Claiming crisis: an ethnography on agricultural insurance, rural distress and the everyday moralities of quantification in India

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Chapter 5: What is the '*actual*' situation of farmers?

It was still early morning when we passed through the gate to the compound where Ramesh's family lives. We were greeted by the respite of large trees that cover the government grounds on which his small house is built. I liked coming here since trees and the shade they provide are a rare commodity in Beed, and Ramesh's plot, situated on grounds owned by the irrigation department, has an abundance of them. We found Ramesh still asleep, and we asked his mother who was in the kitchen making breakfast whether we should return at a later time. She responded by pointing to the plastic chairs in front of the house and going into the back in order to wake her son. I took in the familiar scene of the old stone government housing, the neighbour who had come out to have a look at us and Ramesh's father feeding the family buffalo. The tranquillity of the scene was in stark contrast to the otherwise dusty and polluted streets of Wargaon. Wargaon is a town characterised by heavy industry, with a power plant, a train station, concrete factory as well as one of the largest sugarcane factories in the area dominating economic life. In this mostly industrial setting, it seemed somehow poetic that an employee of an agricultural insurance scheme that, among other things, is meant to protect farmers from the excesses of climate change, happened to live in a green oasis among the many factories.

Soon, Ramesh emerged from the house still a bit disoriented and sleepy. I had gotten to know Ramesh quite well in the past few months. As he, Nikhil and I were roughly the same age, our conversations developed a certain familiarity which proved elusive with older, more established, insurance officers. We first met by accident, in the aftermath of a hailstorm, which he had come to survey and which I had come to observe. Initially, he had been confused by the idea of a researcher who came from the other side of the world to study a topic that, according to him, one could easily find out about on the internet. "All the information you will need about PMFBY can be found on the website of the insurance scheme, so whatever I tell you can be checked there," he told us on the evening of our first meeting, when I asked him about his work. He was sensitive to my response however, that all that information came from Delhi and that I was there to understand the 'actual' situation of farmers. This answer and the meetings that followed helped Ramesh overcome his initial scepticism and, eventually, he allowed me and Nikhil to accompany him on the many trips on behalf of the insurance company to the farms, where he was tasked with determining the damage to the crops that had occurred there.

Part reality, part discursive strategy to explain the practice of doing ethnography, my insistence on an actual situation, although not a conscious choice of words at the

time, is a fitting introduction to the topic of this chapter. Because, in Ramesh's case, the question "what is the actual situation of farmers?" is more than a contemplation on the nature and boundaries of reality; it is his day job. As a claim adjuster working for the insurance company, he did surveys that determine the damage to crops in the area under his care. To the insurance company, the primary role of these claim adjusters was that they produced the figure for the 'actual yield' in an area, a number that formed the basis for the insurance payout in a given season. Ramesh was one of roughly twenty people who worked as claim adjusters for an agency that was hired by an insurance company to assess crop damages in Beed district. Claim adjusters were normally young men who had recently graduated from one of the local agricultural colleges and they worked on temporary contracts. Their jobs were highly mobile, and most days were spent driving from farm to farm on motorbike while trying to mobilise the various people, documents and technologies that had to be present for the experiment.

This chapter follows claim adjusters like Ramesh and his colleagues in their everyday work. In focussing explicitly on these practices of agricultural data gathering, I bring out the quality of quantity in its everyday context and contribute to the understanding of how insurance regimes "employ quantification" (Appadurai 1993, 315). The data that Ramesh and his colleagues produced contribute to the shaping of the agricultural reality of crop damages, in a part of India where rural suffering as a consequence of crop damage was high on the political agenda. Their practices formed the basis of 'knowing' the extent of this agricultural damage in clear and seemingly unambiguous terms, supported by the considerable authority of surveying methodology and statistical science. In following claim adjusters as they survey the fields, I show how they navigated the complex relationships of agricultural survey-taking. Consequently, I will argue that they emerged as key intermediaries, who were able to navigate local demands, contingencies, official discourse and measurement techniques and, in the process, came to shape considerably what was accepted as truth about the agricultural situation in the area in which they worked. This means that they took part in the local "knowledge politics" (Goldman, Nadasdy, and Turner 2010), which represented and framed environmental data in particular ways, but also that insurance adjusters played a considerable role in representing agricultural damages through numbers. Not only was this representation informed by the practicalities and politics of everyday survey-taking, but adjusters were also keenly aware of and felt the burden of this responsibility. They coloured the practices associated with surveying procedure with their own moral convictions about what constitutes a 'fair' measurement. Therefore, what became the 'actual' situation of farmers was not only about producing 'objectified' numbers, but also about the

context in which they were produced and the moral deliberations of those asked to produce them. Understanding the work these claim adjusters did to instantiate actuality, then, brings into focus the way in which the suffering of farmers in Beed is objectified in "statistical objects" (Desrosières 1998, 11), objects that were, nonetheless, intimately connected to the context in which they were produced.

