SOME KHEDDAH INCIDENTS

Elephants are captured by two methods in Assam, either by chasing herds and noosing calves, called *mela shikar*, or by driving into stockades, called *kheddah shikar*.

The former method, though far less productive, is the favourite amongst Indians because it involves no initial expenditure beyond the purchase price of the Mahal, and also because anybody, who catches an elephant, gains a great reputation as a *phandi* (nooser). One is inclined to have visions of elephants dashing through the forest until some well-thrown lasso brings up a calf all standing, much like a roped steer in the wild and woolly West, but there is actually nothing romantic about *mela shikar* except the fact that it is commonly practised on moonlight nights. The rope used is so heavy and the noose or phand has to be so large, that it is impossible to catch a moving object, and the noose has to be dumped down on the back of an elephant's neck in the hope that it will curl up its trunk and allow the noose to be pulled tight. Elephants will, time after time, remove the phand with their trunks and this is especially the case with young tuskers, who are provokingly cunning. An effort is generally made to creep into a scattered and feeding herd and then to pick out some youngster for roping, but if the herd is scared and moves off, it is necessary to pursue until a calf gets behind and can be cut off. Such a calf will often quieten down and stay with the koonkies until roped. The *phandi* sits on the koonkie's neck in the mahout's seat, and behind him there is another man, whose duty it is to get unwonted pace out of the koonkie by prodding it at the root of the tail with the point of a dao, and who also helps in shortening the rope after an animal has been noosed. The noose is tied with a piece of cord to prevent it slipping up too tight, but this can only be done when the captured animal takes a breather after the first desperate struggle, and if it has managed meanwhile to get round a tree, death by strangulation commonly follows.

The Forest Department, however, had a serious objection to *mela shikar*, because it was found that the *phandis* used their spare time in shooting deer and selling the flesh, while the bolder

spirits even went after tuskers and rhino. It is obvious that there can be no efficient control over these men, who are provided with elephants and guns and can wander where they like in their particular Mahals. Personally, I have known of four cases of *phandis* shooting tuskers. In one case the elephant travelled a long way before dying, and the *phandi* tracked up the beast only to find that a number of tea-garden coolies had found the carcase first, and were prepared to settle his claim to the tusks with their axes. This must have been very bitter, but he could get no satisfaction. Information was given in another case that a *phandi* was going to take a pair of tusks by night to the local Kayah's shop, so the D. F. O. spent the night hiding close by, but nothing happened. When he got back to his bungalow, however, early in the morning, he saw a pair of tusks lying in his verandah. The ruffian, who had brought them, turned up later with a smirking countenance and said he had found them in the forest, and wanted the usual 12½ per cent. reward for bringing them in. Both the remaining cases relate to one man, who spread the report that there was a very big tusker in the Mahal going about killing other male elephants. He brought in two pairs of tusks and was paid the reward for them, but his little game was spoilt by some one finding one of the carcases with a bullet in the head and giving the show away. There must, of course, be any number of cases which never come to light.

A dead rhino, in the same way, is more profitable to a *phandi* than many months of hunting elephants. The horn can be sold readily for a large sum, while the dried flesh and skin are also valuable. A man could get anything from Rs. 200 to Rs. 400 for the various parts of a rhino.

This sort of thing could not be tolerated in a Game Sanctuary or Reserve Forest, so the Local Government, at the Department's request, embarked upon a scheme for hunting the Province systematically by *kheddah shikar* alone. The Mahals are, however, being so thoroughly worked under this system that their exhaustion is within sight, and steps will have to be taken to preserve the breeding stock, or there will be no elephants left to hunt. It might be found feasible to allow *mela shikar* from time

to time in the Khas and some of the Reserves, while the Game Sanctuaries and remaining Reserves are specially kept for Government Kheddahs for the supply of the necessary big elephants.

An equally cogent reason for the suppression of general Kheddahs is that it is found that it has led to terrible cruelty being perpetrated upon the elephants in some of the Indian-owned Mahals. The trouble is that small elephants are more valuable, when first caught, than big females, unless these be of very particular build. A female or tusker calf about 6 ft. high will sell for Rs. 1,500, if possessing the correct number of white toe-nails (18) and a full tail, but a big female will only fetch about Rs. 1,200 or possibly Rs. 1,400. These figures refer only to untrained animals. The reason for this is not far to seek. There is a great demand for elephants, other than mucknas, in other parts of India, and the railways will carry animals that are not over about 6′ 6″, so that any trader, buying only small elephants, can rail them to his market expeditiously, instead of having to march them, while still soft, for several weeks along the Trunk Roads, with all the difficulty and expense of procuring adequate and suitable fodder. Again, it is obviously much easier to handle and train the youngsters, two of which can be controlled by one koonkie, whereas a larger elephant may require two koonkies to itself alone. Small elephants, too, do not put up such a fight, so that the danger of death from bad rope-galls is very considerably less. It may, therefore, pay a Mahaldar to scrap the big elephants, which he stockades, and remove his koonkies to deal with other catches as soon as possible. A Purneah trader will be managing and feeding all the small elephants, which he has purchased, without the help of a koonkie 10 days after an auction sale, but a bigger elephant requires the use of a koonkie for training, and especially for bringing in grass, for a longer period than this. The Mahaldar is bound to lend his koonkies to the purchasers of the wild elephants until they can go by themselves, so that anyone, who buys a big elephant, is very much in the hands of the Mahaldar and he is very much in the hands of his men. They are not particularly interested as to the fate of the animals, and the temptation is to adopt the most violent

