

## Untamed people for an untamed land

- The Pashto-speaking people residing in the border region between the Hindu Kush in northeastern Afghanistan and the northern stretch of the Indus River in Pakistan have several names:

- Pashtun (Pashto)
- Pathan (Hindustani)
- Afghan (Persian)



- Pashtun tradition claims descent from Israel's King Saul. Tribes trace male bloodlines from a common ancestor, and are divided into clans, subclans, and patriarchal families.
- About 36 million Pashtuns in some 60 tribes live today in Afghanistan (11 million) and Pakistan (25 million).

## The "Grim" (British India's North West Frontier)

- "The largest and most serious outbreak of fighting on the North West Frontier during the colonial era was the Pathan Uprising of 1897-8. The revolt was actually a series of local insurrections involving over 200,000 fighters, including Afghan volunteers, and it required over 59,000 regular troops and 4,000 Imperial Service Troops to deal with it; the largest deployment in India since the Mutiny-Rebellion of 1857-8.
- "Its outbreak proved such an unexpected and significant shock to the British that they conducted detailed enquiries after the event."

Johnson, Robert A (2009). "The 1897 Revolt and Tirah Valley Operations from the Pashtun Perspective. Tribal Analysis Center, Williamsburg, VA.



### The reason for the troubles

- “To speculate upon the causes which led to the rising of the tribes and the upheaval of the Afridis from the Khyber to the Kurram, would open a chapter of argument which would leave but little space for the history of events.
- “But after having studied the attitude of the tribes from the first burst of their energy, through the varied phases of their resistance, and the final collapse of the majority of sections, one is inclined to sum the causes of the outbreak up under three heads:
  1. “the first of which is fanaticism;
  2. “the second, **fanaticism**;
  3. “and the third, **fanaticism**.
- “There is no doubt that there have been many other influences of late as well, which fed the fanaticism.”

Lionel James (1897). “The Indian Frontier War being an account of the Mohmund and Tirah expeditions”

### One such “instance”



### Specific grievances of the Afridi

There were three main grievances:

1. Encroachment of the British Indian Empire upon their land.
2. Enactment of the Salt Tax.
3. Interference with tribal customs. Namely, the British refused to return Afridi women seeking refuge in British territory.



When these grievances were not met, they added a few others:

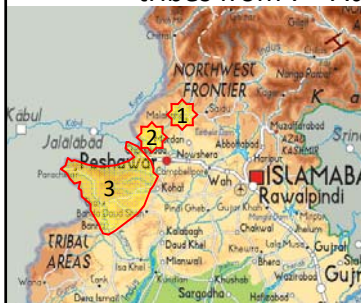
4. Abandon all posts on the Samana range. These included Fort Lockhart and Fort Gulistan along the border between British territory and the Tribal Lands.
5. Withdrawal together from the Swat Valley.

The Afridi's and Orakzais then sent a petition to Kabul for help.

### The Tirah Expedition of 1897

- The British Indian Empire responded.

1. From 26<sup>th</sup> July to 22<sup>nd</sup> August 1897 General Sir Bindon Blood led a punitive expedition of 8,950 troops to quell the "Malakhand Uprising" written of by young 4<sup>th</sup> Hussar Lieut. Winston Churchill.
2. MG Edmond Elles led a similar campaign of 1,500 troops against rebellious Mohmand tribes from 7<sup>th</sup> August to 1<sup>st</sup> October 1897.



3. These limited expeditions addressed the immediate rebellions while Lt. General Sir William Lockhart assembled a force of nearly 55,000 to penetrate deep into the Afridi's mountain summer home, heretofore unseen by Europeans.

## The Tirah Expedition of 1897

10 June 1897 - 4 April 1898

### Belligerents



British Empire (British Raj)  
• Indian Army



Afridi  
Orakzai tribesmen  
Chamkani

### Commanders and leaders

General Sir William Lockhart GCB KCSI  
BG Sir William Penn Symons KCB  
MG Arthur G Yeatman-Biggs CB

Gul Badshah  
Others

### Units involved

Punjab Army Corps  
First Division  
Second Division

[Refer to charts](#)

Afridi  
Orakzais  
Chamkannis, etc.

**Pathan tribes of  
Afghanistan and India**

### Strength

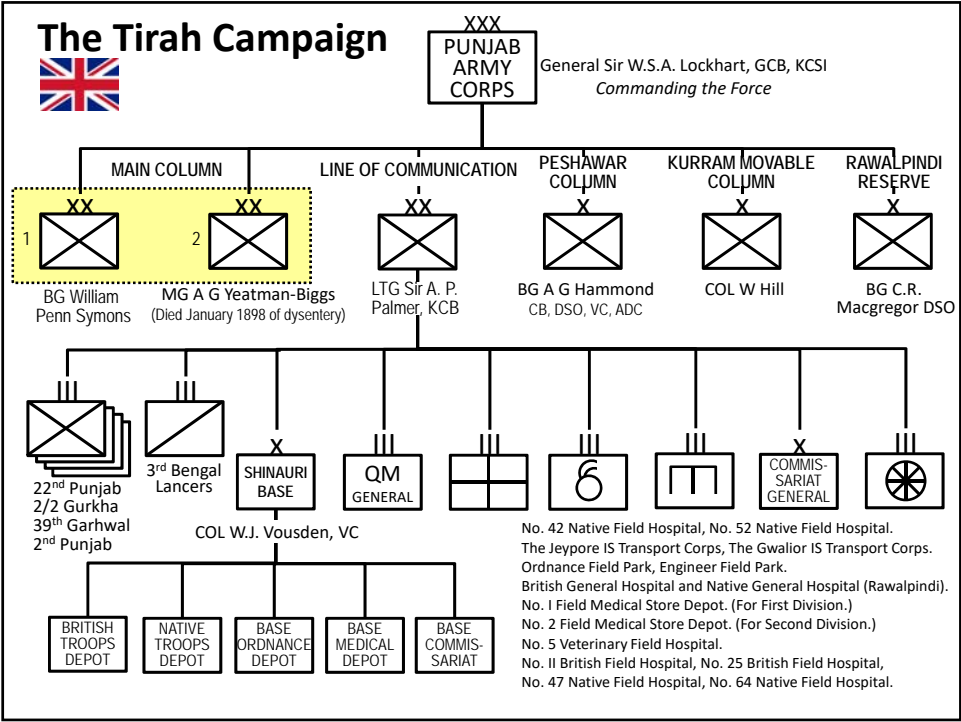
	British	Native	Total
Officers	1,010	491	1,501
Native	10,882	22,123	33,005
Civilians	-	-	376
Followers	-	-	19,558

40,000 to 50,000 fighting strength (est.)

NOTE: Also included 8,000 horses, 18,384 mules, 1,440 hospital riding-ponies

## Set-up of the Tirah Expeditionary Force

- The **Main Column** consisted of two divisions each with two infantry brigades and divisional troops, will start from Korat and advance on Tirah from the vicinity of the Samana Range. The GOC will accompany the Main Column.
- A force will hold the **line of communication** from the main column back to the Samana Range posts and to Kohat. It will consist of one mountain battery, two native cavalry regiments, and four native infantry battalions.
- A mixed brigade called the **Peshawar Column** will operate as required from Peshawar.
- A force designated the **Kurram Movable Column** will be employed along the Hangu-Parachinar line as required.
- The **strategic reserve** will be a mixed brigade formed at Rawalpindi.









## Campaign Considerations

1. The stronger the force directly on the objective, the less formidable and obstinate the resistance likely to be met.
2. A considerable portion of the transport is of inferior quality, and imperfectly organised, while supervising staff is limited, so concentrating force is more efficient.
3. The whole countryside up the Khanki valley is hostile.
4. Terrain is difficult, with deep ravines and numerous heights, while existing roads and tracks are practically useless.
5. A single line of advance requires fewer forces to guard and maintain.
6. Having one rather than more lines of communications would require fewer sappers and pioneers to improve paths for laden animals and minimise time and effort required.
7. Single advance allows concentration of artillery and reserves.

## Tirah Campaign, Tirah Valley, British India

10 June 1897 - 4 April 1898

### Belligerents



British Empire (British Raj)



Pathan tribesmen

### Commanders and leaders

General Sir William Lockhart GCB KCSI

Gul Badshah and others

### Units involved

#### Punjab Army Corps

- Main Column (Lockhart):
  - First Division (Symons)
  - Second Division (Yeatman-Biggs)
- Line of Communication (Power-Palmer)
- Kurram Movable Column (Hammond)
- Peshawar Column (Hill)
- Rawalpindi Reserve Bde (Macgregor)

Afridi  
Orakzais  
Chamkanni  
Zakka-Khels  
Khumber Khels  
Aka Khels  
Malikdin Khels  
Kamrai Khels

Pathan tribes of  
Afghanistan and  
British India's North  
West Territory

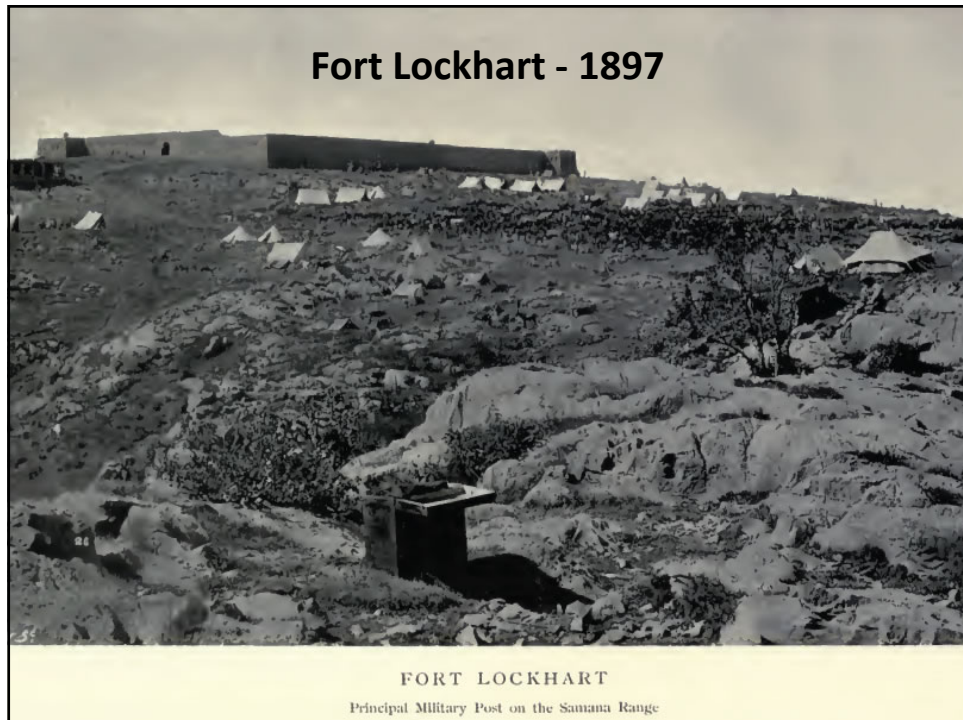
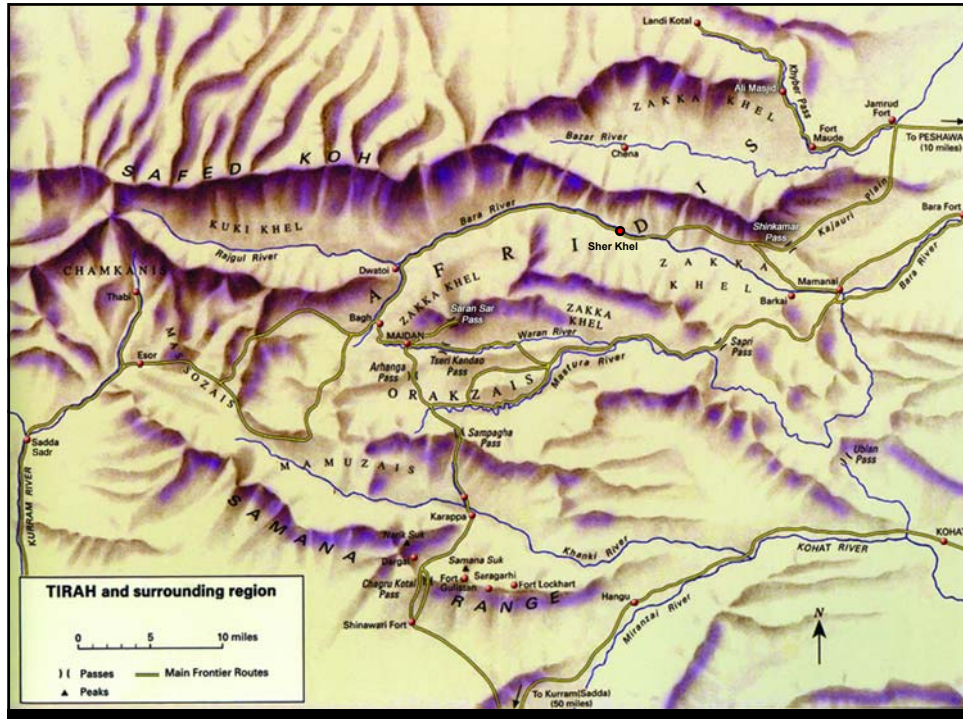
### Strength

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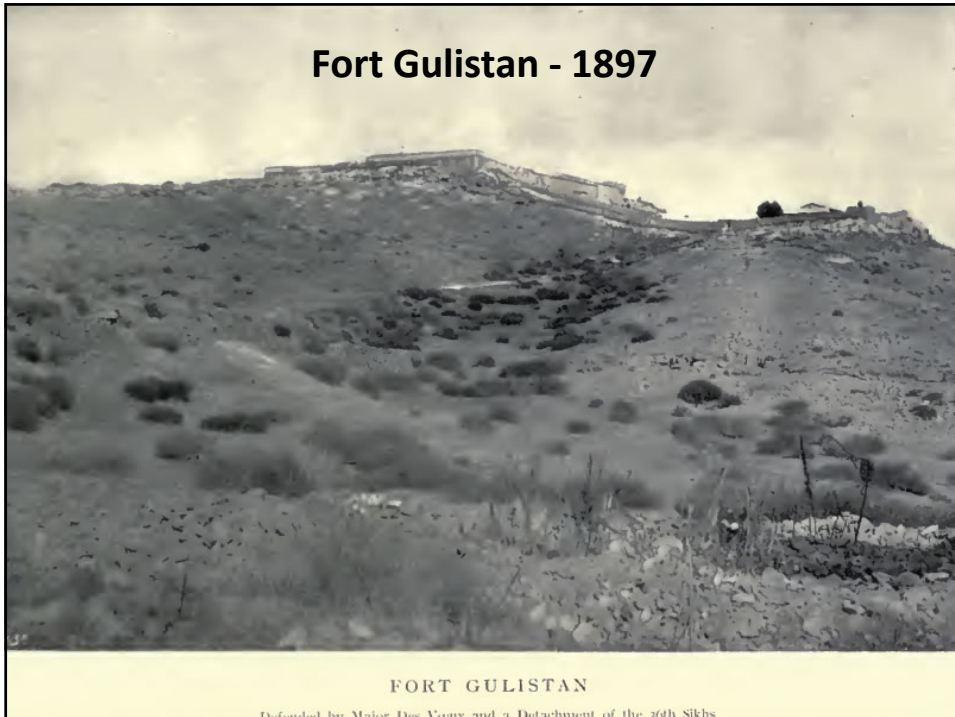
40,000 to 50,000 fighting strength (est.)