CCE – CROP-CUTTING EXPERIMENTS

As he washed and dressed, Ramesh explained that the last weeks had been difficult. The recent lack of rain had hit many farmers in the area, which meant that they had to cut their crop early in order to diminish the damages that a lack of moisture can inflict on the plants. This had proven to be a hindrance to Ramesh, not only because his family had a large farm themselves, but also because he could not conduct crop-cutting experiments on crops that had already been cut. "This is a problem because there is a difference. But we have targets," he explained in his usual, matter-of-fact tone. After he had dried his hair, he received a call on one of his phones. A brief back and forth ensued, during which Ramesh looked at us with a half-smile. "The farmer has already cut the crop," he managed to tell us before he was called again. This time, it was an employee of the agricultural office, who told him that she had a child who needed to be brought to school and so she would not be able to accompany him that day. Ramesh sat down and, after a short silence, we all burst out laughing as this frustrating reality had become a recurrent reality during our time together. "Some days it feels impossible," he said, laughing.

The crop-cutting experiments that Ramesh steadfastly abbreviates to 'CCE,' represented a central part of the crop insurance procedure. They were the sample cuttings that informed the damage calculation in a particular area. The Operational Guideline of PMFBY, a manual for prospective claim adjusters and government surveyors, describes the lengthy procedure that a "well-conducted" CCE must comply with. It notes that: "In order to maintain the sanctity and credibility of CCEs as an objective method of yield estimation, the modalities mentioned will be followed" (Ibid., 28). Here, it can be read that the first step is the selection of the plot, which, in Maharashtra, is to be done by the agricultural statistics department. The department assigns a randomised plot where the experiment is to take place. This plot is then uploaded in a mobile app, which is installed on the smartphones of the inspectors. Use of this app is mandatory by the insurance scheme, with the PMFBY Guideline noting that: "To bring better transparency and confidence in the data, States shall mandatorily ensure 100% CCEs through a mobile application specially designed by Govt. of India" (Ibid.). A government official, usually a clerk from the municipal

agricultural department, will then go to the designated area and make sure that the crop for which an experiment is desired is actually grown there. If it is not, a new plot number is generated, and so on, until a suitable plot with the correct crop is found. When such a plot is found, the official notes down the total area on which the crop is grown in the farm, the variety of crop that is grown and whether this is a 'local' or 'hybrid' (GMO) variety. They also note the probable harvest date of the crop, the GPS coordinates and take a photo of the farmer and official in the same frame. All this information is then sent to the app and noted on a paper form: Form 1.

Next, the crop is left to grow. Depending on the crop and cropping season, this will take anywhere between three and six months. It is at the time of probable harvest noted in Form 1 that the insurance agent and government officer return to the plot and conduct the CCE. This is the moment when a claim adjuster, such as Ramesh, from the 'implementing agency' is present to do the experiment on behalf of the insurance company. The CCE itself entails harvesting a 10 x 10 metre or 5 x 5 metre plot, depending on the size of field and crop. This plot is again to be selected at random through the application, which gives a randomised number of metres calculated from the south-west corner of the field. This number of metres is then followed into the field. Here, a plot is marked by flags that the insurance worker brings along. The crop contained in this demarcation is then to be harvested. Who actually conducts the physical labour of harvesting is not noted in the operational guidelines. Once harvested, the crop is collected and weighed with a digital scale brought by the insurance worker. Then, as a final step, the GPS coordinates are saved in the application and a minimum of four pictures are taken as proof of the experiment: 1) the field where the experiment was conducted; 2) the marked plot where the crop was harvested; 3) the process of harvesting the crop; and 4) the weight of the harvested crop as shown by the digital scale. All this information is saved both digitally in the app and copied on a paper form, Form 2, which is destined for further processing by the agricultural department.

Figure 8: A Crop-Cutting Experiment in progress

Photograph by Tim van de Meerendonk

Four of these CCEs are to be conducted for each major crop in a village and collectively they produce a number for that area: the 'actual yield.' This is the primary data that informs the actuarial calculation of premiums and payouts by the insurance company. The centrality of the CCE data for insurance is a relatively new development, which came with PMFBY, and since its introduction in 2016 this crop data has become financialised. This means that its reliability as a measure of monetary damage is crucial to the financial sustainability of the insurance company. This last fact in particular has made many people, predominantly those working in underwriting, anxious about the reliability of CCE data. Mangesh, the actuary from Swiss Re, introduced in previous chapters, explained this preoccupation with accuracy from the perspective of the insurance company. He told me: "We bother a lot about monitoring damages. We have to make sure that there is some kind of control mechanism for the claims that come in." From his perspective, CCEs were a way to gather this data and monitor its validity.