methods of training, so that the elephants are finished with, one way or the other, as soon as possible, and the koonkies freed for other work. A common device with such men is to cut a slit across the back of the neck of any elephant, which shows much fight. The neck rope, or phand, is made to fit into this, and then the animal can only struggle at the risk of enduring most frightful pain. Septicaemia is the common form of death, arising from the rope-galls on neck and legs, and the large numbers of punctures from spear-thrusts. The elephant is very often slow to die and may not succumb for two or three months to the punishment it has undergone. There is no mercy, of course, for elephants that have just calved, or are about to calve; they have got to go through it just the same. Mahals differ, naturally, very much according to the Mahaldar, and these things do not go on under European supervision, but prevention is better than cure, and by only allowing *mela shikar* such abominations will be largely curtailed. Omelettes cannot be made without breaking eggs and a certain proportion of mortality is bound to occur even amongst the calves caught by *mela shikar*.

When the Kamrup Mahals with those in the Khasia Hills came up for sale for two seasons in the spring of 1917, the Forest Department retained for itself a compact block of Reserve Forests, because the area was known to be a regular elephant breeding ground, so that, by stopping operations here, overhunting elsewhere could be, to some extent, counter-balanced, and also because there were certain prescriptions of the Working Plan to be carried out, to which an outsider might object as interfering with the hunting.

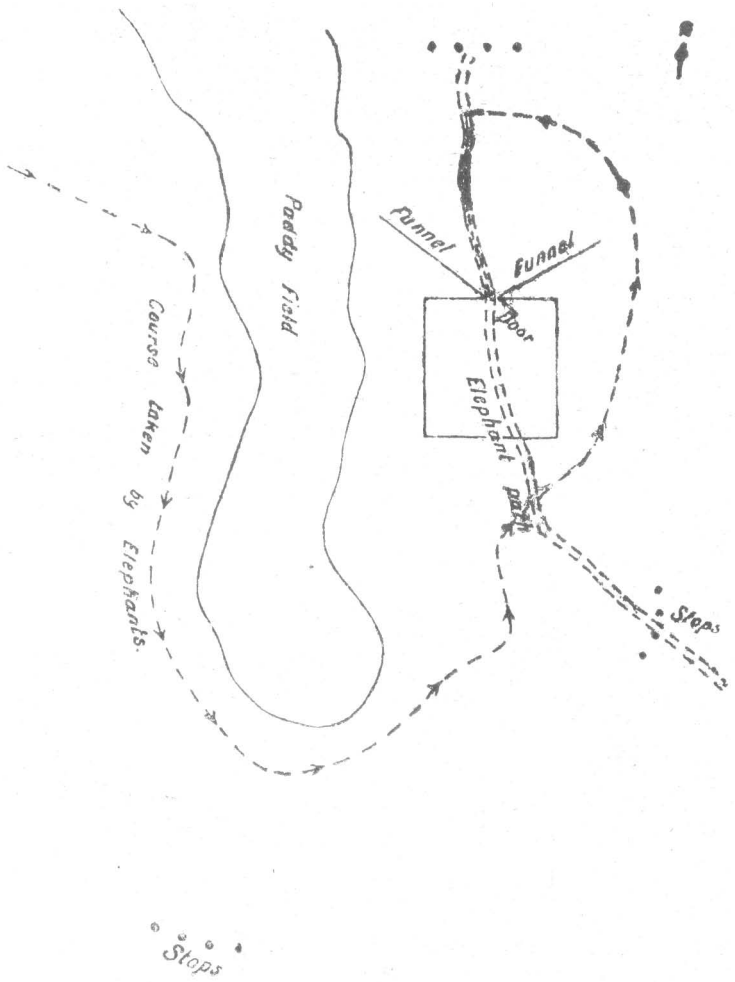
The Forest Department caught 40 elephants between December 21st and the middle of February, the next Mahal and the neighbouring Khasia Hills caught 78 between August and the end of March, while 49 elephants were taken in the third Kamrup Mahal and adjacent Khasia Hills. Quite a considerable number were caught elsewhere in the Khasia Hills too.

There still seemed to be a fair number of herds about, but to be on the safe side we determined to release all the dhuis (breeding females), which were caught in the Government Mahal

during 1918-19 and so not reduce the breeding stock more than we could help.

We commenced operations this season on November 29th, when an exceptionally large herd of 50 or 60 elephants were reported near the Borbakra Stockade. The drive failed on account of a new-born calf, whose mother kept charging back, and of a big tusker, which chased the drivers.

A rough diagram, not drawn to scale, will help to elucidate the following day's operations.



The stockade is built across an elephant path to the east of a long narrow finger-shaped stretch of paddy land.

I told the man, who as co-partner had to build and pay for this stockade, to put in two gates, but I found afterwards that he had only put one in, on the north. When I asked him why, he said he did not see how it would be possible to catch elephants if there were two gates, as the elephants would go in at one and out at the other. I explained to him that anyone less of a pudding head would have understood that the door farther from the herd would have to be closed before the driving commenced.

The Borbakra people were rather down in the mouth about this time owing to a number of deaths from influenza, so I told them all early in the morning on the 30th that this was a lucky day, because elsewhere in Assam the Peace Celebrations were being held. All sorts of forest guards and mahouts had to be called upon to help in the driving in order to make up the numbers necessary for the 'zubberdust' operation we contemplated, namely, bringing the herd across just beyond the south end of the paddy-field, then north past the stockade and back again south along the proper elephant path. If the paddy had been cut, the elephants would have been out at night to eat the straw, and driving would have been much simplified; also, obviously, if there had been a southern door to the stockade.

