsoon in the area, where rainfall often is a very localized phenomena, of short-lived heavy rain-pours. Therefore, you can stand in one place and observe the rain coming and going hundred metres away without a single drop hitting you. Whereas regionally declared droughts activated certain interventions oriented towards food distribution and insurance of an area, the way I was told about droughts, they were not events that everyone was subject to at the same time, but were circulating among the farmers. Also, there was not a shared story of climate changes. Some thought it had started to rain more, others that it was raining less, and some thought that in the bigger picture there was no change, just yearly variations. The weather was not represented as a shared experience, and talking about the weather, people would often start discussions of who was right in their recollection of how the weather was. The guar price acceleration on the other hand, was a phenomenon that all guar producers were experiencing simultaneously as they overall were subject to the same prices.

Not only weather but also market has an rhythm to it. While the weather follows seasonal patterns, the market follows patterns of demand and supply. Thus there is a tendency for prices to go slightly down during harvest in October and November where there is an abundance of guar and the farmers need instant money for the wedding season and the elevated consumption and gifting of the Diwali holiday season. Six months later when the reserves are shrinking, prices tend to go up. Trends in either an
upward or downward motion of prices for the year, in the case of guar, often happens around August when there are signs of how much is grown and how good the monsoon is moving along. The guar escalation nevertheless uncovered a potential in the market temporality of a sudden speeding up to the extent that it ran wild. It was not that farmers were not attentive to market prices before the guar boom, yet, its temporality was more understood at an annual scale, and tied to singular harvests, and the question of whether there was a lot or a little rain, and by extension a lot or a little produce. The guar acceleration, extended the cycles of trade beyond the seasons and further into the future.

The speculative temporality, however, was not simply about future hopes, but concerns the past. The past is thus in fact what is hoped for in the future. The farmers wish that the same as in 2011–2012 will happen again, and that this time they will act differently and hold on to their guar until the market prices are at its highest. The holding on to the guar of 2012, farmers explained, was not a stock to ensure survival in the case of drought, but a way of ‘chasing losses.’ Farmers were speculating in future price rises as a way to make up for the mistakes they did in 2012.

Escalations open up to alternative histories, where time is not divided into the gradual built up of change, or the rhythms of the seasons, but to repeated acceleration, as a way that past and future come together in the activity of waiting for accelerations. Because of a relatively small and slower price change had occurred in guar around year 2000, at a time where there was a global demand of guar as a thickener used in consumer items such as ketchup, shampoo and packages baking goods, several farmer-traders predicted a pattern that there would be a price acceleration every 12 years. The idea of return and reoccurrence is not only a theory within finance but also fundamental to Hindu thought, which can support the idea of price acceleration as a future potential (Appadurai 2013). Such temporalities of anticipation of future accelerations, created by the price acceleration of 2012, can have the future effect of co-producing price accelerations in the future. This can happen as 80% of guar producers keep holding back guar even when the price is up, because of expectations that the price will go up even further. This can create a lack of guar in circulation that can in fact make the prices accelerate. It is a well-known dynamic in financial markets that expectations rather than product or performance are what determines market directions. The guar price acceleration had the effect that the value of guar in itself, and in comparison with other crops, became measured along future expectations for market movements rather than present output dependent on rainfall, creating a sense of alertness to the market. Not only can I as a researcher through the above analysis, identify an escalation. Farmers think through escalations in the sense that since 2012 sudden accelerating change is experienced as a potent possibility.

**Conclusion: thinking through escalations**

The acceleration of guar prices due to a boom in fracking and its effects on how guar farmers in North India approach farming, show how temporary sudden accelerating change in the value of objects can reorient how people think about change. For farmers, the unprecedented high scale at which they were able to sell seeds otherwise mainly used for feeding cows, had Indian guar farmers engage in farming not just as producers on seeds, but also speculators in the future price of those seeds through long-term
It is not that it is an altogether new phenomena that farmers hold on to goods in the hope for better prices. However, the imagined potential profits tied to the bags of guar was unprecedented. The value of guar potentially jumped in scale of value from one linked with peasant food to one linked with precious metals such as gold. The idea that change could happen suddenly opened up to a dream of a prosperous future, where they would get the financial means to educate their sons and thereby make a jump in social class and leave the risky business of farming which depends on the uncertainty of rain.