NOTE: Also included 8,000 horses, 18,384 mules, 1,440 hospital riding-ponies





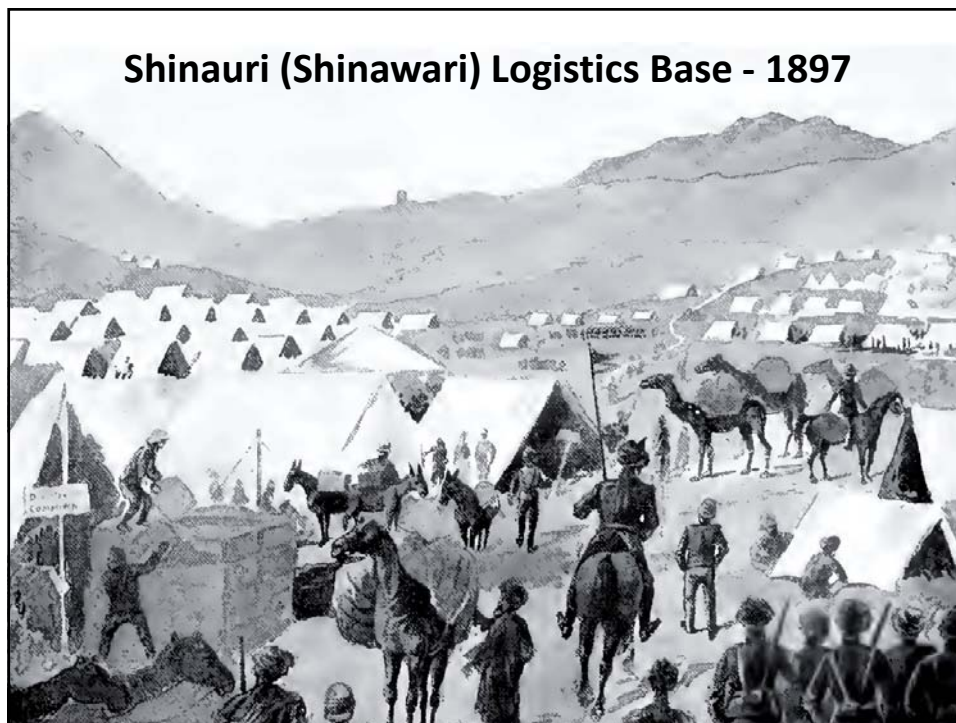
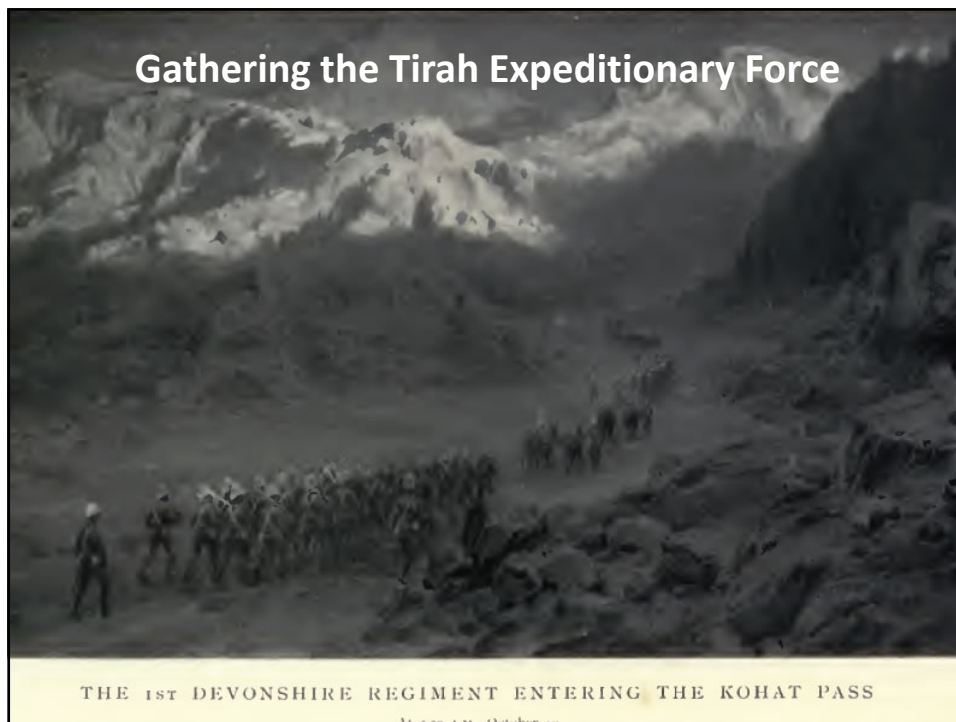
**Fort Gulistan - 1897**



**Remains of Saragarhi Signals Post -1897**

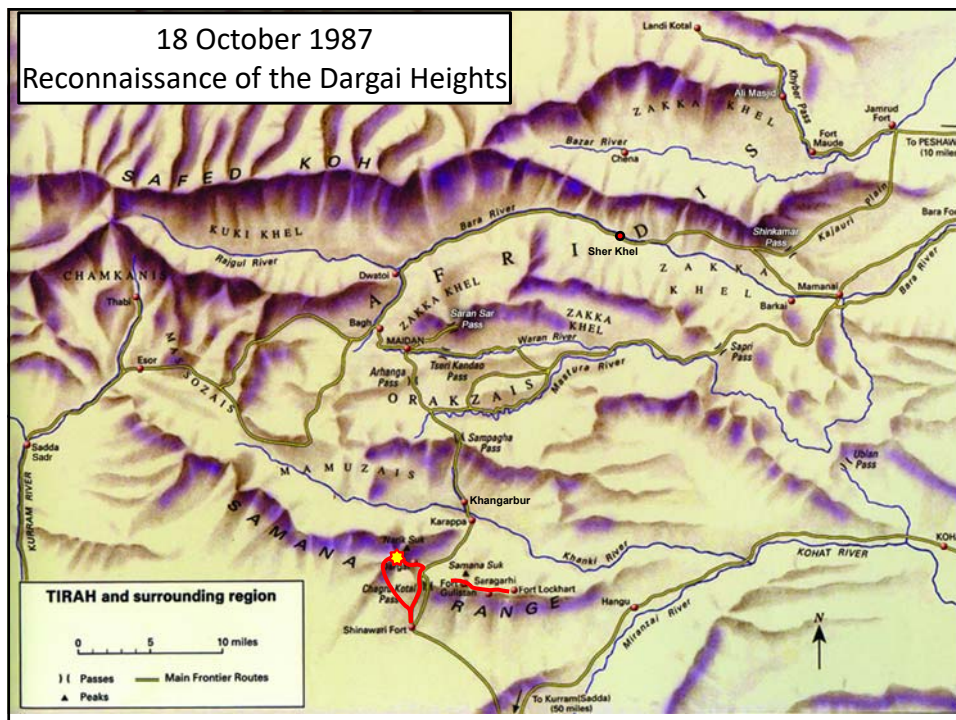




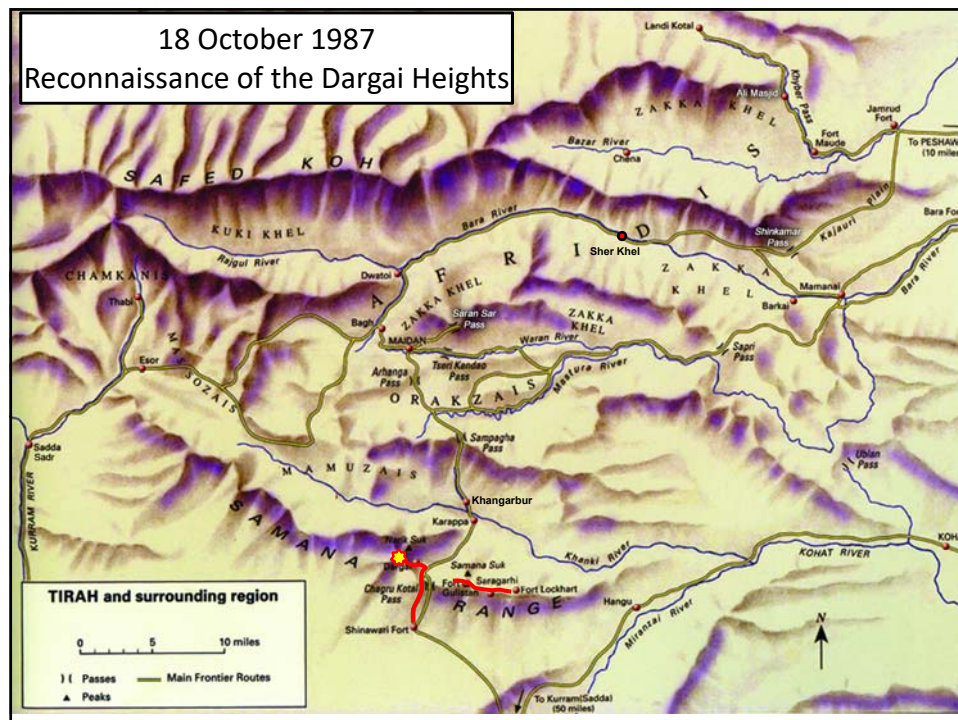


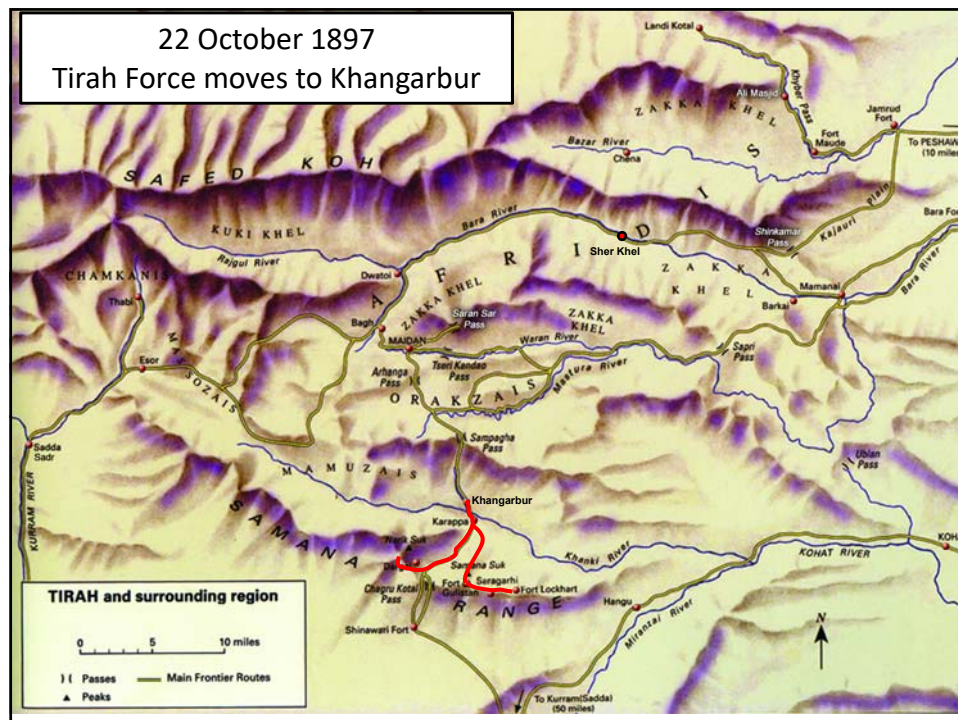
## October 1897

- The general officer commanding was General Sir William Lockhart; he had under him 34,882 men, British and Indian, in addition to 20,000 followers.
- The frontier post of Kohat was selected as the base of the campaign, and it was decided to advance along a single line.
- On 18 October, the operations commenced, fighting ensuing immediately. The Dargai heights, which commanded the line of advance, were captured without difficulty, but abandoned owing to the want of water.
- On 20 October the same positions were stormed, with a loss of 199 of the British force killed and wounded.
- The progress of the expedition, along a difficult track through the mountains, was obstinately contested on 29 October at the Sampagha Pass leading to the Mastura valley, and on 31 October at the Arhanga Pass from the Mastura to the Tirah Valley.