The drivers went off about 9 A.M. and I sat with the other door men on the edge of the paddy-field (called "pathar" in Assam), near the end of the funnel. The first we heard of the drive was the cracking of some bamboos just across the other side of the "pathar," and soon afterwards we heard the tap-tap of a dao on a tree. As little noise as possible is employed in driving elephants, provided they are going right, because they are inclined to panic and break away in different directions, if much frightened. Guns and shouting have to be employed when the herd is heading the wrong way and trying to get out of the drive, in the hope that it will turn back and proceed as desired. We got up into the 'machans' now, and it was not long before the excitement began. The elephants were extremely averse to crossing at

the end of the "pathar" and broke back a number of times. There were various parties acting as stops, and they had a busy time, as the big herd began to dissolve into its component parts or families, and the different bands sought to escape towards some favourite ground to the south-west. The stops managed to get in front of a herd of about 15, which were driven back by a gunshot and returned to the bamboos on the wrong side of the "pathar." The drivers got round behind them again, and the whole force of beaters was concentrated on this lot, which was absolutely compelled to take the course it objected to. There is a piece of ponky (marshy land between the end of the "pathar" and the stockade with enough cane to discourage a human from trying to get through, and the first intimation we at the stockade had of the elephants was the sound of them coming through the ponk. There were stops on a hill to the south-east, but they had nothing to do, and the elephants turned northwards of their own accord. There are some bamboos growing near the south-east corner of the stockade, and it was quite exciting seeing these being bent to one side as the herd forced its way through.

Once clear of the bamboos the elephants came into sight. They were now not more than 30 yards from the gate machan, in which I was squatting, and being on the side of a steep hill the animals were, if anything, a little above our level, a truly impressive sight at such short range. We, of course, were lying very low, but it seemed ridiculous that they did not spot us. Something went wrong after the herd had got round the end of the funnel, and about eight broke away up the steep hill to the east, the remainder going straight on north. These had to be turned by the stops, and there was a most exciting pause between hearing the shouts of the stops die down and the arrival of the elephants at the stockade; the stops must have been about 400 yards away. Disaster was nearly occasioned by one of the amateur beaters, whose enthusiasm took him, though very far behind in the hunt, through the ponk and cane, so that he was passing the end of the stockade, uttering hoarse cries, just at the time that the elephants were coming along to enter it; however, some one

managed to scrag him before it was too late. A batch of drivers should have come across from the other side of the "pathar," but the information was not passed along properly, and no one came to press the elephants over their last lap. The consequence was that they straggled in: first came three calves and two dhuis in a great hurry. They entered without any demur and did not halt until the ditch and palisade at the other end of the stockade brought them up. They remained for some moments cogitating on these phenomena, and then turned slowly to reconnoitre the position. Nothing else being in sight, the door had to be shut as they approached it. It had just banged to, when a dhui and a calf arrived post-haste, and the man, whose duty it was to secure the gate, having bungled his job (luckily for us), the dhui barged it open and entered the stockade with her calf. One of the big dhuis inside had, at that moment, got a run on and, as the new arrivals scraped their way in round the end of the gate, she landed right in the centre of it, and banged it shut with a crash that must have afforded her the greatest satisfaction. The gate was now fastened, but quite a minute later a fine young tusker, about 6′ 6″, turned up, seeking an entry, which unfortunately we had to deny him. We sent a couple of koonkies with phands after him, but he got away in the gathering darkness. The catch consisted of one stand-out dhui, one old dhui and a dhui, which showed rope marks on her legs. Of the four calves two were tuskers and two mucknas. A big tusker rolled up when it was really beginning to get dark, and I had, with the greatest possible reluctance, I must confess, to take my rifle and go after him. It was too dark to see anything more than his huge bulk, and as he sauntered off of his own accord, it was unnecessary to fire at him. He did return during the night and was fired at from the stockade.

The koonkies had no difficulty next morning in dealing with the run-away, which we took over for Government, and the four calves. The two remaining dhuis were released, being driven out of the stockade in front of the koonkies. There were 50 or 60 people looking on at the tamasha, and I kept these back for a

few minutes in order to let the koonkies get on a little distance. When we did start after them, we found that the two released dhuis were very close to us in the thick jungle, uncertain, apparently, whether or not they ought to follow their bellowing calves. We waited a moment or two, just to make sure, and then started off again along the path. My bearer, who was next behind me, having ascertained that there was no danger, promptly turned round and shouted to my sweeper "Jemadar, ut, ut," whereupon a still small voice from the highest machan in the middle of the paddy protested that he had "uted" as high as he was able, and could "ut" no more. The multitude was much pleased at the joke. I should explain that the other servants consistently work on the feelings of the poor sweeper, who is no denizen of the jungle by choice. They told him that there were a lot of tigers at this place, and whenever a civet cat came round the camp at night, they always called it a "bagh," the occasional roaring of tigers in the distance lending some substance to their statements; at any rate, the sweeper never emerges to verify the "baghs." He retires to his tent at dusk with a lantern and a great heap of fire-wood, and, at his own request, with the cook's murghis for company. He is said not to sleep at all during the night, and I must say he responded very quickly to my warning when, some weeks later, I rolled out at 2 A.M. to find a tusker eating stubble 80 yards from my tent.