A version of this elaborate crop-cutting procedure was reiterated to me one day when Ramesh invited me to meet a friend who worked for the local government as an agricultural officer. As we took a seat in his small office, I saw that he had prepared for

my arrival by filling the surface of his desk with charts, circulars, tables and maps of the agricultural area surrounding Wargaon. The two took it upon themselves to explain the way that the plots where the CCEs would take place are selected. During their explanation, they made an effort to convince me of two salient aspects of the scheme: 1) random sampling; and 2) objective proceduralism. They emphasised the fact that the selection of the plot where the CCE would take place was done randomly and that monitoring the CCE goes through the mobile application. They went to great lengths to show me the techniques through which they achieved this randomness, with lists of numbers and corresponding tables designed to safeguard the random selection of plots. Ramesh also showed me his app, emphasising the necessity of GPS coordinates and photographs to ensure that the CCEs are done accurately. When I asked them why these procedures of randomisation and surveying were so important, Ramesh told me that, fundamentally, it was a matter of fairness: "Like this, the responsibility is in the documents themselves, there is no way to cheat. When you have this system there is nobody who has to make a choice." The officer agreed, adding that: "When you are able to make this choice yourself, what will happen? Say I am the *gram sewak* [a government development officer]. I will have friends and enemies. I will choose the plot of my friend and make the damage higher. […] Now, with this, that is not possible." "So, when you use this procedure, selecting the plot happens as a coincidence of the system. We have no say," he concluded, while pointing at the charts he had just explained to me. They thus emphasised that the techniques of insurance were able to take human interests out of the equation. Both Ramesh and the agricultural officer implied that it is only then, with the dangers of value judgements and social relations safely abetted, that 'actual' measurements are attainable.

It is worthwhile stopping for a moment and analysing what it is that is being implied by calculating the 'actual yield' in this way. Most obviously, through its framing as an "objective method of yield estimation," as the guidelines so confidently put it, a claim is made on objectified knowledge. This was reiterated by Ramesh and the official. When they talked about the technical aspects of insurance they shared a view of insurance that was predicated on the merit of procedural objectivism; that it was through rationalisation, automation and randomisation that accuracy – and, ultimately, fairness – was ensured. In their explanation, taking individual assessment out of the equation was the way in which insurance should ideally operate. By focussing on the measurement of yields, the CCEs were designed to measure environmental damage to crops. The simplicity of measuring yield as a measurement of damages has been touted as one of the advantages of PMFBY. Yet, it raises the question, what is excluded in defining 'yield' as the central variable of the crop-cutting

experiments. This objectification of natural damage achieved by measuring yield, obfuscates other issues. As we will see, this became particularly important when claim adjusters had to deal with risks and damage that this method of measuring did not see.

MAKING IT WORK: ACTUALISING THE ACTUAL

Back on the veranda of Ramesh's house, now fully dressed and awake, Ramesh pondered his options. We were still faced with a conundrum. As it currently stood, this morning he had neither a plot to survey nor a government officer who was willing to accompany him into the afternoon heat. When I asked him what we would do next, he showed me a list of approximately 30 names and phone numbers. Ramesh explained that they were all government officers who were responsible for conducting experiments and that the names that were crossed out had changed their numbers or did not respond to his calls. He explained that the relationship with government officials is a delicate one and demands vigilance and tact: "It takes a lot of convincing to have them cooperate. Most of the time the government does not work accurately and they have many [other] duties to attend to." Getting on the priority list of government workers was therefore a challenge and Ramesh explained that it was difficult to maintain a good working relationship with officers while also working in accordance with the accuracy that insurance companies expect. This, I learnt, could mean many things. Some of Ramesh's colleagues tried to cultivate friendly relations with the officers in order to convince them to follow them into the field. While Ramesh had many friends at the agricultural department, he also relished telling stories about how he could press people into doing what he wants.

That morning, Ramesh decided to leverage his relations with friends higher up in the administrative hierarchy. He made a call to an officer of the district agricultural office requesting him to call the municipal agricultural department to convince the officers there that the experiment had to take place that day. The strategy must have worked because, not much later, Ramesh asked me whether I was ready to go. We set off on our motorbikes and when we arrived at the meeting location a young woman emerged from a rickshaw. It was immediately apparent to me that this was the lady that we had been waiting for. Even more than her modern Indian clothes and Ray Ban sunglasses, her self-confident presence betrayed her status of government employee. Initially, she barely acknowledged me and Ramesh, as we rushed from the comfortable shade of a tree to greet her. I was relieved to find that her initial dismissiveness quickly dissipated once we started talking. On his part, Ramesh was delighted to discover that they were batchmates in college and the two spent half an hour catching up on mutual

acquaintances. She explained to me in English that she was an agricultural officer and that her superior had tasked her with coming over to do the experiment. When I asked her whether she enjoyed fieldwork and conducting CCEs, she told me that she did not as the work was bothersome, useless and hot.