The guar price acceleration could only take place as it did because Indian agriculture had been increasingly financialized with the introduction of online trade in future in 2003 causing an extension of the infrastructures for seed storage. The guar price acceleration transformed agriculture in the guar growing region by reorganizing systems of trade and perspectives for unprecedented income. In order to understand how speculation takes place in the twenty-first century, it is vital to identify how it can take root in places beyond iconographic places like Wall Street (Bear, Birla, and Puri 2015), developing from below in marginalized places linked with the global markets and the temptations of its sudden spurts, rather than gradually spreading out from financial centres.

The sudden accelerating change in the quantitative price of guar due to a boom in the fracking industry qualitatively changed the measurement of and engagement with change in farming in the world’s main guar producing area located in North India. After the price hike had winded down, new numbers started to grow, namely the number of bags of stocked guar in villages as well as farmers acting as middlemen out of villages for the trade of seeds. Weaved into these jute bags, are a temporality defined by aspiration and the hope of getting lucky based on sought for insights into the market. For farmers holding on to these bags, a drought is not necessarily thought of as a disaster, but could be a possibility for profit, as it triggers the market in the right direction. In the article, I have argued that accelerating prices of guar in the Indian desert in 2012, led to an escalation of speculation, which not only caused more farmers to be speculators in the market, but also a reorientation of the temporality of farming, that became more alert to market changes than to weather changes. Like in the case of the escalation of gambling in Papua New Guinea, as described by Anthony Pickles in this special issue (2020), the escalation of speculation in the form of piled up bags of guar is directly connected with the encounter with an economic system that enabled quick money streaming in from outside in ways not experienced before. And as with the case of an escalating conflict among Christians and Muslims in Ethiopia (Dulin 2020), once things seemed to have turned back to normal, with no open conflicts or volatile prices, things had nevertheless changed, as the potential for something similar to happen in the future remained in the imagination.

Working with the analytical framework of escalation, as a quantitative change leading to qualitative change, allowed me to look at change in Indian agriculture with a fresh perspective. This freed me from the grip of the narratives of macro changes in Indian agriculture, such as those caused by the Green Revolution, land reforms or the more recent attention to climate changes. There is nevertheless a larger process of change that this event links up to, namely the financialization of Indian agriculture. This is a process that can be difficult to grasp. Yet, a focus on sudden price accelerations allowed me to get a hold of how financialization can enter a local society driven by the possibility and temptation of quick money. This mode of analysis allowed me to address, by overcoming, the difficult question of whether it was a change in ethics or in the socio-technical
organization of the market that brought about increased speculation, which is a question that debates within social studies of finance have seemed to circle around (Appadurai 2011; Callon, Millo, and Muniesa 2007). Working with an attention to escalating change, the article frames financialization, situated far away from the financial centres, as a process of increased speculation that does not simply grow gradually as a consequence of on one hand new policies and technologies or on the other, capitalist imaginaries. Rather, the financialization of guar farmers in North India was induced by sudden accelerating change, which had the power to reorganize both the way that trade was organized and the future imaginaries that guided farmers decision making over a short period of time. It is my hope that the present article can illustrate how paying attention to escalations can enrich – and perhaps reorient – our understanding of well-established debates circling around questions of how change takes place.

As a contribution to the study of escalation, the article points towards an important temporal aspect part of accelerating change, namely not speed, but waiting. For the farmers this was a waiting for a repetition of the possible, the possible as it was uncovered during the guar price acceleration. This was a kind of waiting that was different from the waiting for rain, as it was not structured around relatively predictable patterns of the seasons, but extended further into the years ahead into an unknown future. Using the concepts that Arjun Appadurai have proposed for a study of an anthropology of the future, the future orientation which was part of this waiting rested upon a combination between an ethics of possibility by expanding a horizon of hope, and an ethics of probability caught up in attempts to make sense of the rise and fall numbers (Appadurai 2013). Speculation has not been completely absent among farmers before 2012. However, after 2012 there was an expansion of the degree of speculation. The change is thus not a complete shift, but rather a reorientation. This entailed a change in the imagined source of wealth among farmers as one that came with the sudden and mostly unpredictable gifts of rain to the understanding of and patience with the market.

**Note**

1. This despite the fact that there since 1955 has been a ban on storage beyond 6 months on all seeds through the ‘Essential Commodities Act’ which was introduced as an attempt to avoid elevated speculation in food, which in the past equal to the lack of rain been causing hangers killing millions of people (Sen 1982).

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**References**