We marched the elephants that very morning to a pil-khana near Kulsi, a Range Head-quarters and the site of our principal Forest Inspection Bungalow. We were greeted there with the news that elephants had been heard at night in a direction favourable for driving to our Tiyamara stockade, so I took a few men, and went to the stockade to make sure that everything was all right. It was lucky we did go there, as we found that the gate post of the south door had got out of the straight and that the end of the gate was resting on the ground. We fixed this up, and then shut the gate in order to tighten up the natural spring which we use for closing the door after the elephants are in. This consists of a long piece of cane tied to the top of a

stout sapling, the top of which is bent over by hauling on the cane : the free end of the cane is tied to the gate, and if this has then to be forced open the sapling is bent down still further. A thin piece of cane leading to a machan keeps the gate open, and one cut with a dao severs it and allows the spring to come into action.

I was up before dawn next day and away to turn out the beaters, who do not like early hours in the cold weather. The men, who had been watching the herd at night, reported that it was quite close to the south door of the stockade, and contained about 30 animals. The Tiyamara stockade is built across an elephant path high up on the north face of a hill in a little cup, with a steep hill behind, and hills on each side, to the east and west, that might be called mildly precipitous. One would need one hand free, at least, if one was going to walk along their face. To the north the path leads steeply downhill. The herd had spent the night in the Bil to the south, and on the far side of the hill.

The beaters went off about 9 A.M., while we, who were to man the machans, went up to the stockade and got to work. First of all we had to close the north door securely, and then we had to cut green shrubs and thoroughly camouflage the stockade, the funnels and the entrance generally. This had all been done before, but the leaves had died and it was advisable to have a little green about the place. The gate itself and one gatepost had been tastefully hidden with a fat-leaved orchid, which is common here, and needed no further decoration, and the post on to which the door was to shut, was a living Sal tree. As we had not previously caught elephants in this stockade, there was quite a fair lot of jungle growing inside naturally, and we had nothing more to do than dig a few holes with our daos and stick in shrubs. The far gate took us some time as the builders had forgotten to camouflage it on the inside, and now that it was shut, it was very visible. However we had finished it and put the necessary finishing touches to the funnels and the approach by 11, and we then got up into the machans. My duty was to secure the

gate; they had forgotten to build a machan this side of the gate, but I had quite a comfy seat on the palisade leaning up against the Sal tree, and I rigged up a screen of branches, so that I would not be immediately visible to the elephants when they had reached the far gate and turned round to consider the situation. We had a long and weary wait, and it began to feel very chilly after the hill to the west had shut out the sun about 3 o'clock, but we were rewarded by hearing faint shouts soon after 5, and shortly afterwards Boom! went the muzzle-loader, stationed about 400 yards from the stockade entrance and fired after the herd has passed to ginger up the laggards. I must pause at this breathless moment to explain that at the ends of the funnels (the functions of which are obvious) are two machans, in which dependable men are stationed to prevent the elephants from working away from the mouth of the stockade and escaping round the ends of the funnels. It is important that these men should know when to make a noise and when to remain silent. Elephants came over the skyline a few minutes after the report of the gun, 7 of them, 2 being dhuis and 5 being calves and half-grown beasts. They were up on the side of the hill to the east of the proper path, and their course would have taken them round the end of the eastern funnel but for the stop in the machan tok-toking his bamboo instrument at the right moment precisely. If he had done it sooner there would have been time for the elephants to stop and alter their course still more up the hill, if he had waited longer it might have been too late, and the elephants might have barged on and escaped. The hill, down and along which the elephants were coming, was so steep, that the leading dhui was on a level with the machan, when the man made his demonstration, and she spotted him. She charged down and smashed up the supports to the machan (luckily it rested principally in the fork of a tree), but was afraid to continue her course and turned and came down towards the mouth of the stockade. I thought she was going to bring her companions in for certain, but she crossed the path at right angles and began to climb the hill to the west, following up the funnel on that side. Now was the time for the man there to make

his demonstration, but having seen what had happened on the other side of the stockade his bowels had turned to water and he never made a sound. The elephants solemnly climbed up, found the end of the funnel, forced their way through some bamboos growing there, and passed slowly along the west side of the stockade, only 15 or 20 yards away.

Meanwhile another batch of four elephants came along, also up the hill to the east. The funnel man turned these too, and they came at a great pace down the hill and into the stockade. The catch consisted of two dhuis and a tusker and a female calf, which was rather disappointing. It is fairly certain that the unlucky accident of the stop being spotted by the leading lot of elephants caused that part of the herd to break away to the west, instead of entering the stockade. Herd elephants panic very easily, and for that reason the funnel stops do not shout or make any great noise. They are usually provided with a bamboo clapper, which they use with caution. It not infrequently happens that the driven herd comes along far ahead of the beaters, and slightly off the proper course. The funnel man concerned then gives two or three faint tok-toks with the clappers and the elephants at once stop. The sound is unfamiliar to them, so they are frightened to go on in that direction, but at the same time they have heard nothing to make them believe a man is in front of them, and they just decide to make a little detour and avoid the vicinity of this curious noise, that might mean danger, though not loud or aggressive, like man : the detour, of course, lands them in the stockade.

The Tiyamara stockade could not be built as strongly as desirable on account of the underlying rock, and with so few animals inside there was plenty of room for the bigger dhui to charge freely and give us all the anxiety we wanted.