Despite the agricultural officer's grumbling, we set off to find the field on which the procedure was to take place. We should have been guided by the coordinates on Form 1, but the agricultural officer had forgotten the form, so instead we followed the son of the farmer who owned the land. Ramesh, meanwhile, tried his best to please the officer by showing her the boxes she needed to check and the information she needed to fill on Form 2. After a short walk, we found the plot where the soybean lay harvested. Guided by Ramesh, the agricultural officer proceeded to open the app. This took some time as the GPS initially failed to connect. When it eventually did, she asked what to do next. Ramesh explained to her that she needed to take pictures, which she proceeded to do. We began the experiment by demarcating the plot. This was done with the help of some of the gathered bystanders, who Ramesh orchestrated into a square shape. The agricultural assistant took a picture. Next, the farmer's son, who had directed us, started to gather some of the crops strewn about. However, this quickly led to protest and comments from the now numerous bystanders, who told him to gather the bad crop, which he proceeded to do. When I looked at Ramesh, he seemed annoyed, yet did not intervene. Later, I found out why: "People are not happy right now so we have to be careful," I was told. Ramesh divulged that many farmers were disgruntled because in Wargaon people did not get crop insurance last year and that, not that long ago, this went so far that insurance workers got into an argument with a group of farmers. As the officers were conducting an experiment in a village close to Wargaon, farmers started gathering around them and questioning their measuring techniques and the reason why they did not get their claims settled despite having suffered damage. This quickly escalated when the insurance workers were dismissive. As the argument progressed, more farmers started gathering and the mood turned increasingly hostile, with farmers blocking the officers from leaving while crowding around them, hurling insults. Only through the mediation of a village official, I was told, were they allowed to make their escape. As we will see in the next chapter, these types of confrontation were becoming more frequent and, in many cases, were fuelled by political agitation and communal distrust.

That day, such a sensational scene was averted, at least in part by Ramesh's conduct. Instead of insisting on gathering the crops in the demarcated plot, Ramesh let those present gather crops from across the field and pile them up on a tarp. Next, pictures were taken of the outer edge of the farm. After this, a picture had to be taken

of the harvesting procedure. To achieve this in the present circumstances, the agricultural assistant asked the farmer's son to take a sickle and pose as if he was cutting some of the harvested crop. I turned quizzically to Ramesh, but he did not seem bothered, and directed the young man to stand so that it looked like the soybean was still in the ground. He then helped to fill up a white bag with the gathered soybean from the tarp in order to take a picture of the harvested crop. They started filling the white sack with cut crops, being careful to hang some of the plants out of the bag in order to show its contents. Great care was taken to make sure that the pictures featured the correct images. One of the required images was that of a farmer cutting his crop. This led to great hilarity among the group of gathered people, one of whom told the young man, who is a college student wearing a dress shirt and faux leather loafers: "Wear a scarf around your head, you will look more like a farmer!" which, indeed, he proceeded to do. Everyone laughed at this peculiar sight and within roughly 20 minutes we were back under the shade of a roadside tea shop finalising the procedure by filling in Form 2. When I returned from the counter with some water for us to cool off, I asked Ramesh and my new acquaintance, carefully, what the most important aspects of these experiments were, Ramesh answered: "The pictures. They have to be correct."

From the beginning of his day Ramesh's situation diverged considerably from the step by step 'workflow' of the operational guidelines: unwilling government workers, pressure from bystanders, missing forms, plots that had already been harvested and failing ICT services, to name but a few of the particular hurdles during this experiment. Ramesh, meanwhile, exerted himself to steer the day towards success. To achieve this required knowledge of hierarchies and the navigation of relationships. For instance, through a careful application of carrots and sticks, he managed to convince the agricultural officer to accompany him, despite her initial objections. He leveraged his connections at the district level to pressure the agricultural officer through official channels. When she arrived however, he was polite, personal and glad to acknowledge her status as government worker, all the while appealing to friendly familiarity by taking the time to discuss mutual friends. He coaxed her further by assisting her, being patient with the time and lenient with procedure, making sure to not linger in the field too long and insisting on an actual crop cutting.

It also involved a creative navigation of bureaucratic expectation. This took the form of actively staging the pictures and filling the sack with a predetermined weight of crops. As I witnessed the experiments, I got the distinct impression of a performance that was meant to communicate a certain representational image, as both the crops and the people were carefully orchestrated to fit the expectation. At one point, this

even went so far as to play dress-up, to make the scene of a farmer cutting the crop in his field complete. When I asked Ramesh later why he noted that the pictures were the most important aspect of his work, he answered that the insurance company wanted proof. We asked him whether it was not frustrating that he was frequently confronted with a less-than-ideal situation. He responded: “All these checks are on a situation that I cannot really control. So it has to be convincing at least. […] So, we have to make it work. We have to make sure that the information gets passed.” It is in this context that we might understand the complex relationship that Ramesh and his colleagues have with the agricultural knowledge they are asked to produce. As Ramesh’s comment about being expected “to make it work” suggests, the tension between official procedure and the everyday situation was felt and experienced daily by these claim adjusters. It necessitated mediators who were able to successfully navigate local demands, official discourse and measurement techniques in order to produce the data that the insurance company required of them. Ramesh’s efforts, described above, can be read as an attempt to synthesise this seeming incommensurability: the semblance of procedure and its accompanied notions of rational judgement were maintained in service of the calculative practices of insurance while, simultaneously, the expectations and uncertainties of the practice of surveying were carefully navigated.

ESTIMATING FAIRNESS

It must be emphasised, however, that ‘making it work’ did not mean that Ramesh felt that he produced bad measurements. In fact, he felt that he generally represented damages quite accurately. This became clear when we were in the field a week after the experiment above. This day, we had gone to survey a plot of cotton, one of the most important cash crops in Beed. We were accompanied by a government worker, a young man of around 20 years, who Ramesh introduced as his good friend.