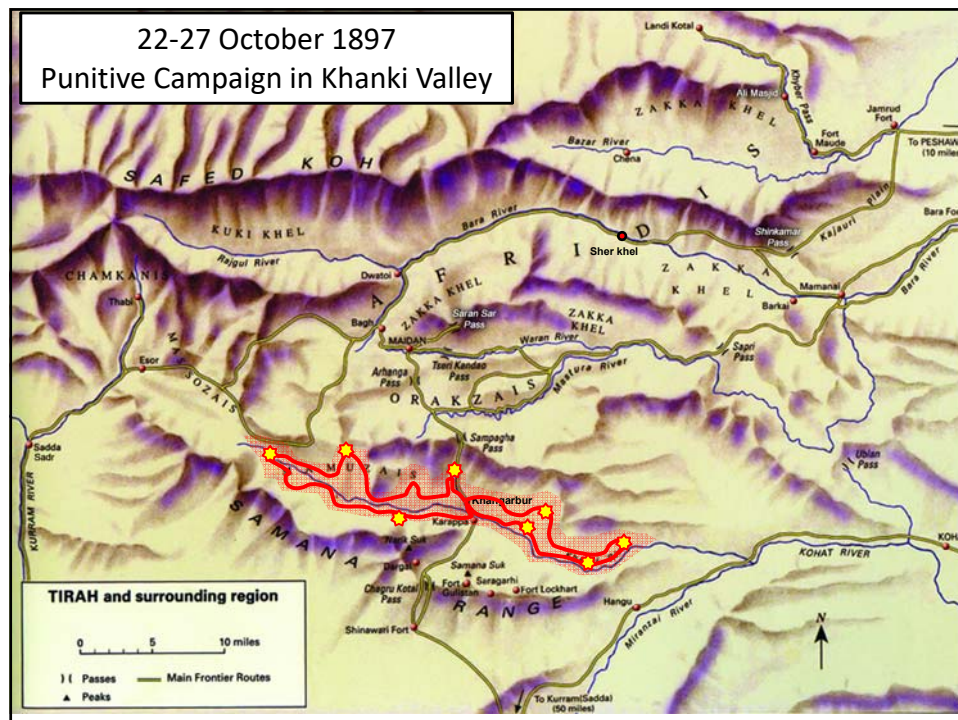




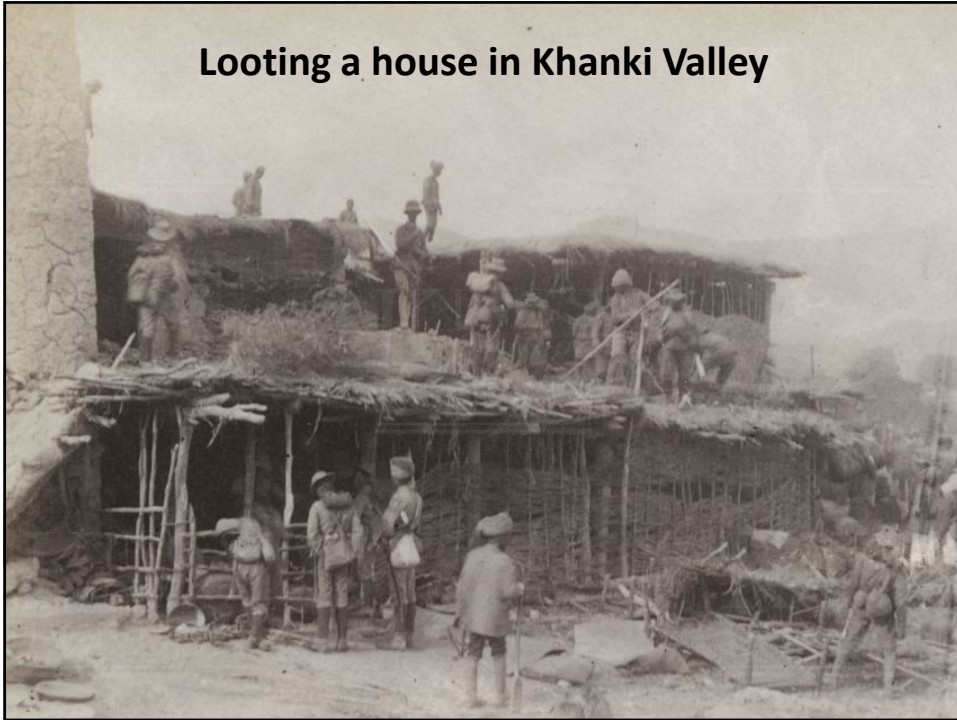
### In the Khanki Valley, 22-27 October 1897

- After the Dargai Heights were won (again), the main column advanced per plan to Karappa on the Khanki River. Finding it indefensible due to overlooking mountains, it moved a few miles further and found a suitable site at Khangarbur, where the Army established a camp it called Karappa.
- 23-27 October were spent establishing the base, exploring the Khanki Valley, and skirmishing with the Orakzais.
- Already, several features of the campaign were coming clear:
  - While the main column made good headway, baggage trains and foraging parties had a harder time. Smaller groups of soldiers or followers made manageable targets.
  - When the British concentrated to take a strong point, the tribesmen melted away.
  - Tribesmen now had breech-loading rifles on a large scale, and used them well. Many had served in the British Army.

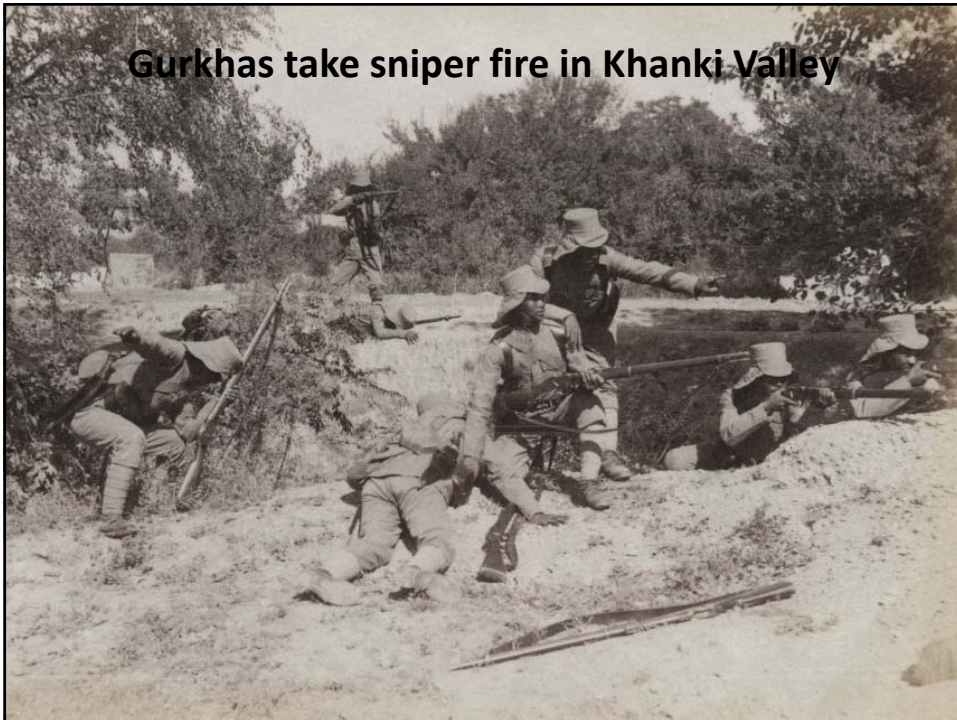




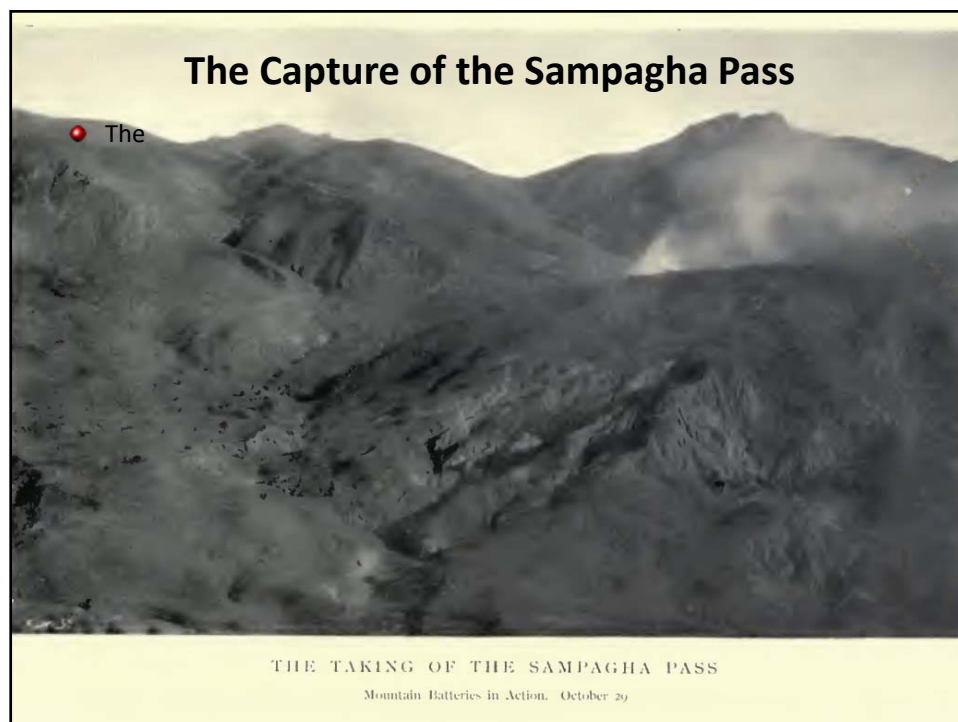
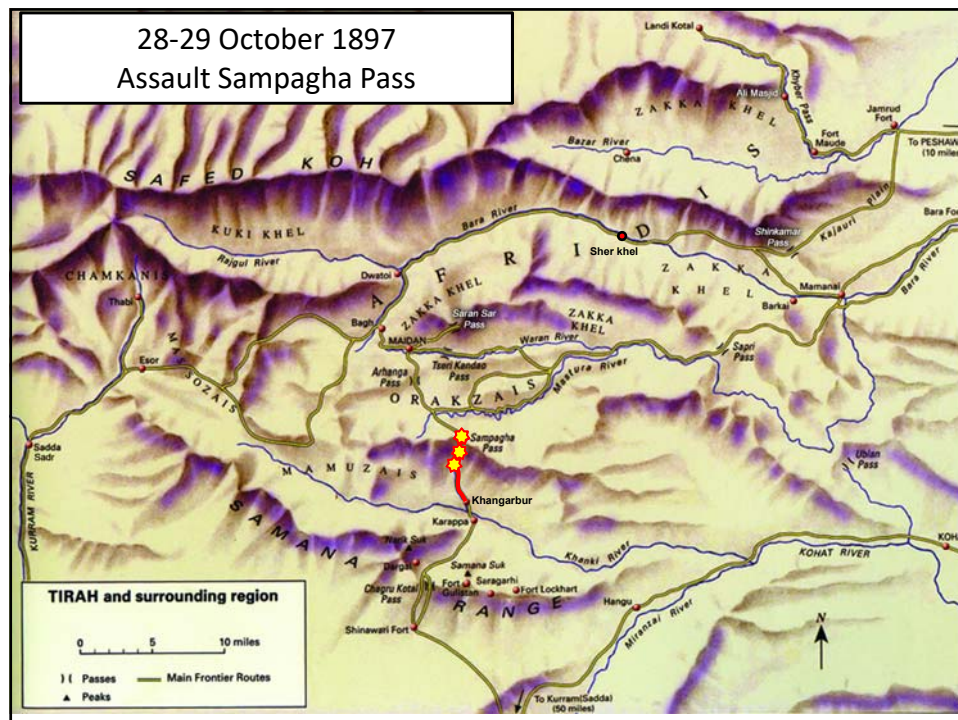
**Looting a house in Khanki Valley**



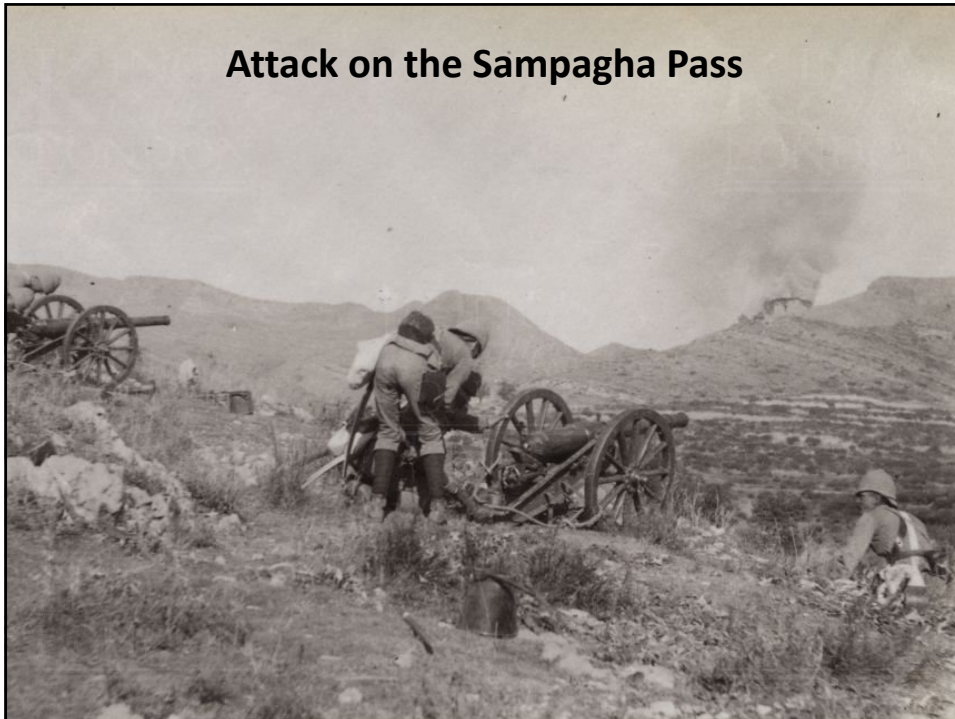
**Gurkhas take sniper fire in Khanki Valley**