The son of one of the co-partners in this stockade had never seen a kheddah before, but he learnt a great deal about the subject in a very short space of time, as the big dhui's first charge was against the part of the palisade, where he had stationed himself, and she sent him flying off. Our koonkies were at hand and we thought that there might be enough time before darkness

to rope the two calves, so we called the *phandis* up to the south entrance and prepared to admit them. The south gate is well hung for shutting, but is a little troublesome to open. There was no rope fixed on to it for anyone to haul on to from the side of the stockade, so the leading koonkie had to shove it open by himself. He had got it about half open, when the dhui came full-tilt at it and shut it slap in his face, knocking him backwards a few yards, and we then decided to wait for daylight next morning and arrange to open the gate more expeditiously.

The old-fashioned stockade consisted of a number of stout uprights, well buried in the ground, with logs placed horizontally in between the uprights to make a solid wall, but this was an expensive form of construction, and it has been found that a much more lightly-built stockade can be made to suffice, if scientifically constructed.

Posts, 17 to 18 ft. long and 6 inches in diameter, are buried 5 ft. in the ground at intervals of 4 or 5 ft. Three rows of horizontal posts are tied to these on the outside, one row at the bottom, one in the middle and one near the top, and there are plentiful struts to support the middle and upper rows. The filling-in consists of green posts, about 3 inches in diameter, placed vertically with their bottom ends resting on the ground and not buried. These posts are tied with cane on to the three rows of horizontals, and as it is desirable that the elephants should be able to see through the stockade, the posts are placed not quite touching one another. There is a great deal of give in this form of wall, but it is difficult to smash. Men are stationed outside to poke at any charging elephant, with sharpened bamboos, while fires are lighted all round at night. A deep ditch is dug inside the stockade to prevent the elephants from being able to hurl their full weight against the wall, and they lose most of their momentum in having to pull up and stride across the ditch. It is found that elephants (at any rate herd elephants) will not charge with great conviction, if they can see a man standing, armed with a spear, on the ground outside, and for this reason it is a good thing to leave sufficient space between the upright poles. The door is obviously especially

liable to attack because it is unprotected by a ditch, and also because the elephants recognize that it is barring the very piece of ground, along which their path runs, but the elephants are kept off by the very simple expedient of tying small poles on to the door so close that the animals cannot see through it; they imagine that this must be the most solid and substantial part of the whole erection and do not go for it, as used to happen, before some wily person thought of this simple piece of camouflage.

I was just preparing to leave, when two of my servants arrived with considerably shaken nerves. They had heard that elephants had been caught and thinking that I might like some tea, they had started for the stockade, taking a short path along the face of the hill, which we had cut for ourselves in order to be able to approach the stockade without using the elephant track.

It appears that the seven elephants, which got away past the side of the stockade, hung about amongst the bamboos and rocks high up on the side of the hill until it was quite dusk, when they slid down, crossing our short cut a few moments before my servants came along, so that they very nearly met: as it was, they passed within a few feet of each other, and both got a good fright. These same seven elephants retraced their steps in the night, and passed quite close to the stockade despite the noise and the fires.

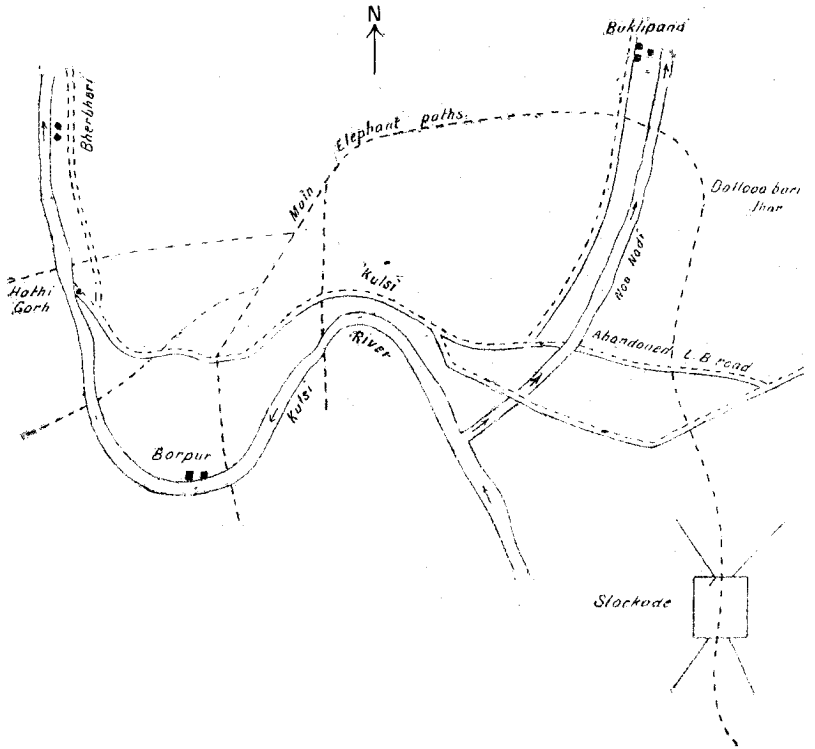
Orders were given for the koonkies to be ready early next morning and I started off about 7 o'clock myself. I had to pass our pilkhana on the way, and I was horrified to notice a most distinct swelling under the tail of the run-away elephant, which we had taken over from the Borbakra stockade. I called out all our elephant men, and we had a great headshaking and prophesying of a bad time. I must explain that this elephant had allowed herself to be prodded rather badly by a small tusker, caught at the same time as herself; we had experience of this sort of thing last year and feared that she had been injured badly and would require a lot of doctoring. We made up our minds to tie her up fore and aft in the evening and see what could be done.