Shortly after meeting this friend at the office of the agricultural department and having a cup of tea at one of the stalls that cling to the government building, we drove to a field about 30 minutes from Wargaon, conveniently situated near the main national highway. As we arrived at the large farm, we were greeted by the characteristic sight of ladies with colourful clothing, carrying big baskets of fluffy white cotton. Picking cotton is labour intensive and about 20 people were hard at work in this considerable tract of land. As we approached, the workers’ chatter faded as all eyes turned to us. Ramesh asked the ladies where the owner of the field could be found and one of them took out a phone. Soon, a man in a dress shirt, with a pen firmly

in its front pocket, emerged to greet Ramesh and, after a short introduction from Nikhil, me.

In the midst of the bright white bolls and prickly bushes, we set off to conduct the experiment, under the watchful eyes of Ramesh's friend and the owner of the plot. We began by finding a place to mark the plot, a photo of which was swiftly taken. The image of a farmer picking the crop was also not a problem on this day, as there was an abundance of cotton in the field. In terms of harvesting, however, Ramesh explained to us that we would not be doing any cotton picking. As this was one of the first times that we had actually found standing crop in the field, which we were supposed to harvest, I was somewhat disappointed and asked him why not. Ramesh said that it would take too much time. To actually harvest the required amount of cotton would take a full day and neither he nor the government worker had the time to spend on the physical labour of picking cotton. Picking cotton was tedious and time-consuming, which meant that, somehow, manual labour had to be mobilised and this was not fair to the farmers called upon to give their time.

To illustrate this point, Ramesh told me about a recent incident where the responsible government official had told a farmer that he would be coming to conduct a crop-cutting experiment on cotton. He had told the farmer that it was his duty to help the government with harvesting the crop. Dutifully, the farmer had organised for two of his workers to come and assist in the picking of the cotton. However, the official failed to show up at the designated time and so now the employees had come for nothing, costing the farmer valuable time and money as well as hurting his reputation. Next time, when they came for the actual experiment, there were no employees, as the farmer felt that he could not take the risk of hiring them. Instead, he had brought his daughter and wife and, with the three of them, it took four hours to harvest the crop. "So, is that fair?" Ramesh asked rhetorically, "what about the farmer?" If they have employees cut the crop they are losing money and if they are unable to organise workers they will have to toil in the field themselves. To put this in perspective: Remember from Chapter 1, which outlines the scope of the national scheme, that a huge number of experiments are conducted annually. I have not been able to find reliable figures on PMFBY but even for NAIS, which was significantly smaller in scale, an estimated 500,000 experiments were conducted annually in India. Suffice to say that the cumulative labour silently expected from farm workers in this scheme was enormous.

So, instead of harvesting a 10 x 10 plot, as the procedure stipulates, Ramesh asked the farmer about the extent of his damages. They took a short walk around the plot, with the farmer pointing to places where the crop was less developed due to a lack of

water. The farmer estimated that his crop had been damaged badly. According to him, about 50 per cent of his crops had been lost. He told Ramesh that he had expected to grow around 4 kilograms of cotton in one *are* (one hundredth of a hectare) that year. Ramesh paused the conversation to find a higher vantage point from which to overlook the whole farm. As we looked over the sea of white, Ramesh directed my gaze to parts of the field that had a different colour from the rest, explaining that this suggested crop damage. Ramesh returned to the farmer and the two engaged in a brief discussion. For a moment, the two looked at the field earnestly and, indeed, arrived at an estimate of 8 kilograms for two *are*. One of the ladies produced a sack and a basket of cotton, which Ramesh and I proceeded to load into the bag. "A little more," Nikhil translated for me, until the scale read 7.9 kilograms, upon which Ramesh took a picture. He then proceeded to remove 6.4 kilograms so that the scale measured 1.5 kilograms and another picture was taken. This second image was for the second picking, which, in the case of cotton, had to be noted in the app. Theoretically, cotton can be picked two to three times in Beed, each time with diminishing returns. With each picking, the labour costs to pick one kilogram of cotton goes up. Therefore, "in actuality," Ramesh explained, "there will not be a second picking because the costs of finding employees is too high. I make this [survey of the] second cutting only as a formality, actually it is impossible to do the second picking without loss."

Done with the first experiment, we then moved to a second field across the highway where it was apparent, even to a layman's eyes, that there was considerable damage to the cotton. "Due to lack of water," Ramesh informed, a little distracted, as he wanted to get out of the sun quickly and get the second experiment underway. No tape measures or crop cutting were applied to do the experiment in this plot. Ramesh did show us that the crop was less developed here and that it had been damaged extensively. "So here, I cannot fill the same amounts as in the other field. I will fill less here. It is important to be fair to the farmer," he told us while directing me, Nikhil and a farmer into a haphazard triangle. When it was time to photograph a picture of the weight of this field, he again asked the farmer what kind of production he expected in his field. The farmer answered that he was unsure what he would get because he had not yet harvested his crop. Ramesh and the farmer then discussed what they thought the yield would be. They settled on 6kg for 2r, which was put in a sack, weighed and photographed in the same manner as the first experiment.