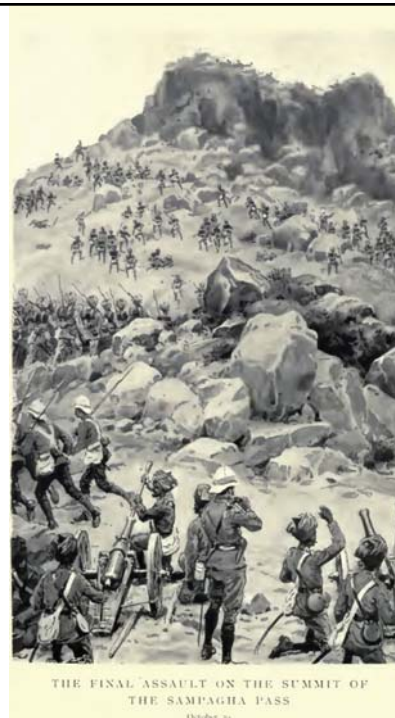




## Attack on the Sampagha Pass

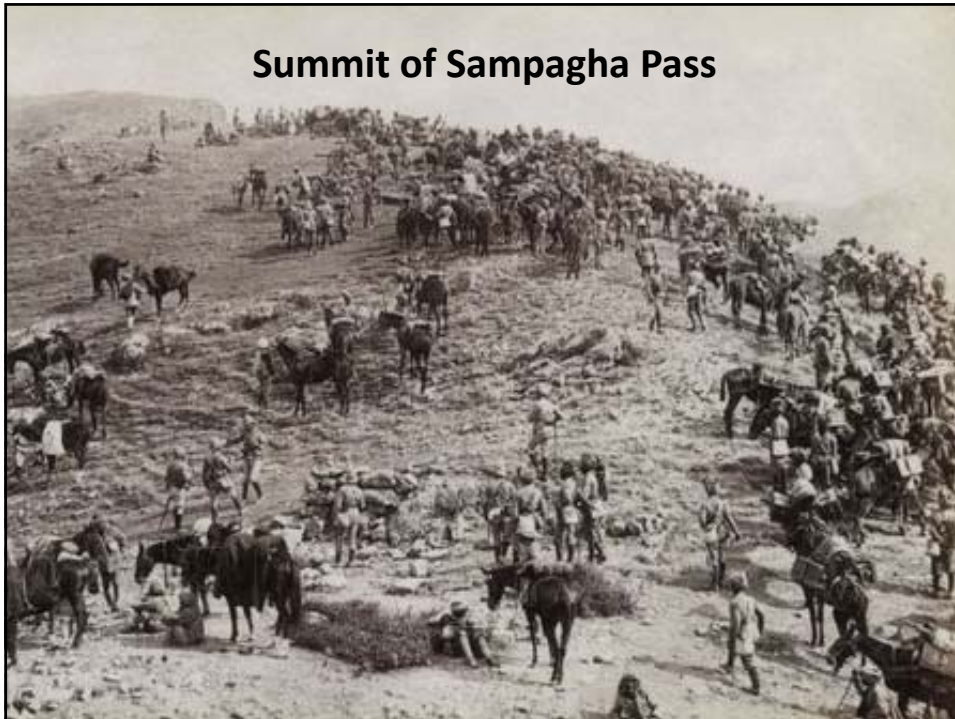


- On 29 October, the Queen's Regiment and the King's Own Scottish Borderers took the ridge overlooking the Sampagha Pass.
- The Mastura Valley was now opened to the British for the first time.

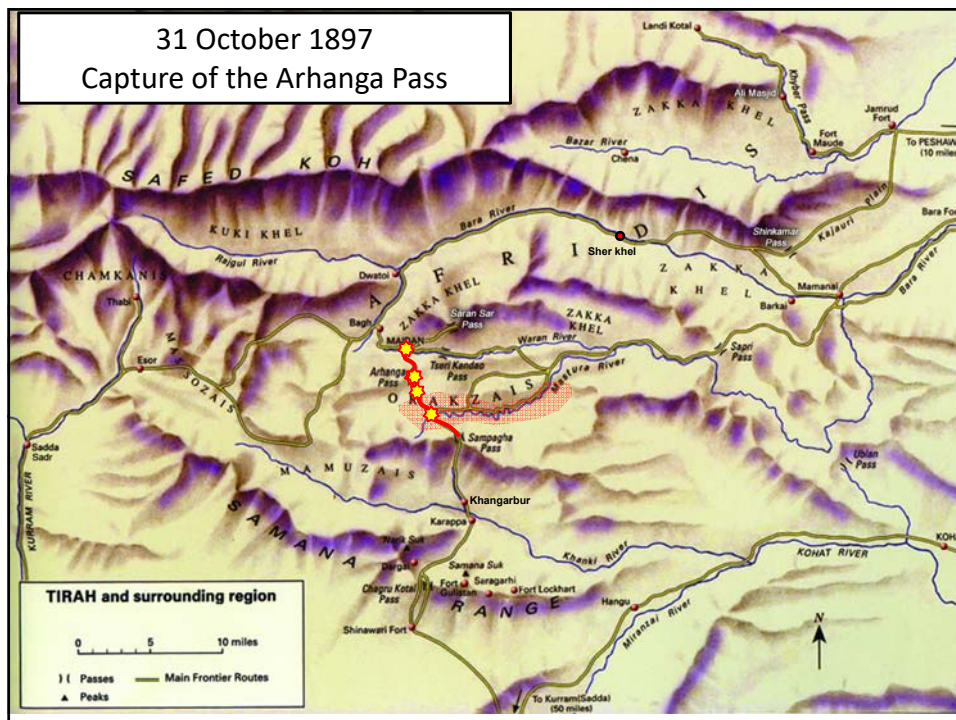




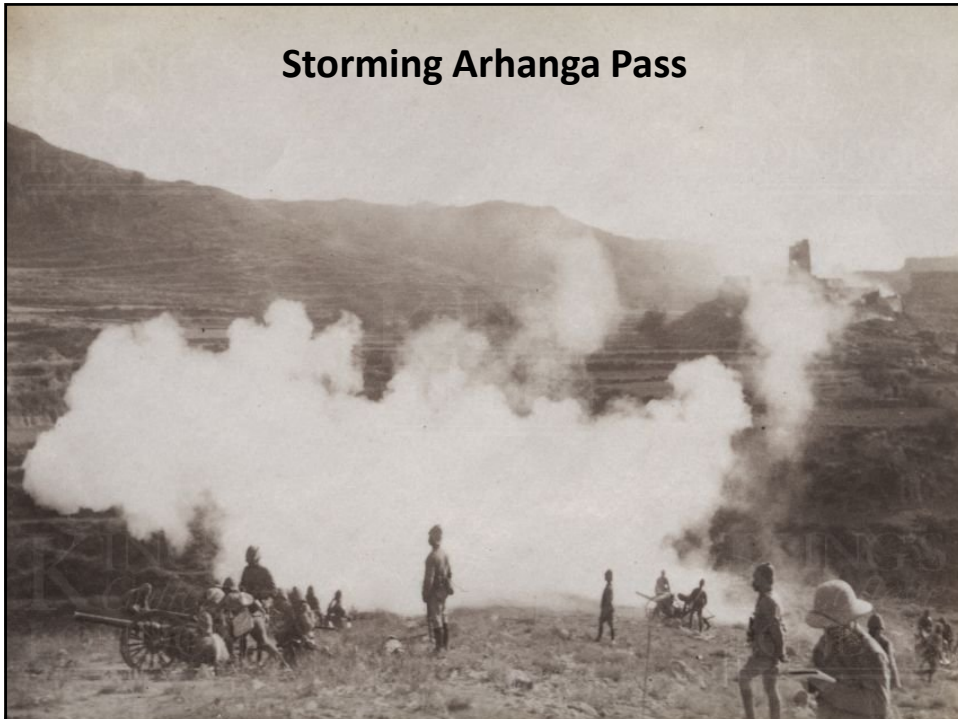
## Summit of Sampagha Pass



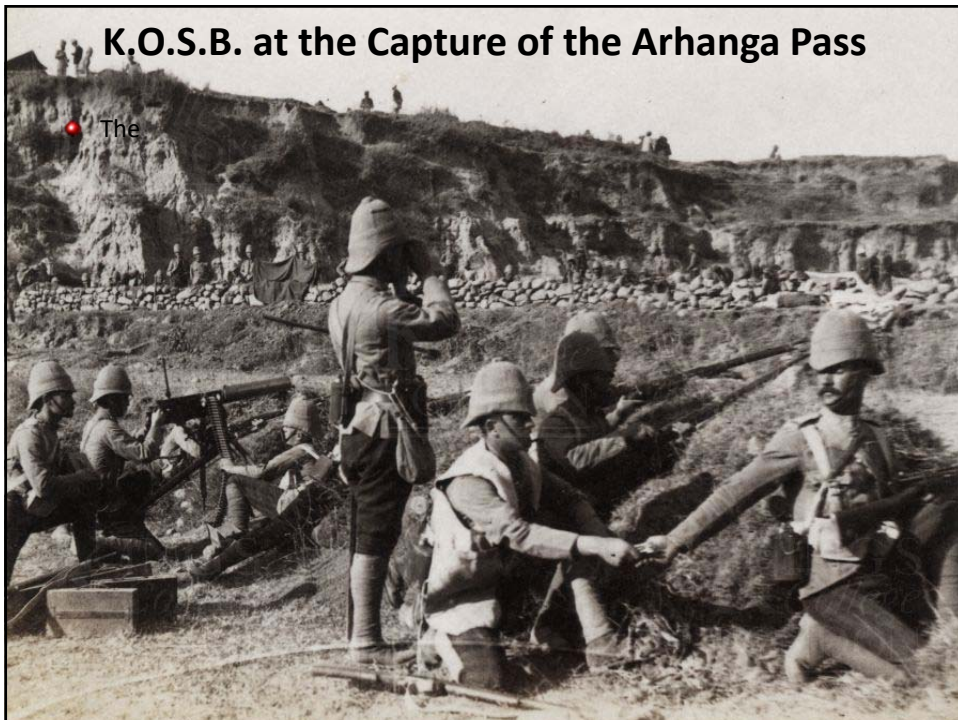
## 31 October 1897 Capture of the Arhanga Pass



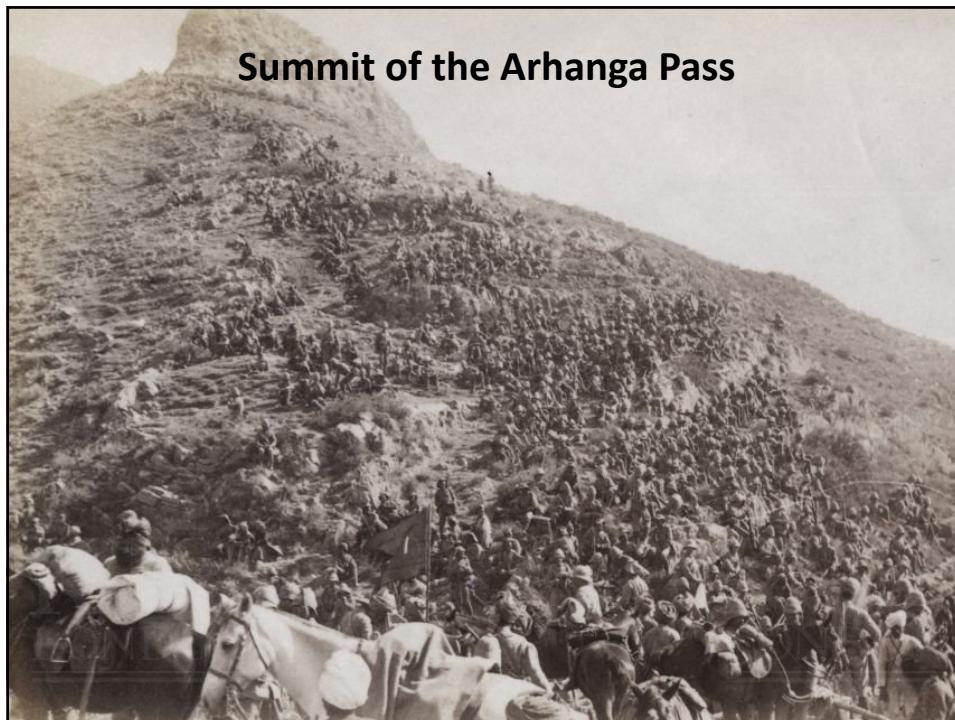
**Storming Arhanga Pass**



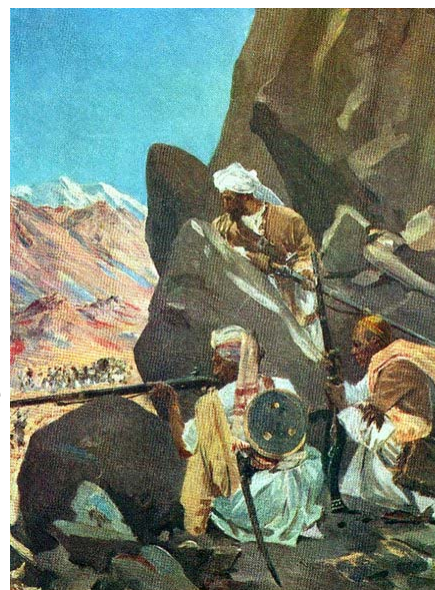
**K.O.S.B. at the Capture of the Arhanga Pass**