There was no trouble with the elephants at the stockade. We roped the two calves and drove the two dhuis out of the south gate up the hill, down which they had come the day before. They

went away very slowly and majestically, stopping and turning round every now and then and bellowing, but I have no doubt that they legged it, as soon as they were over the crest of the hill and found that they were free and alone. It was a fine sight, seeing the great beasts stalking away so defiantly. We then returned in some depression to the pilkhana, having every anticipation of a month or two's doctoring a sick hathi morning and evening, a job we have unfortunately had to do too often in the past. I could hardly believe my eyes, then, when I discovered that the elephant had given birth to a calf during our two hours' absence at the stockade and the relief to us all was immense It is an odd thing that an elephant shows very little outward sign, when carrying a calf, and we could see no difference in the size of the mother since she had given birth. This animal had quite a small calf at foot, when captured, and no one had suspected that she could be due to calve so soon again. Dhuis with biggish young ones at foot are certain to be heavy with calf, and so are immature females, whose teats are enlarged, but who have no calf running with them. The mother of the new arrival had been christened "Peace," as she was caught on November 30th, the day which Assam observed with festivity, and there did not seem to be any alternative but to name the youngster "Plenty." It had taxed one's command of the vernacular to explain exactly the appropriateness of the name Peace, but there was no corresponding difficulty about Plenty, which could be explained as the approaching time, when dhotis would be cheap and shop-keepers would give 16 annas for a one-rupee note instead of only 14, the millennium, in fact. I have forgotten to mention that during the last drive a man caught a very young calf, which had been abandoned by its mother. He brought it in after dark. I ordered it to be taken away and fed artificially. It lived a few days and then died of indigestion, as usually happens, and I have since blamed myself for not having put it up on the hill before we released the two dhuis, as it is just possible that they might have carried it off with them, though neither of them, we knew, owned it.

Our next bout of real excitement started on January 26th, when a herd was reported close by. We thought that it would

go in the direction of a stockade some miles to the south, if we blocked certain paths and we were considerably astonished to learn that it had passed through the Tiyamara stockade very early on the 27th morning: both gates had been left open to let any wandering goonda through without affording him an excuse to break up the palisade. The D. C. was staying with me at the time and we both put in an artistic and busy morning camouflaging, while arrangements were being made for a drive. We thought that the herd might very well be driven back the way it had come as it had apparently passed through the stockade unalarmed. The alternative, that the animals had marked the stockade and vowed never to return that way again, also occurred to us. Having passed through the stockade, the herd would either have to follow the path round to Borpur village, as shown in the map, or return the way it had come, as cultivated land to the east, north and west prevented any break-away in those directions.



The D. C. and I got up into the machan at about 3-30 p.m., while the drivers went out to try and drive the elephants towards the stockade from Dallooabari Jhar, where they were feeding. We heard gunshots and shouting not long before dark, and were in great hopes that everything was going smoothly, but we then had to endure a long and very tedious vigil until some men came with torches at 1-30 A.M., and told us that they had been unable to make the herd cross the abandoned Local Board Road. The elephants had been brought up to this without much trouble thrice, but had refused to cross and had broken back each time. We were exceedingly glad to be able to get down and go home to bed, as sleep had not been easy at the stockade. The machan was too small for us to sit in, and we had had to sit on the palisade itself with every prospect of falling off, if we dozed. The D. C. had found a position, in which he could wedge himself safely but with only one foot at a time, and he had dozed until the foot in use had gone to sleep, and then woken up and changed to the other foot. I had two safe positions in one sitting on a spike and in the other leaning back on to a spike and I had had to ring the changes accordingly. We sent the men off, after they had lighted us most of the way home, to watch the road to Buklipara and prevent the elephants from crossing, but they were unsuccessful in this and the herd crossed the road very early in the morning, scraping past Buklipara village. There were only nine men and $2\frac{1}{2}$ miles of road to be guarded, and the elephants were obviously determined to get away, and they avoided the fires along the road by sneaking across close to the village, where normally elephants do not venture.

Our next move obviously was to prevent them from crossing the road running west from Kulsi to the Kulsi River at Hathigorh, in the hopes that finding themselves unable to escape in that direction they would of their own accord retrace their steps and try to get through the Tiyamara stockade again. The news was accordingly sent out that we wanted men to keep the road at night, and about 150 had been collected by dark. These were distributed along the Kulsi-Hathigorh road and also along the

path to Bherbheri village with instructions to light fires every 20 to 30 yards, and to make as much noise as they could all night long, a certain amount of liquor being supplied to loosen their tongues and keep everyone contented. Guns were placed at the danger spots, while those in authority patrolled the road and saw that the stoking was satisfactory. The chain of fires, some 3½ miles long, made a most weird spectacle and the effect was quite beautiful where the road passed through a closely planted Teak Plantation, the stems and over-arching canopy of which looked like the pillars and roof of some cathedral, as the light from the fires rose and fell. The elephants made their first attempt to cross the road soon after 8, but they were repelled without difficulty. The herd contained a big muckna and an out-size in tuskers, and we had realized by this time that we were dealing with a herd, which had been stockaded in the Khasia Hills, but which had escaped owing to the tusker flattening down the palisade, so we had every reason to expect trouble. It was quite likely that the herd would break through in the face of the fires and the shouting if we let them get close enough undisturbed, and for this reason we made as loud and as continuous a noise as we could. The most efficacious weapon of the night was my 12 bore, from which I fired nearly 50 rounds in the course of my patrolling, choosing for each shot, so far as was possible, a spot where some one had fallen asleep. The great disadvantage attached to the possession of the 12 bore was that its aid was invoked whenever danger threatened, and I had some prodigious runs to put in, firing from the hip as I ran, à la Hun, to encourage the defenders in their resistance. About 9 we sent a man to fetch our dinner, and a very jolly dinner it was, that we ate squatting in the road. There was, however, one small tragedy connected with it, in that despite the most careful instructions two bottles of Stout, my tipple, were brought, but no beer for the D. C., who cannot abide Stout. We had just finished dinner, when an alarm arose and I had to run at top speed to the threatened point, that time a bitter disagreement arose between the Stout and the other constituents of my dinner; that is, I suppose, the