When we returned to his home for lunch, I deliberated on how to ask Ramesh about the deviation from procedure I had witnessed. I decided to gently confront Ramesh with the contradiction that I had seen between the technical norms, which he

had explained previously, and his actions that afternoon. Ramesh was surprised. He did not feel that he was breaking his own rules:

> Actually, these farmers know very well how much crop is in their field and how much they will be harvesting. They have no incentive to lie about that. And if they do try and deceive me, I have a lot of experience so I know how much crop there should be in their field. […] We cannot ask them to take half a day just to help us. So we make an estimation.

Intentionally prodding a bit further, I asked him how he made sure that this guess was fair to farmers. He was irked by my use of the word 'guess' and told me:

> No, it is not a guess! It is not blank. What I fill in my app is an estimation and it comes very close to the actual situation of the farmer. […] Say, you have a bag which you fill with mangoes. You would not know precisely what you would get but at least you might get close to the actual amount of mangoes in your bag.

Ramesh trusted in his ability to make estimations that were close to the actual situation that the farmers faced. For Ramesh, the practice of estimation facilitated important leeway in the production of yield data. This leeway was necessary not only to navigate the knowledge politics that made doing CCEs in the prescribed manner difficult, but also to deal with some of the moral problems the procedure led to. In this way, estimation provided room to incorporate that which the CCE was unable to see. During experiments, Ramesh would go to great lengths to explain to us how he would arrive at certain estimates. These explanations were accompanied by his expression of feelings of responsibility for the farmers in his area. To Ramesh and some of his colleagues, estimations were a way to achieve a fair outcome for farmers. Despite the fact that estimation re-introduced personal judgements into a procedure that had been so carefully designed to be devoid of them, Ramesh insisted on telling us that the numbers he produced through estimation were close to the actual situation, and that they therefore had the legitimacy that the insurance company required of him. Through his experience both as a farmer and as a claim adjuster, he was able to quickly estimate the damages that had been sustained and the yields that might be expected in a given plot.

Estimation allowed some room to incorporate that which the CCE was unable to see. As outlined above, the methodological choices made in the design of the experiment meant that it highlighted some risks at the expense of others. However, there was a distinct presence of other kinds of risks in the daily practice of CCE's, which claim adjusters encountered and have to reckon with. Among the examples that we

saw were the availability of labour, the quantity that could eventually be sold and, ironically, damage as a result of drought. For instance, an important justification to rely not on cutting but on estimation was that it would not be fair to the farmer to have them sweat in the field just so the insurance company could conduct its experiment. Ramesh also deemed it unfair to make farmers wait with cutting crops despite the damage this would do to the crops due to a lack of water. Estimation thus helped Ramesh to simultaneously include his personal convictions about fairness, satisfy the insurance company with an objectifiable yield figure, and also play his part in the politics of knowledge, which the practice of surveying necessitated.

This latter point is worth stressing. It is important to keep in mind that the estimations that Ramesh made were not made in a vacuum. Instead, these crop-cutting experiments were public events, often witnessed by groups of farmers who had a stake in the outcome of the experiment. Through their presence, comments, and sometimes relationships with these claim adjusters, they influenced the daily practice of these experiments. During my time doing experiments with Ramesh, the presence of a crowd was always expected and their involvement in the procedure something to be actively managed. The situations above are examples of this, but many more could be named. For instance, another experiment conducted late in the year saw us dealing with an agricultural officer who had mobilised a crowd in order to convince Ramesh to conduct the experiment in a field of their choosing. Only through mediation with the officer, which included filling in fictive amounts in the app, was Ramesh able to steer the experiment to something that both the people present at the experiment and the insurance company would accept. The way in which such act of involvement in the crop-cutting experiments takes shape will be further elaborated in Chapter 6, but can already be recognised here. There seemed to be an increasing sense of the importance of these experiments and the fact that the cooperation of the farming community was often silently expected put farmers in a position where they were able to exert influence.

MEASURING ACCURATELY

However, not everyone shared Ramesh's opinion that estimations were the best way to achieve fairness. I discovered this when I got to know a colleague of Ramesh called Suresh. Suresh is a man of around 25 from Kendra. Son of a low-level yet influential administrative figure, Suresh was Ramesh's subordinate but had been working for the insurance company for a long time. Suresh took a very different approach to doing the CCEs compared to Ramesh. I observed this when Nikhil and I joined him on one of his experiments in September 2018.

It was still early morning and I was desperately trying to keep up with Suresh and an agricultural officer who were whizzing through the hilly countryside on their motorbikes. We were on our way to conduct an experiment on soybean. The experiment was to take place in Ghatpur, a village with part of its farms in the valley and the other part higher up on a hill. As I looked down on the village from my current vantage point on the hill, the relevance of this distinction was immediately apparent with the valley being lush and green while the hill had a brownish hue. When we reached the predetermined farm, we were met by a group of farmers who had been waiting for us. As we descended from our motorbikes one of them greeted us and escorted us to his small plot of approximately half an acre. As we approached the field, Suresh's expression changed. The field where we were supposed to conduct our experiment had already been harvested. When asked why he did not wait to cut the crop the farmer answered that he was looking on as his crop deteriorated and nobody told him that he was not allowed to harvest his crop. The officer, who by now had taken shelter from the sun under a nearby tree and was sharing tobacco with the farmers who had gathered, smiled passively as Suresh looked at him with an annoyed expression. Technically, it was the responsibility of the officer to communicate with the farmer about this.