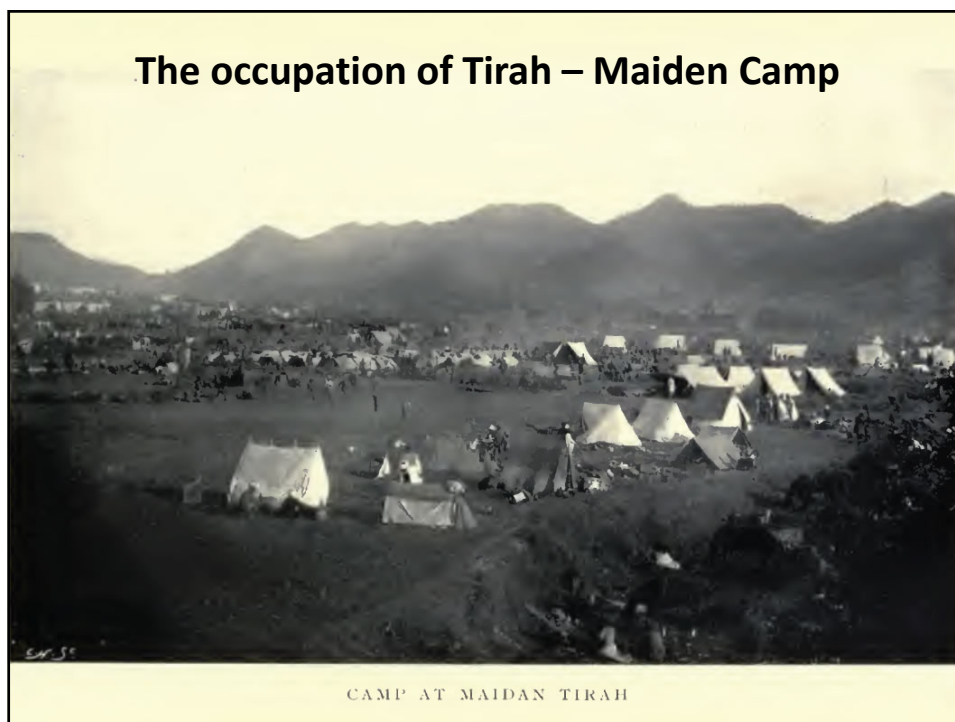
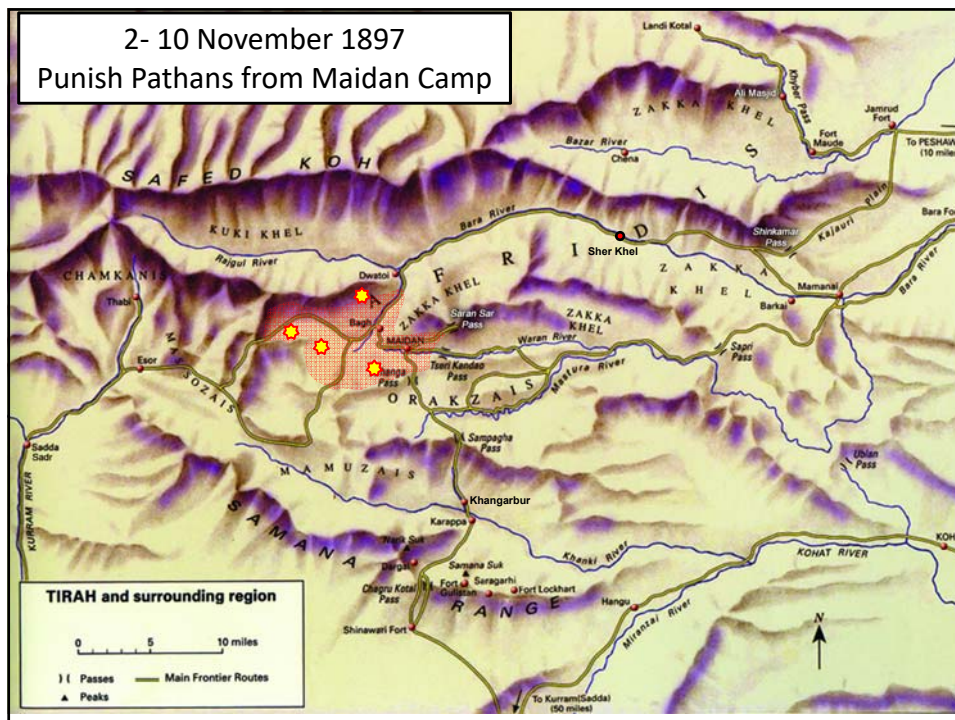




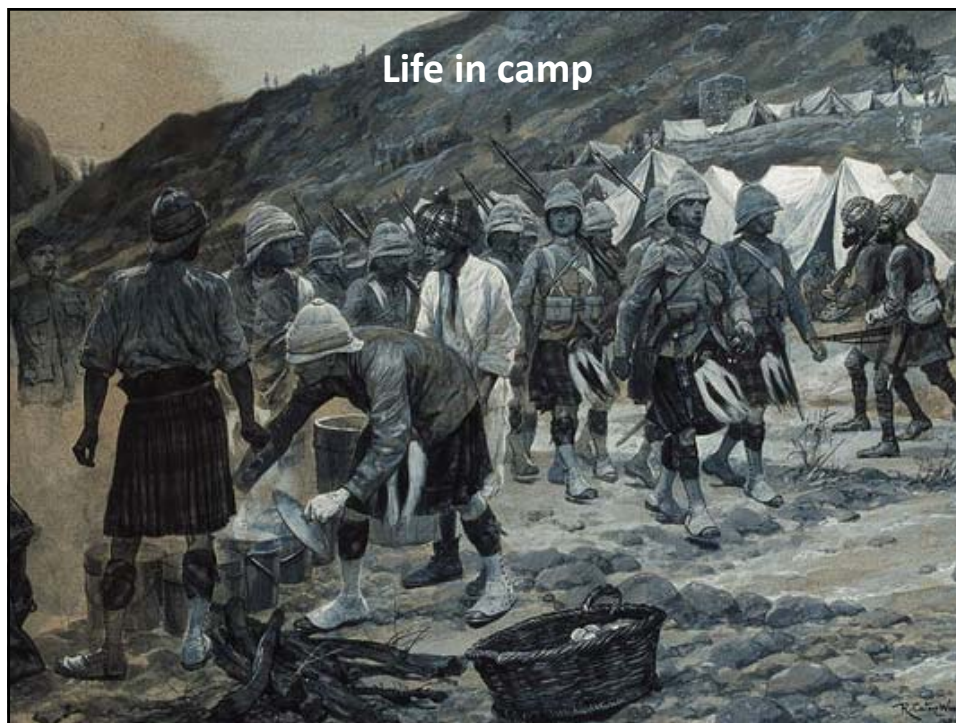
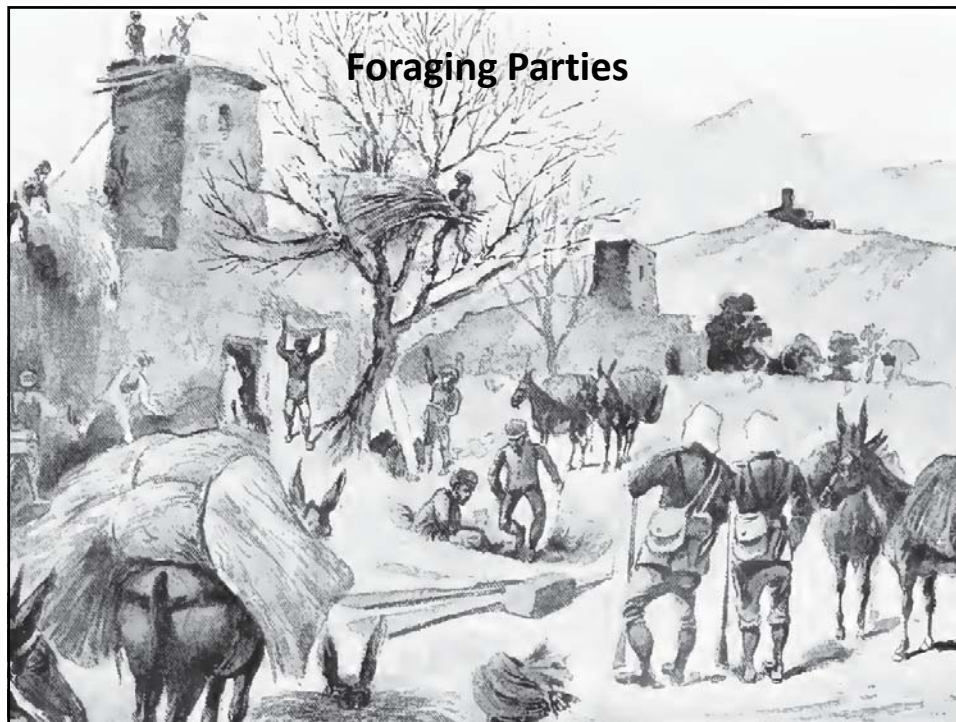


- Capture of the Arhanga Pass between the Mastura and Waran River Valleys occurred on 31 October 1897.
- The British established a major patrol base at Maidan, which lay along the Waran River in the heart of the Tirah region.
- The British began to take punitive actions against the tribes beyond these passes. Villages were burnt, crops destroyed and weapons were confiscated whenever possible.
- But the enemy's guerilla warfare and their modern weapons were taking a heavy toll in the inhospitable terrain. **The British began to re-think their tactics!**