penalty of getting older, for one can remember a time when meals and furious exercise agreed very well. The elephants made a number of attacks about 11 o'clock and then no more was heard of them, and the D. C. and I had started off to the stockade at 1-30, when we heard a great noise on the road behind us, and we had to hurry back. An elephant had crept silently up to the road and was very nearly on it when its presence was detected in the firelight, and it had nearly managed to slip through before a fire-brand or two drove it back. We abandoned any idea of going to the stockade after this episode, as the elephants clearly had no intention of obliging us by going back in that direction. This was the last alarm and the rest of the night was spent dozing round the fires: the night was luckily cold and one kept on waking up as soon as the fire burned low. Once soon after dark and again just at dawn tigers crossed the road, close to fires and not apparently much put out.

We decided to try a drive by *force majeure* next day, as the herd was too cunning for ordinary methods, so we sent out about 80 men, in place of the original 9, and 3 koonkies. These latter were not much use, as they refused to approach the wild elephants and kept behind the beaters the whole time, and there is no doubt that they knew all about the big tusker with the herd. The D. C. and I were at the stockade by 4 in the afternoon with every intention of making ourselves comfortable on the enlarged machans, which we had built, but Fate was against us, and a downpour, as unexpected as it was unseasonable, commenced at half past 4 and kept on all night. Some of the drivers came for us at 9-30, with the news that the drive had failed owing to the two big elephants. The muckna had done nothing but charge all day, while the tusker kept walking round the herd and preventing it from bolting. The herd was in tree forest when the men came up with it, and the drive commenced favourably, but having got into a bil the animals refused to be forced out of it and they had to be left there. The rain prevented us from keeping the road as we had done the night before, and we heard next morning that the herd had crossed the river near Borpur before

we had got back to the bungalow from the stockade. Every one was much disappointed except, probably, myself, for I was unable to see how I was to fulfill my rôle of destroying the big tusker, if the herd had entered the stockade after dark, and it was quite certain that he would have been through the stockade within 10 minutes, if not shot. Permission is always given to destroy large male elephants that are too big to tackle, and I have had to do it, but it is a horrible business. This particular tusker soon afterwards separated off from the herd and was able to spoil a drive for us at Borbakra. A herd came out to eat the paddy straw one night, and the men had sneaked up into the machans all ready for the drive, when his lordship arrived upon the scene. The herd bolted from him straight away and the men were unable to leave their machans while he was about. After feeding for a short time on the "pathar," he wandered into the forest and discovered one of the wings of the stockade, with which he played spillikins. Then he either heard or smelt the men, and he had a happy time trying to pull them out of the machans at the gate, while they dodged him by going aloft up the Sal trees, on to which the machans were built. Generally speaking, large males are not found with the herds, or, if there do happen to be one or two, they are only too glad to break away and with masculine selfishness avoid all the trouble, and it is quite unusual to be confronted with goondas, who, like these two, stuck to the herd despite all the harrying they got.

The more one sees of kheddahs the more one is impressed with the fact that fear of man blinds the wild elephants to even the most obvious trap, and that experience teaches them little. Last year we caught a run-away, while two dhuis, which we set free were caught only a fortnight later in another stockade. We have taken another old run-away this season, and have recaptured an elephant, which we caught last year and which ran away just before the New Year. It is improbable that an animal would allow itself to be caught twice in the same stockade, but there does not seem to be much difficulty in re-catching run-aways, and they do not seem to be capable of warning others effectually.

Our fears that there might be too many elephants caught this year are likely to prove unfounded : the man, who caught 78 last year has only taken 8 this season with 6 weeks to run, while the man who caught 49, has only captured 1. The Forest Department has 26 to its credit, out of which all the full and half-grown females with the exception of Peace have been released, 9 in all. It might be supposed from these figures that there was indeed a shortage of elephants in the forests, but this is not the case. My neighbour, who caught the 78, has solely himself to blame this year, as he has quarrelled with his hunters and they have left him for the very good reason that he refused to give them any rice to live on, and so it is in the other Mahals. It would be an eye-opener to Mr. Montagu, if he could spend a month in an elephant mahal, and realize how absolutely impossible it is for these sort of people to pull together as a team, even for their own mutual benefit. One mahaldar last year refused to disgorge any of the money he had received, so his men went to his house with daos and demanded their agreed-upon share or else his blood. He came out with a gun and said he would shoot them, but they did not mind, because, as they pointed out, he would not have time to shoot them all, so he had to cave in and pay up. This sort of behaviour does not inspire confidence, but is good for the hathis, because if the mahaldars and their employees did not squabble and cheat each other, and if they were to have a brain wave and spot the two first golden rules of elephant-catching, very few elephants would escape. Wild horses would not drag from me what the first two rules are. A large number of elephants have had the sense to seek refuge in a part of our forests where they are not usually found except casually, and consequently they are safe so long as they remain there, because it is too late now for anyone to start building stockades. One of my most experienced men saw a collection of elephants in that direction, which he reckoned contained 100 animals, and he is not likely to be more than 20 out in his calculation, as these people are really accurate in their estimates of the numbers composing herds. Long may they stay in safety is our pious wish. The actual driving is an art, or should be. m The Khapties from Upper Assam are our most