The officer, meanwhile, suggested that Suresh should just fill in some numbers and be done with the experiment. "Don't worry about it, it will be fine," the officer added in response to a now visibly agitated Suresh. Suresh, on his part, reminded the officer that it was also necessary to upload some pictures into the mobile survey app and asked him how he would suggest making these pictures now that the plot had already been cut. The officer asked one of the farmers present to gather some of the crops and pose for a picture, which he did eagerly. "How much should we weigh, sir?" asked the posing farmer, which led to a short discussion between the agricultural officer, Suresh and the farmers present. In the end, a number was agreed upon and this quantity of crops was put in a sack and weighed with a digital scale from Suresh's bag. They proceeded to take pictures and fill out approximated amounts in the mobile app, all the while Suresh repeating that he disagreed with this practice, and saying that the insurance company would not accept this information. Nonetheless, the information was filled into the app.

We moved to a second plot, after a short stop in Ghatpur village. Here, the agricultural officer told us that the farmer of the plot was unavailable, but that he had found another farmer willing to take us to his field. Suresh, now increasingly desperate, objected, saying that we could not go to another field as the insurance company would not accept alternative coordinates. The agricultural officer answered

that the plot, which had been preselected, could not be reached by motorbike and that the farmer was not present in the village. “So we will do this field instead,” the officer concluded, underlining his decision by driving off. Suresh, Nikhil and I hastily jumped on our motorcycles in order to follow the government worker to one of the neighbourhoods of the village, where a farmer joined us and directed us to a small plot on the hillside just outside of town. The field was tiny, approximately 3 metres wide and 20 metres long. This meant that, apart from the fact that it was the wrong plot, there was also no space to conduct an experiment, as the procedure necessitated a 10 x 10 metre area to be measured. Again, the officer dismissed Suresh’s protests, demanding that they do the experiment in this plot, and that they be finished for the day. Reluctantly, Suresh laid out a grid as best he could and proceeded to gather the crops within it. He was helped by me, Nikhil and two farmers. The officer, who had settled on some rocks under a neem tree, shouted smilingly to Suresh that they were not in the actual field, “so why bother filling it up correctly?”. Grinding his teeth, but out of options, Suresh proceeded to fill in the information as best he could with the help of some of the farmers present. However, he left the information that he was unable to gather blank. Finished with the experiment, a curt goodbye followed and Suresh, Nikhil and I set off back to Kendra. On the journey back, an exasperated Suresh told us that he felt bad about the situation that the agricultural officer had put him in, because he felt that it was important that these plots were measured accurately but, in the end, there was little he can do when the government employee did not cooperate.

Two diverging opinions are emerging here about how to come to the ‘actual.’ As we have seen, Ramesh operated with a certain flexibility vis-à-vis surveying procedure. He ‘makes it work’; he never hesitated to stage the required pictures and weigh crop amounts that he believed were an adequate reflection of ‘actual’ damages suffered. He maintained that both fairness to farmers and accuracy of the survey is achieved through implementing leniency in the procedure. Suresh, on the other hand, adhered more stringently to procedure to come to the ‘actual.’ He did little to assuage the government officer assigned to work with him and seemed adamant about doing the experiment according to the procedure. Only when pressed by circumstances did he allow himself to be persuaded to measure another field. When encountered with the contingent daily realities of his work, he omitted those measurements that he could not make. He told us that he felt that deviating from the procedures was ultimately to the detriment of farmers. While to him this was the most accurate way of representing the ‘actual’ situations he encountered, it led to gaps in the data. Gaps that prohibited the experiment from producing the unambiguous indicator the insurance company necessitated.

These two diverging perspectives on the proper way to measure clashed when we met Ramesh a few days later, as we returned from another CCE with Suresh, during which similar problems had presented themselves. Much to Ramesh's chagrin, he had found out that Suresh had been filling the information into the app as he had found it in the field, leaving a lot of information absent or not as prescribed by the app. Ramesh, as Suresh's senior, told him in no uncertain terms that the information that he had gathered was not what was expected of him and he berated him for not understanding his job. Suresh retorted that this was the situation as he encountered it, and hence this was what he had noted down. He gave the example of the situation described above and asked Ramesh rhetorically, "what did you want me to do in this situation? Simply fill in fake information?" Ramesh scoffed and told him that it did not matter what he encountered in the field, he should make sure that the information that the app requires was filled into the app. I could see that Suresh was very uneasy with this prospect. He again told Ramesh that he did not feel good when he filled in 'fake' information. Ramesh told him not to worry about it and make approximations that he considers to be fair and not preoccupy himself too much with what he actually finds in the field. By the time Ramesh had finished driving home this point, Suresh was quiet and eventually altered some information in his app. However, it was clear that he disagreed and, when I later asked him what happened that day he told us that he hated filling in fake information and that he only did it because his boss forced him to. He told us that he feels it is his duty to accurately represent the damages in the data that he acquired, telling us: "Filling fake information is wrong because it hurts the farmer." Paradoxically, Suresh felt that he was being forced to fill in fake information as it was the only way in which the 'actual yield' could be brought into existence.