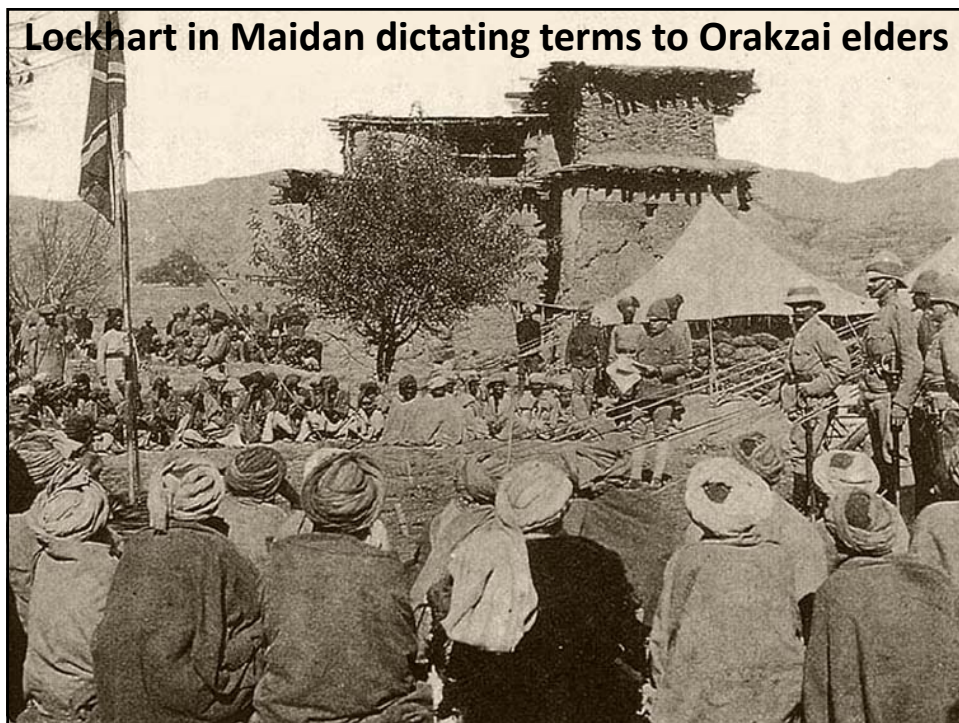




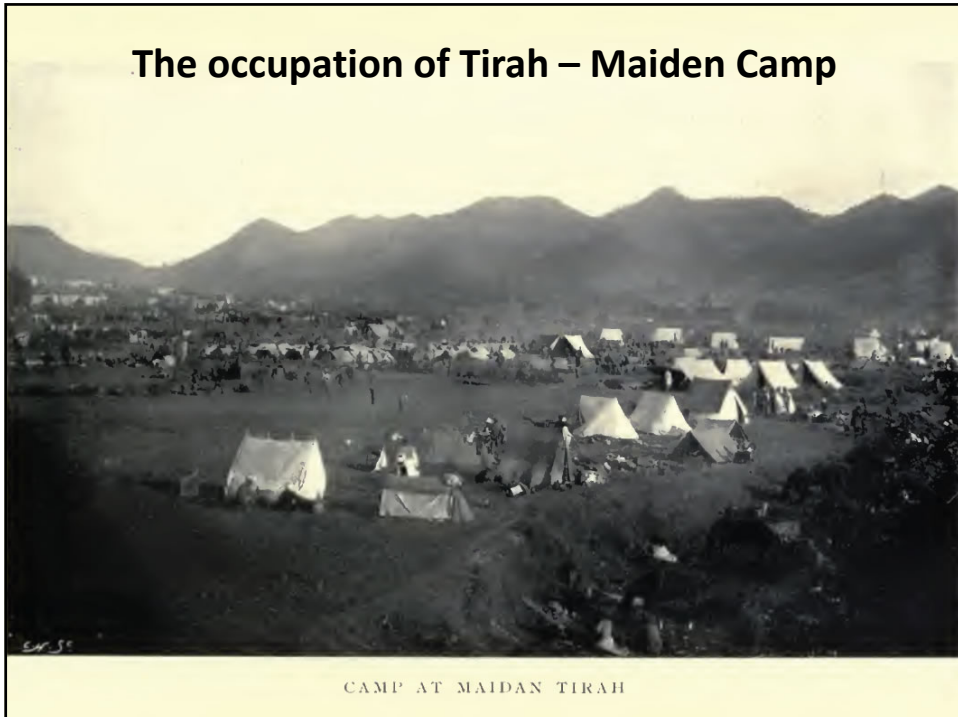




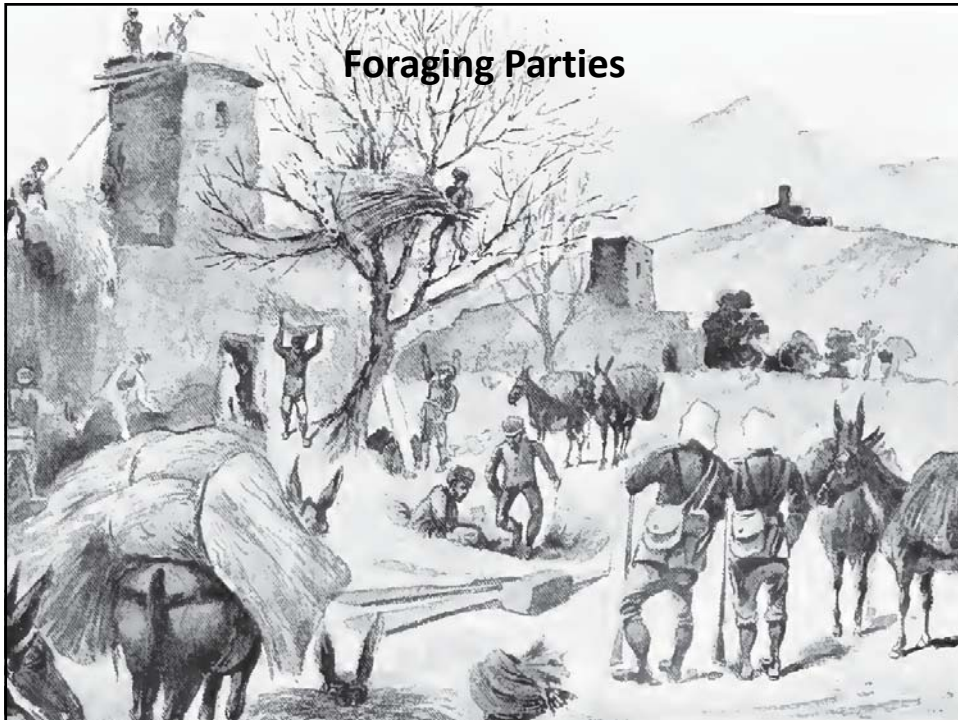




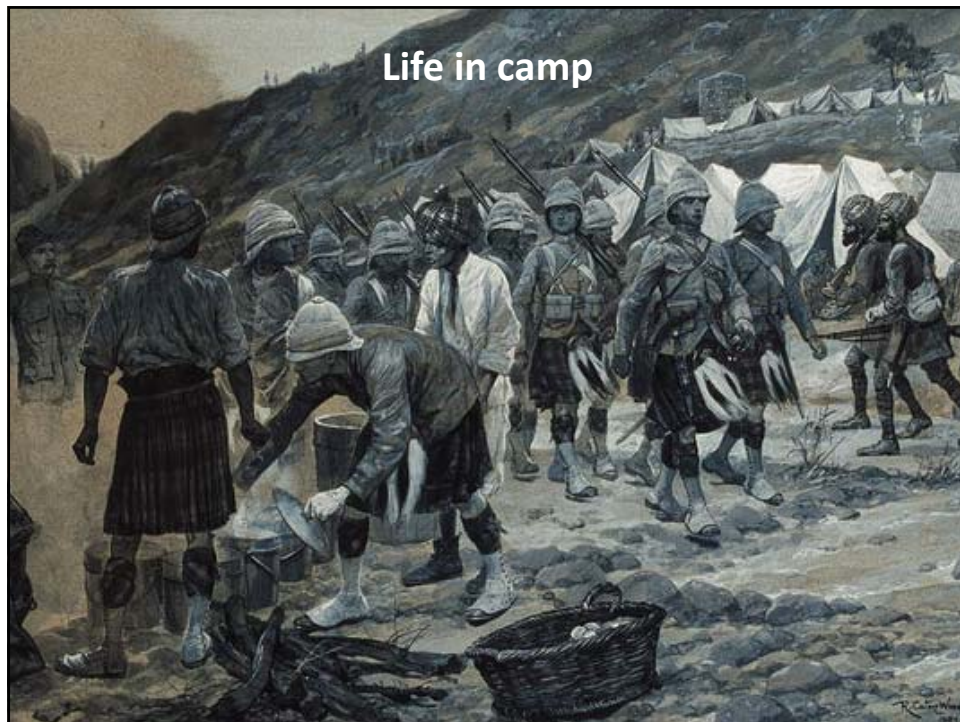
### The occupation of Tirah – Maiden Camp



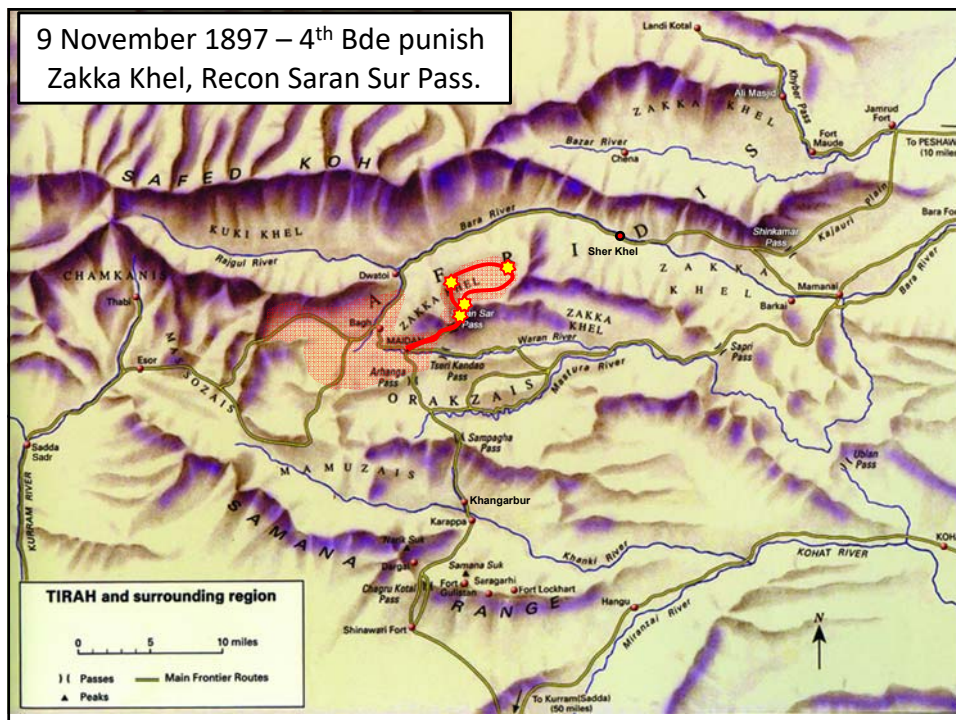
### Foraging Parties













### The Northampton's Last Stand

On 9 November while on a rear-guard, the Northamptons and Sikhs were withdrawing after burning some villages in an area known as Saran Sar. But 2LT McIntyre, Colour Sergeant Luck and 15 men became separated, possibly encumbered with wounded. They were surrounded by Afridis and shot down to a man. When found over a day later, their bodies were stripped but not mutilated, indicating that they fought bravely to the last man.

Officers:

2 KIA, 4 WIA

Other ranks:

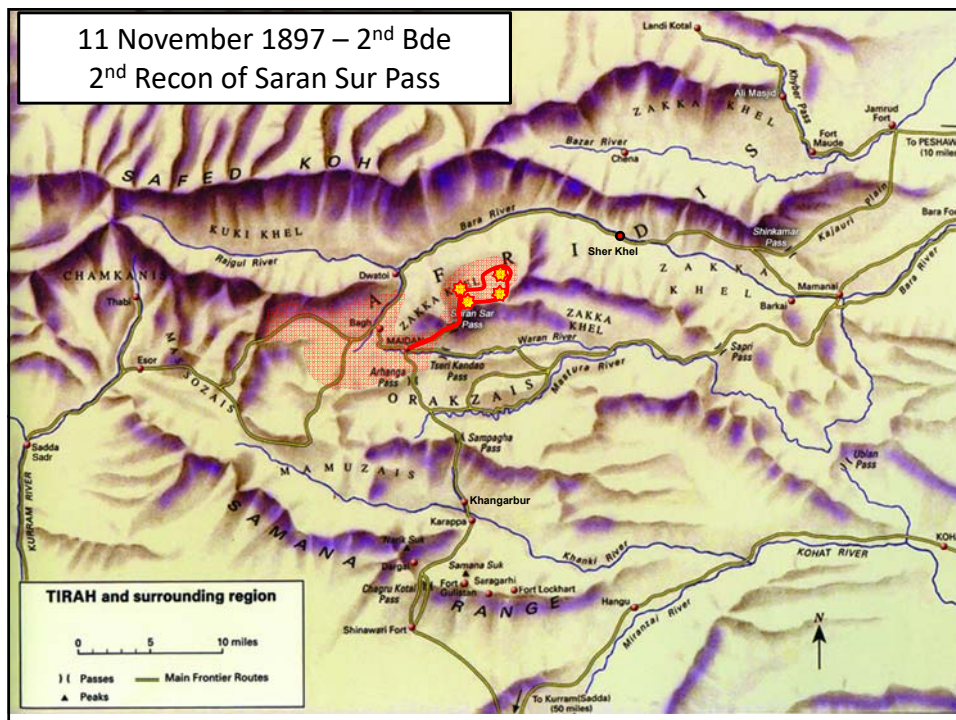
18 KIA, 44 WIA





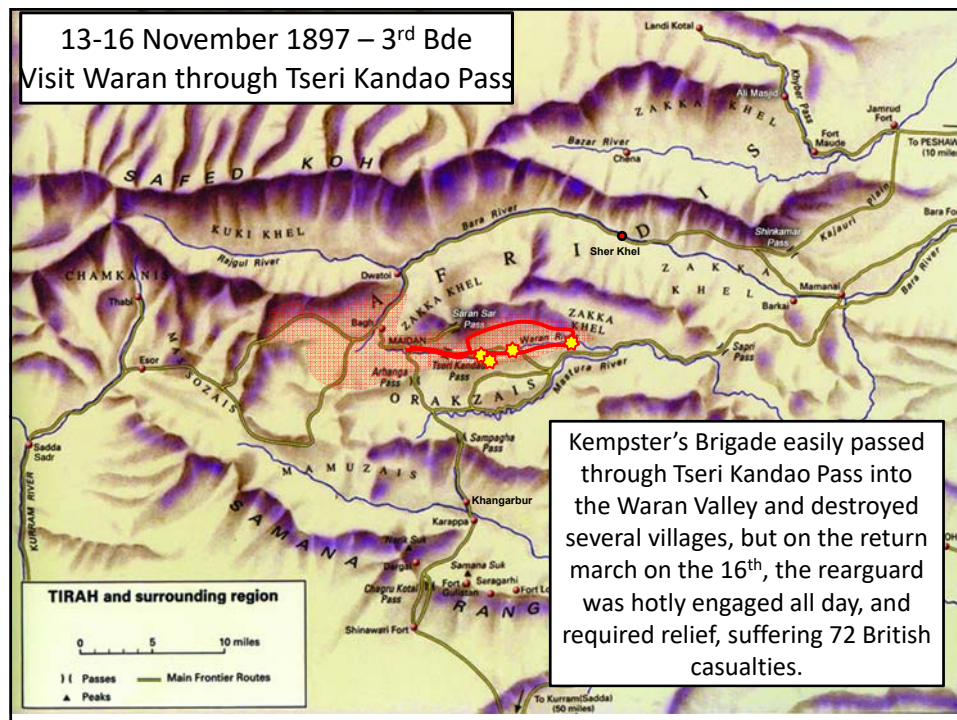
## November 1897

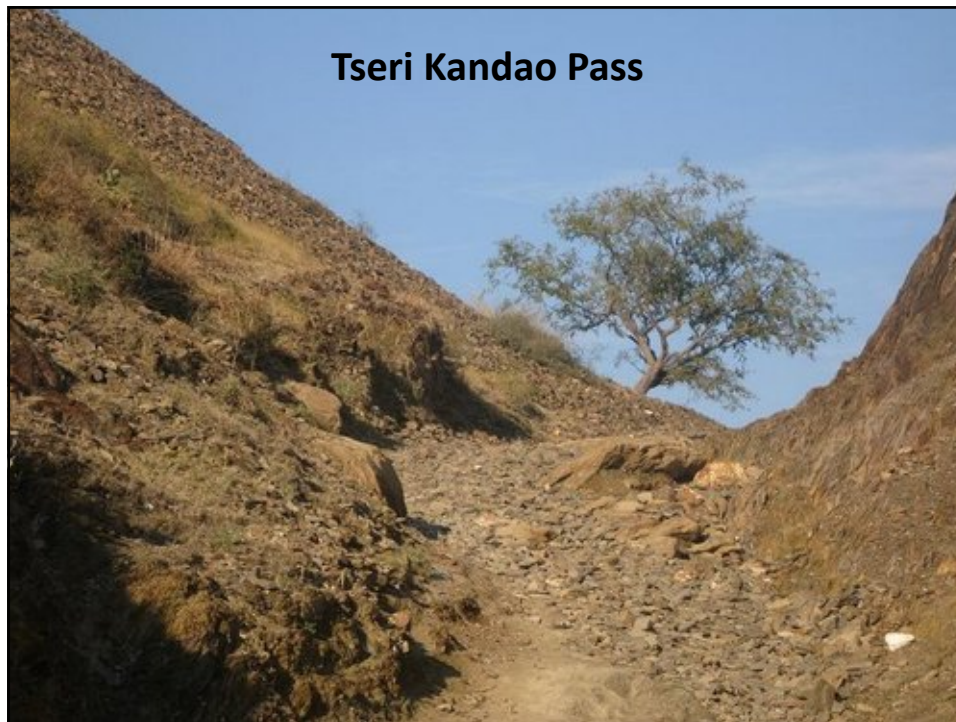
- The force, in detached brigades, now traversed the Tirah district in all directions, and destroyed the walled and fortified hamlets of the Afridis. The two divisions available for this duty numbered about 20,000 men.
- A force about 3,200 strong commanded by Brigadier-General Sir Richard Westmacott was first employed to attack Saran Sar, which was easily carried, but during the retirement the troops were hard pressed and had 64 casualties.
- On 11 November, Saran Sar was again attacked by the brigade of BG Gaselee. Experience enabled better dispositions to be made, and the casualties were only three.

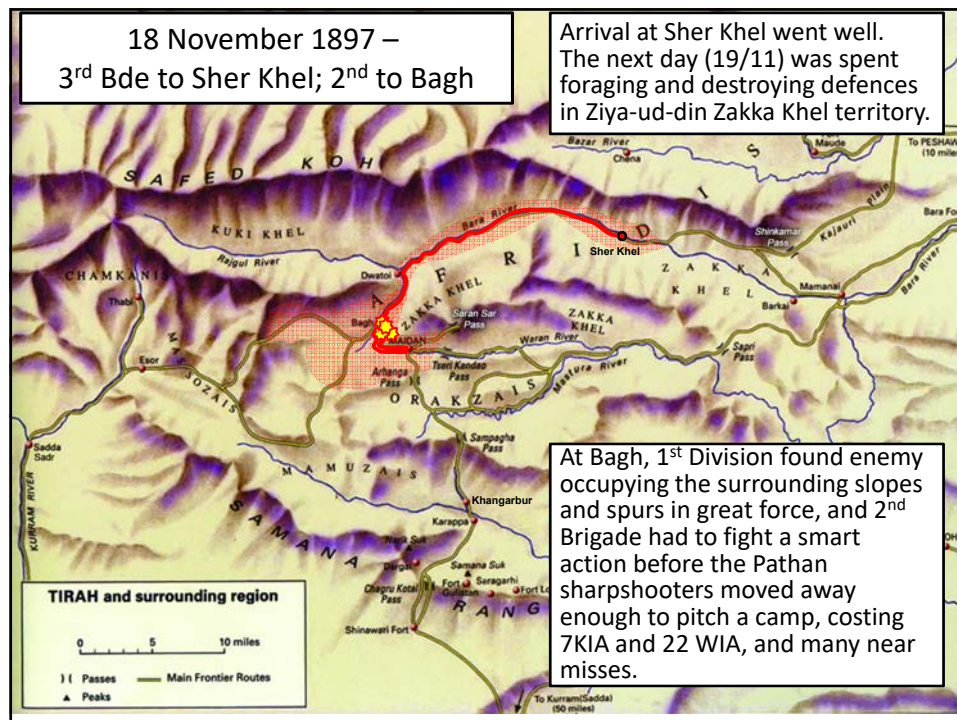




- The traversing of the valley continued, and on 13 November a third brigade under BG Francis James Kempster visited the Waran valley via the Tseri Kandao Pass. Little difficulty was experienced during the advance, and several villages were destroyed; but on 16 November, during the return march, the rearguard was hotly engaged all day, and had to be relieved by fresh troops next morning. British casualties numbered 72.
- Almost daily the Afridis, too wise to risk general engagements, waged continual guerrilla warfare, and troops engaged in foraging or survey duties were constantly attacked.