skilful exponents, as they work in teams and pull together. The Kulsi men, that is to say the picked men, are every bit as brave, needlessly brave to the point of stupidity, but they are undisciplined and need a leader. They know every inch of the country but their drives go wrong because they do not understand that the plan of campaign must be first worked out at home, and, as I have said, they have not grasped the first two simple golden rules. The work affords them much pleasurable exercise to which is attached the hope of gain, so we let them be, as our object is not to catch so very many elephants. The principal obstacle to Europeans joining in the driving as at present managed is the difficulty of being nippy in boggy ground under the tall grass, but in an artistic drive, properly planned, there would be little danger to anyone accustomed to get through jungle at a reasonable pace. The stops are the most important people in the operations, and the stupidity and negligence of which they are capable, need to be seen to be realized. There can be no question but that catching elephants is a most exciting and pleasing occupation for anyone, who is interested in these sort of things and who is prepared to forego regular meals and a comfortable bed, but like nearly every other occupation it has its drawbacks, the chief of which is the difficulty and anxiety experienced in looking after the elephants, which have been taken. The most assiduous personal attention is necessary if the mortality percentage is to be kept down, because none of the *phandis* and other men in the pilkhana have any particular interest of the fate of the captives, and an extra bunt or two from a large koonkie may inflict fatal injuries. Bringing in large quantities of fodder is wearisome work for all and likely to be scamped, which means that the new elephants get starved and weakened. It is said that the most prominent object in the old Government pilkhanas was the Triangle, and no large establishment of elephant men could be run properly, if punishment suitable to the class of men could not be inflicted.

The most ineradicable fault that the men have is their fondness for spearing the wild elephants on all possible occasions. If an elephant will not put its foot into the prepared noose, the

foot is speared ; if the animal does anything wrong with its trunk it is speared and so on, until the poor beast is a mass of punctures and galls from the ropes. Last year I tried quite different tactics with a young female, which we took over to train, and as I was the medicine man myself, anyone who gave me more work to do by adding to the number of wounds was promptly "adjusted" in the most suitable manner. The result has been a most triumphant success. The animal has been perfectly trained, is absolutely obedient and goes this season into the stockades as bold as brass. Two young tuskers, bigger than she, who were caught at the same time, are still very kutcha in their training, and are scared to death in the stockades, where they ought to show more pluck than a small female. Presently no doubt they will become good koonkies, but meanwhile all the pluck they showed, when first caught, has been hammered and speared out of them by bad treatment. A wild elephant is necessarily a handful to manage, especially as it has every intention to kill any human being who comes within reach, but there can be no doubt that it can be much more effectively trained, if not scared out of its wits by brutal treatment and it will very soon tolerate men if kindly handled. A good beating with a stick soon shows it that there is only one safe place to keep its trunk, while it will abandon kicking if the stick is similarly applied to its feet. A tusker, which we are now taking in hand, is proving most amenable to our rational method of treatment, and is settling down to his training sensibly and quietly.

Large elephants are naturally more dangerous to tackle than small ones, and require stern measures occasionally ; but as it is impossible to make men sensible or humane by law, it will be a good day for the elephant, when only small ones may be caught, and at the same time closing the kheddahs will prevent the further depletion of our decreasing stock. Complaints are frequently made of the havoc caused to crops by elephants, but the damage is almost entirely caused by solitary males, and measures for dealing with them are being considered. Those interested in elephant hunting are prone to try and make out

that hunting is the cure for this destruction of crops, but such a contention is easily refutable by examining the footprints in the paddy fields, and by asking the villagers. A case came to light last year where 18 out of 38 elephants, mostly breeding females, were killed in training by the mahaldar. The value of these beasts could not have been less then Rs. 20,000, a serious ecomonic loss from every point of view, while every animal of the 18 was done to death, through ignorance and callousness, in the most hatefully cruel way. Too much of this cruelty and waste is associated with kheddahs, even when run by Indians of experience, to permit of the system being carried on, and its exposure will put an end to a great deal of suffering.

A. J. W. MILROY, I.F.S.,

Assam.

WALNUT EXPLOITATION IN HAZARA, N.-W. F. P

Early in August 1917, enquiries were made by the Forest Economist at Dehra Dun to find out if the walnut requirements of the Ishapore Rifle Factory for rifle butts, etc., could be supplied from Indian forests. As a result, in September 1917, a conference of all the parties concerned was held at Dehra Dun, and it was decided that the Hazara forests should endeavour to supply, annually, ten thousand sets of steam-seasoned walnut $\frac{1}{2}$ wroughts, *i.e.*, an equivalent of about 3,300 c. ft of manufactured timber.

Immediately after this, fellings were started in Reserve Manshi B, in the Kagan valley, and a start was made with the erection of workshops and steaming plant at Jaba, 38 miles from Havelian, N.-W. R., by cart-road, of which some 6 miles is rough and 32 miles good cart-road. The site selected is in reserved forest land, thus avoiding land acquisition proceedings. By the end of December 1918, all the buildings and plant at Jaba had been erected and a first supply of steam-seasoned walnut $\frac{1}{2}$ wroughts had been made to the Rifle Factory at Ishapore. A brief account of the various operations involved in the manufacture and