CONCLUSION

This chapter has focussed on practices of data production by claim adjusters tasked with collecting field measurements by doing crop-cutting experiments. These experiments are an effort to rationalise damage estimates over large areas and tie them to insurance payouts. Insurance companies assert that it is through such unambiguous indicators as the 'actual yield' and the objectified surveying techniques that produce them, that agricultural insurance circumvents human interference and leads to equitable outcomes for those enrolled in the scheme. While insurance companies propagate this view of objectified knowledge, my aim in this chapter has been first and foremost to show how crop-cutting experiments are suspended in webs of social relations, moral evaluations and power. While accompanying claim adjusters like Ramesh as they conducted crop-cutting experiments, I found that there was much

more at stake than the sanitised view of surveying farms and assessing damages. Instead, CCEs were caught up in a complex set of political, practical and moral deliberations, which claim adjusters had to come to terms with and navigate.

I have brought out two aspects in particular. Firstly, I have shown the messiness of local-level knowledge politics. Claim adjusters frequently encountered impossibilities and contingencies that, among other things, manifested in the form of unwilling government workers, belligerent bystanders, unavailability of labour, missing documents and lack of standing crops. Claim adjusters navigated these difficulties by recreating the bureaucratic ideals represented by the surveying procedure while simultaneously working around the impossibilities. The emerging practice, which Ramesh calls 'making it work,' comes to resemble what Biruk (2018) calls 'cooking data'. Biruk (Ibid., 8) argues that fieldworkers routinely employ "creative and innovative tactics" to commensurate procedure with contingent field realities and that this is, in fact, essential in bringing to life the objectified quantitative data that they are asked to gather. She suggests that it is exactly through their intimate knowledge of the field that they are able to smooth over the messy daily realities of surveying and produce the kind of 'clean data' asked of them by the organisations they work for (Ibid., 75). Claim adjusters like Ramesh found themselves similarly in between procedure and practice. As evidenced by the material presented, they are confronted with situations beyond their control, which nonetheless had to be reconciled. Here, the actual was actualised through the reproduction of a bureaucratic ideal type. This encompassed, for example, staging pictures and filing predetermined weights of crops in the app. Moreover, adjusters had to maintain social relationships, both with the government officials tasked with accompanying them and farmers under whose watchful eye they were conducting the experiment.

On a more abstract level, arguably, it is these practices of representing agricultural reality that shape what becomes accepted as agricultural truth. In this sense, the 'actual situation' is itself a construction, instantiated by the practices of claim adjusters like Ramesh and Suresh. It is through their representations, in the form of measurements expressed in numbers and images, that the extent of agricultural suffering is made visible on a collective scale. Contemporary social science literature on climate insurance hints at this aspect of insurance. Lehtonen (2017), for instance, argues that insurance contributes to the "objectification" of climate change (Ibid., 34). He asserts that insurance companies are able to insure weather events because they have the capability and knowledge to measure individual events, analyse them collectively and assess their risks over time. It is only through their collective enumeration and analysis that large-scale weather risks – and those caught under their

influence – become visible. What these risks and their potential sufferers look like, then, is dependent on the kinds of representations produced in the field: “As the reinsurance business enacts catastrophe risks as particular kinds of objects that circulate among financial actors, it also establishes the climate as a particular kind of world-object” (Ibid.).

Lastly, I have argued that there is a moral side to calculation as well. Ramesh and Suresh were keenly aware of – and acted upon – their individual notions of fairness and responsibility. Ramesh implemented a measure of leniency in his assessment to deal with those things the rationalised procedure did not allow for: the yield that was actually expected when accounting for labour, the selection of a plot that was seen to better represent damages in the field or specifically gathering bad crop for the required images. What was important about this was that, for Ramesh, such leniency seemed to derive – to an extent – from a sense of moral obligation to the farmers he encountered. Crucially, while these considerations were lost in translation when Ramesh produced the actual yield indicator, such contextual dimensions did play a role in what these numbers signified – and came to look like – at various levels of scale. In this regard, one strategy stood out in particular: the practice of estimation. Estimation was seen by Ramesh as a way of getting as close as possible to the ‘actual’ situation, which the insurance company asked of him, while simultaneously doing justice to the various situations he encountered in the field. Throughout the time I worked with him, he trusted in this ability to estimate the yield and damages of the plots he set out to survey. When asked about the deviation from the bureaucratic ideal, which I envisioned to be in contrast to what seemed to me to be inaccurate guesswork, Ramesh was particularly adamant: estimations are not guesses, but rather more or less accurate approximations of reality. Estimations were value judgements that incorporated a multitude of factors that fell both in and outside of surveying procedures. Suresh, meanwhile, adhered to a position closer to that of the insurance company; he believed that accurate measurements arrived at with as little mediation as possible was what made for a fair and responsible measurement.

On their part, farmers and landowners seemed to be increasingly aware of this fact. This awareness was currently in the process of professionalising, which was the reason why this mode of measurement was the target of political action, which will be the topic of the next chapter.