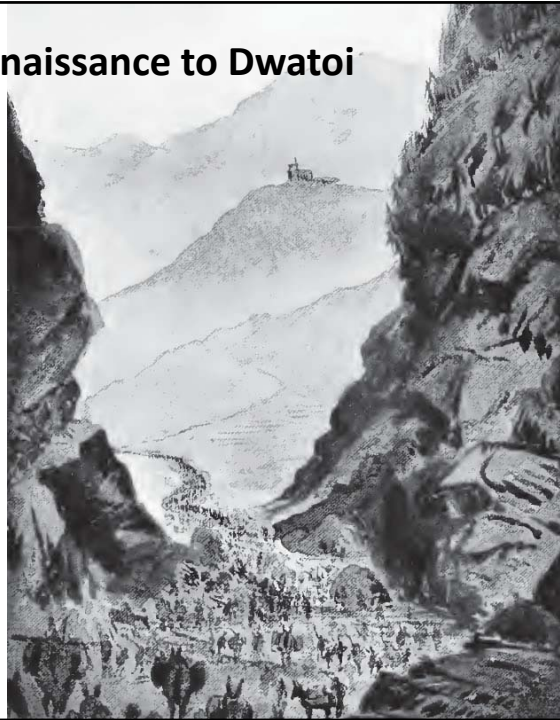




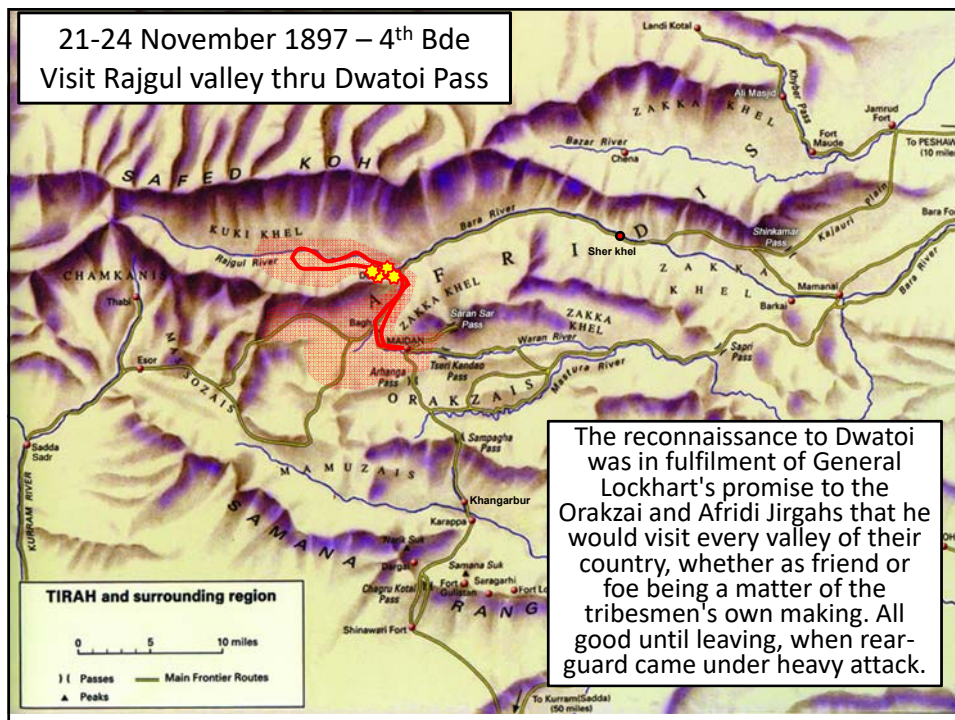


## The reconnaissance to Dwatoi

- On 21 November, a brigade under Brigadier-General Westmacott was detached to visit the Rajgul valley.
- The road was exceedingly difficult and steady opposition was encountered.
- The objectives were accomplished, but with 23 casualties during the retirement alone.



21-24 November 1897 – 4<sup>th</sup> Bde  
Visit Rajgul valley thru Dwatoi Pass





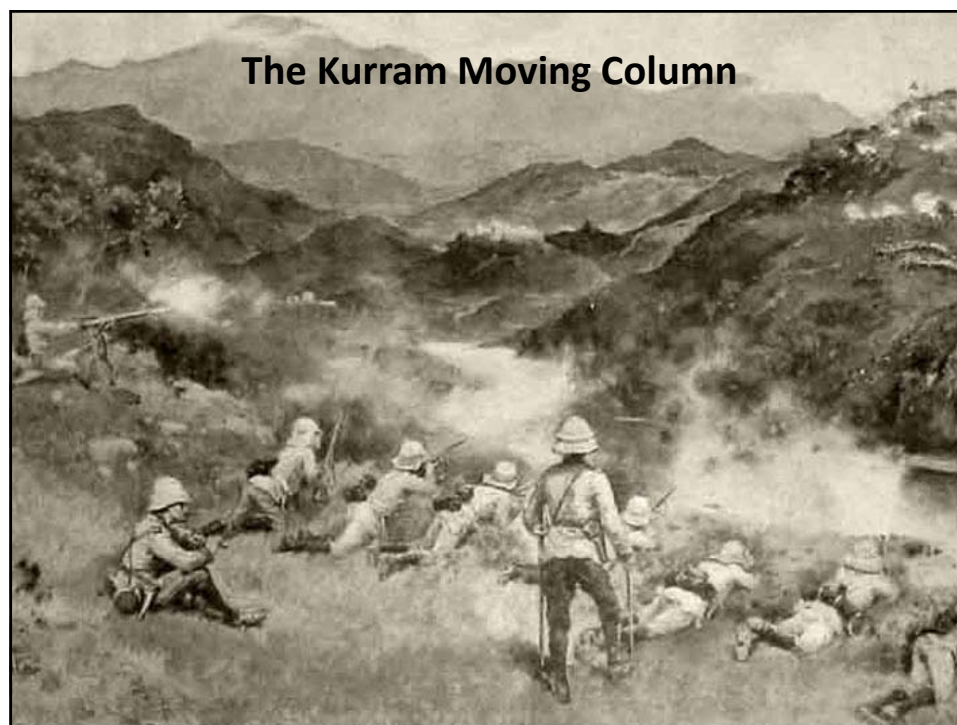
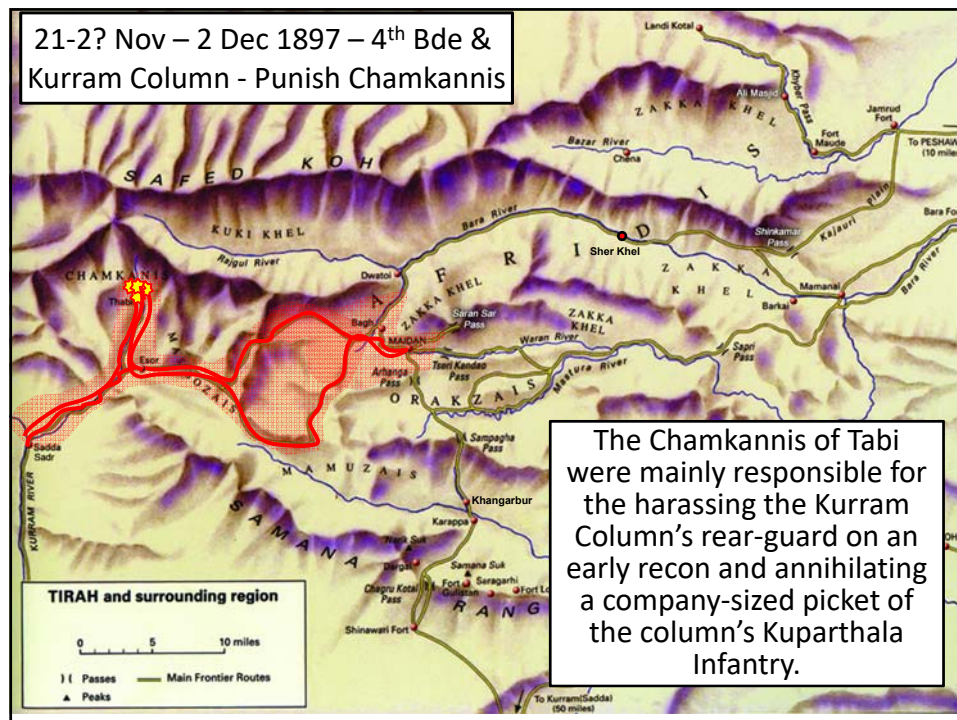
- The last task undertaken was the punishment of the Chamkannis, Mamuzais, and Massozais.

- This was carried out by Brigadier-General Gaselee, who joined hands with the Kurram movable column ordered up for the purpose.

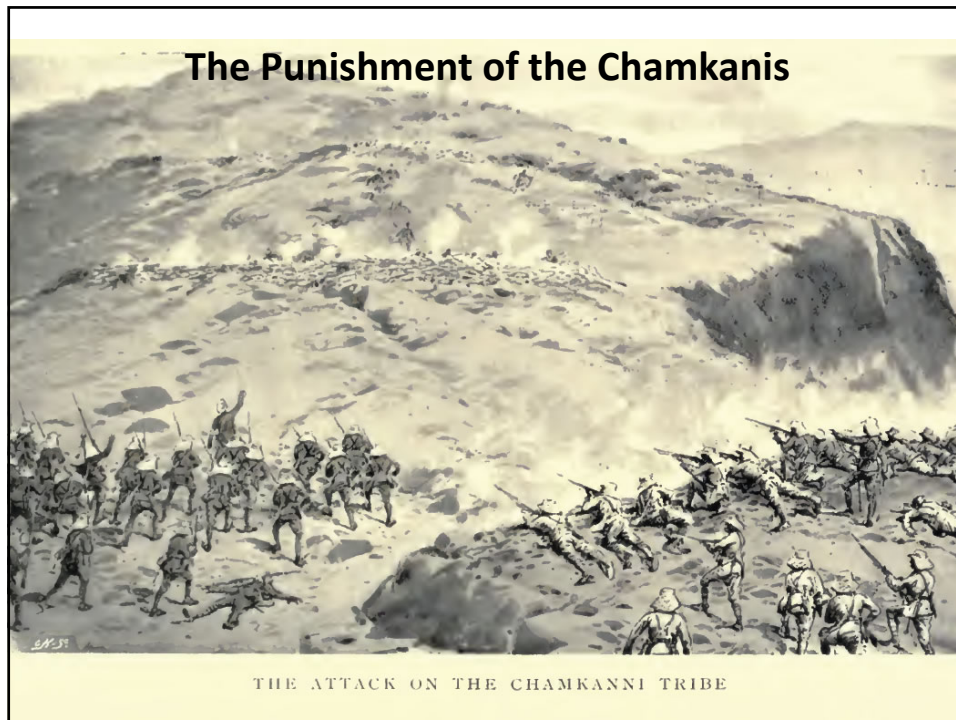
- The Mamuzais and Massozais submitted immediately, but the Chamkannis offered resistance on 1 and 2 December, with about 30 British casualties.











**The move to Bagh**



**Moving gun into position at Bagh**





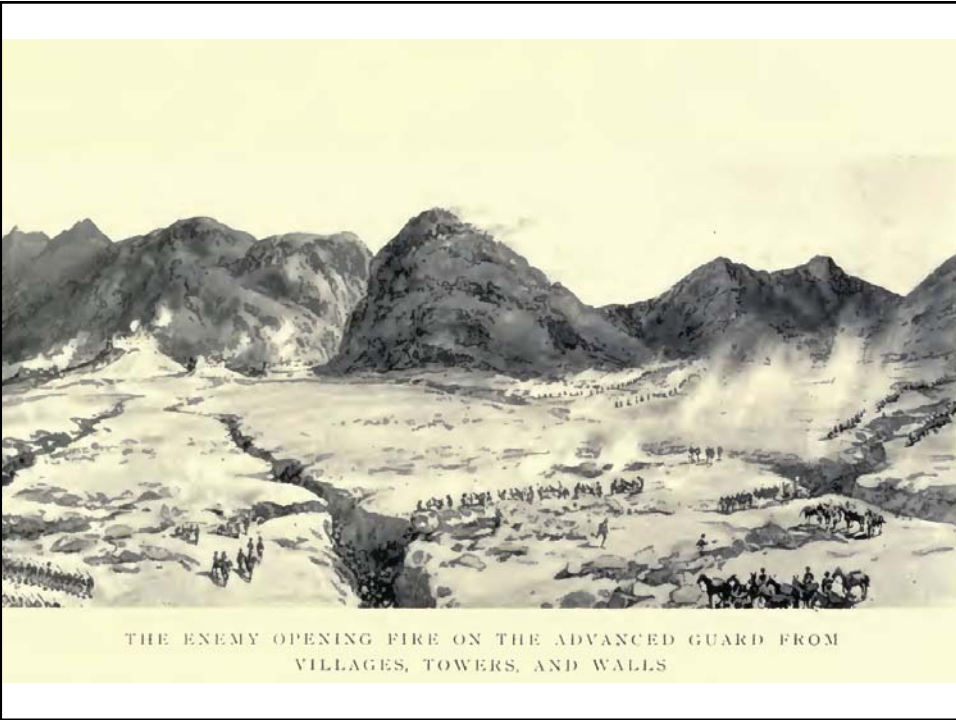




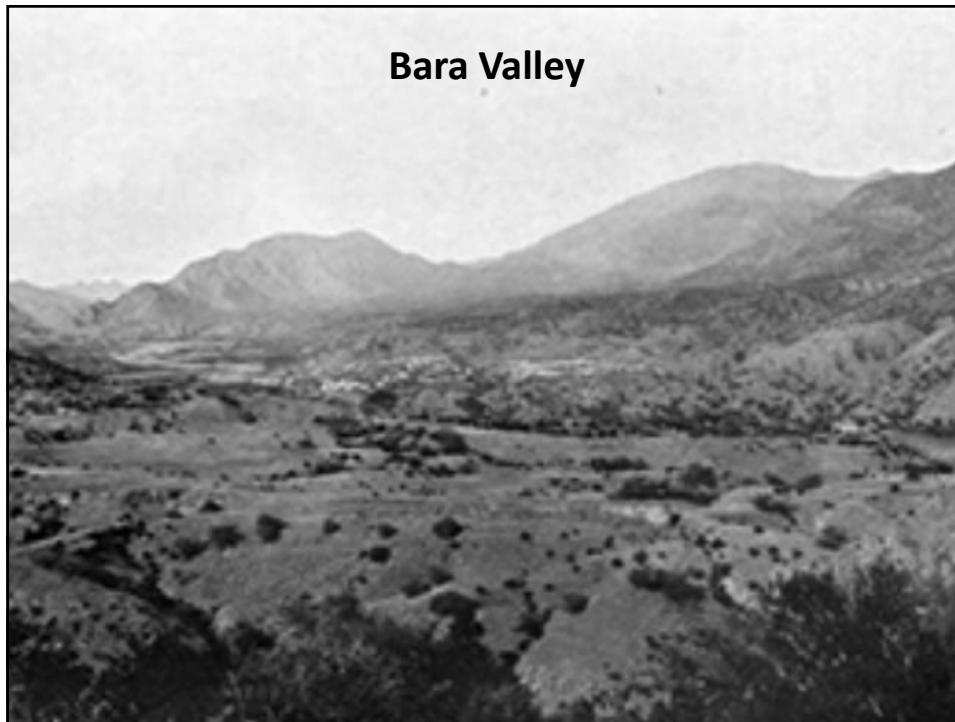


### December 1897

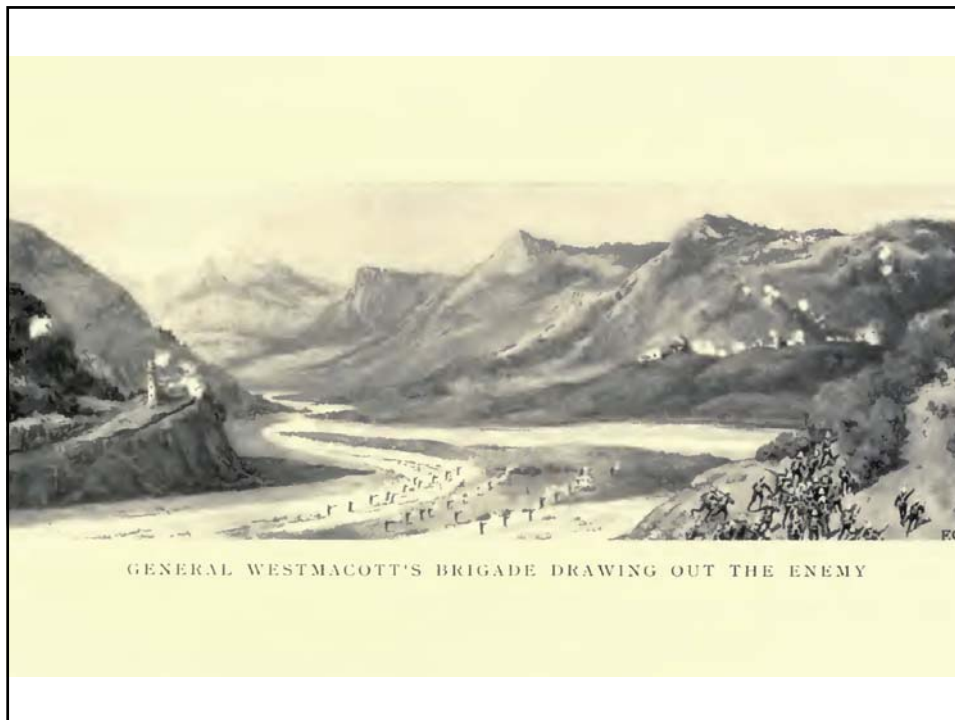
- The Kurram column returned to its camp.
- Lockhart prepared to evacuate Tirah, despatching his two divisions by separate routes:
  - the 1<sup>st</sup> under Major-General W. Penn Symons (d. 1899) returned via the Mastura valley, destroying the forts on the way, and joined at Bara, within easy march of Peshawar;
  - the 2<sup>nd</sup> under Major General Yeatman Biggs, accompanied by Lockhart, moved along the Bara valley.
  - The base was to be transferred from Kohat to Peshawar.
- The return march began on 9 December. The cold was intense, 21 degrees of frost being registered before leaving Tirah. The movement of the first division though arduous was practically unopposed, but the 40 miles to be covered by the second division were contested almost throughout.



- The march down the Bara valley (34 miles) commenced on 10 December, and involved four days of the hardest fighting and marching of the campaign. The road crossed and re-crossed the icy stream, while snow, sleet and rain fell constantly. On the 10th, the casualties numbered about twenty.
- On the 11th, some fifty or sixty casualties were recorded among the troops, but many followers were killed or died of exposure, and quantities of stores were lost.
- On the 12th, the column halted for rest.
- On the 13th, the march was resumed in improved weather, though the cold was still severe. The rearguard was heavily engaged, and the casualties numbered about sixty.
- On the 14th, after further fighting, a junction with the Peshawar column was effected. The first division, aided by the Peshawar column, now took possession of the Khyber forts without opposition.





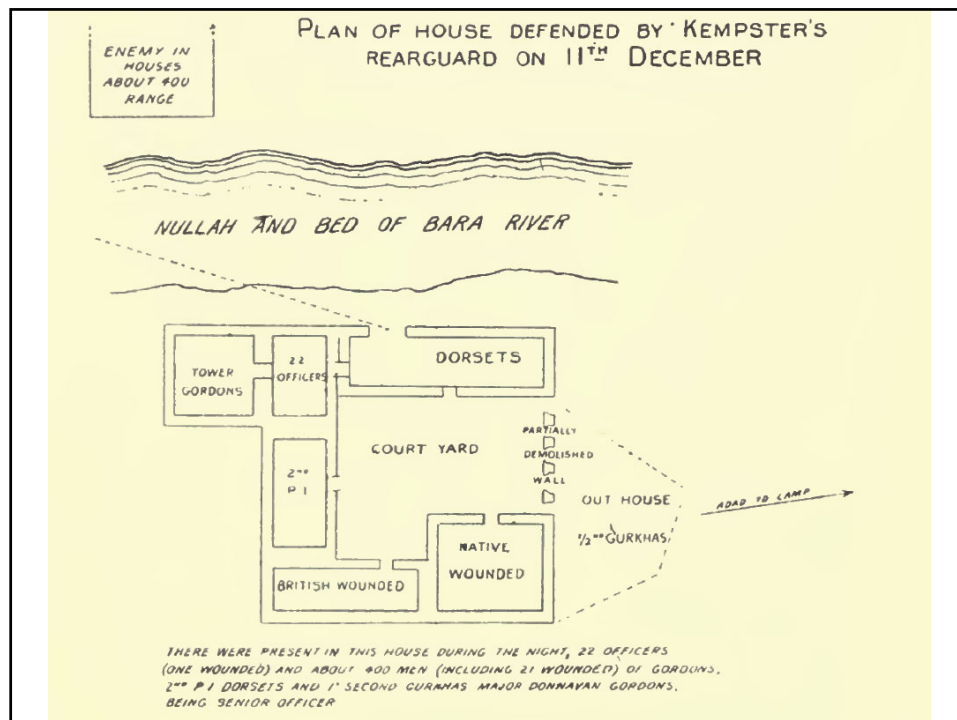


## The Dorset's Last Stand

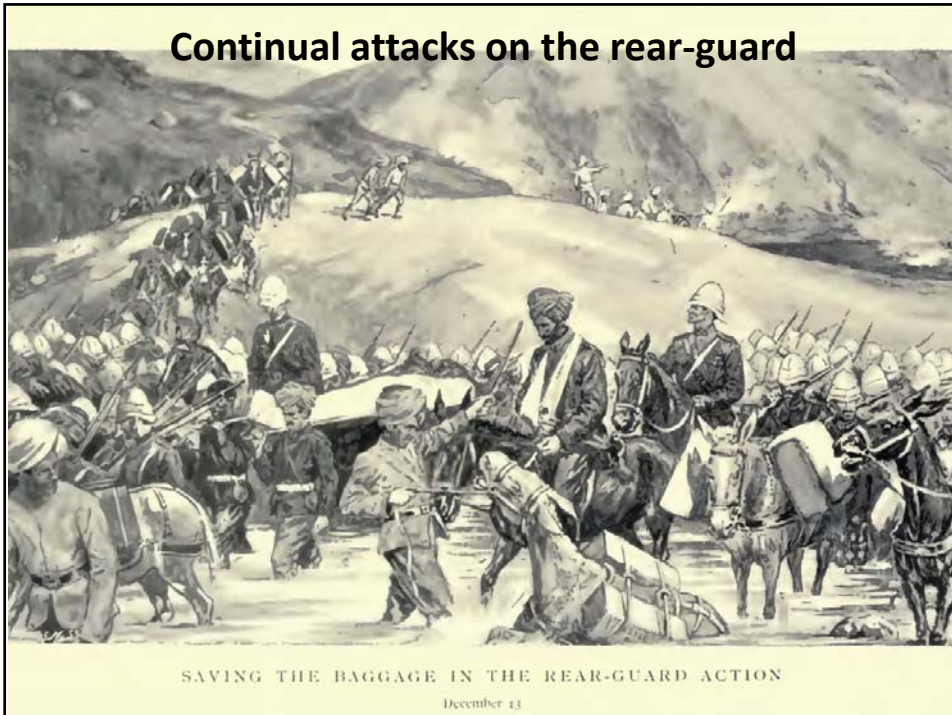
On 11 December two companies of Dorsets and Sikhs were ambushed one night whilst seeking stragglers. They became separated as they engaged in hand-to-hand fighting with tribesmen. The Dorsets lost all their officers and made a last stand in some burnt out houses under the command of the ranking sergeant. Despite being outnumbered, they held out: however, two officers and ~25 men who tried to return to the main body were annihilated.

Officers:  
4 KIA, 6 WIA  
Other ranks:  
25 KIA, 38 WIA





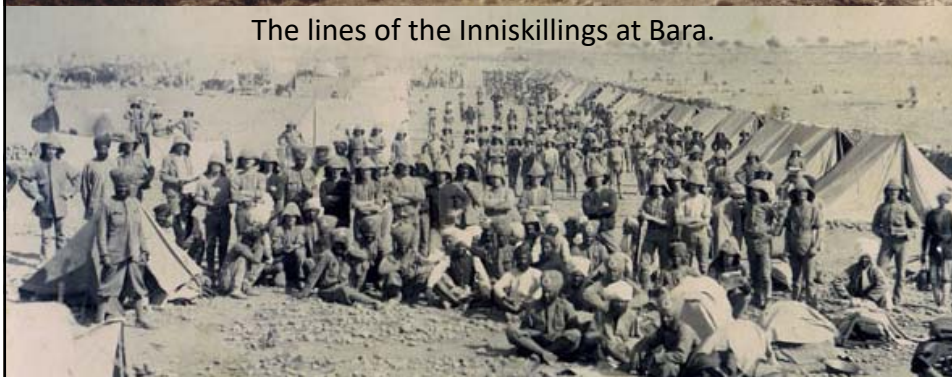
## Continual attacks on the rear-guard



## Final arrival at the Bara Fort



The lines of the Inniskillings at Bara.

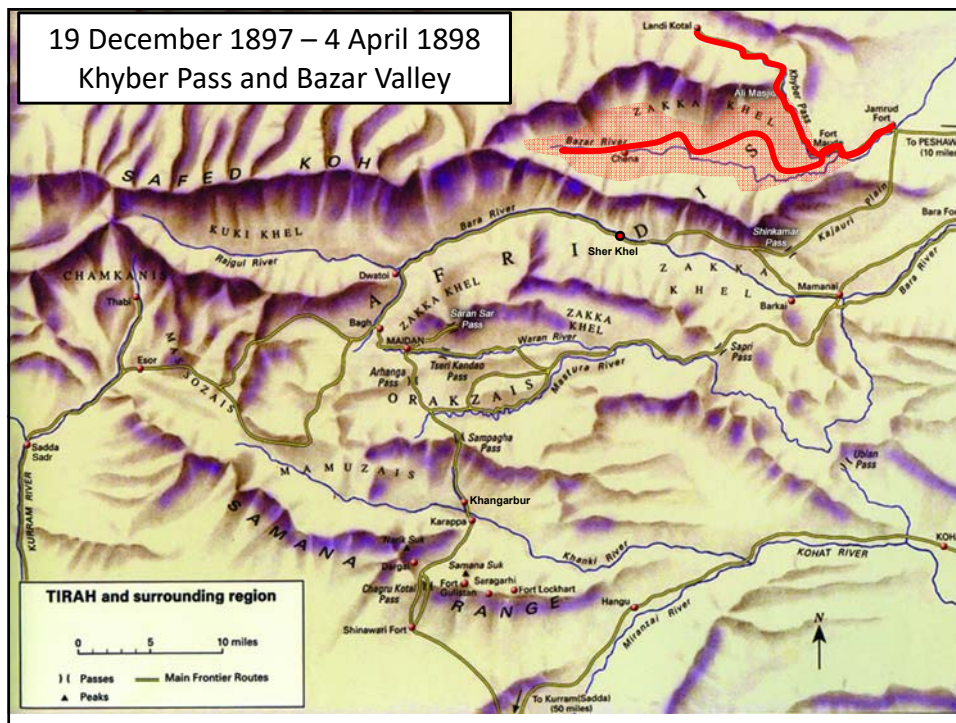


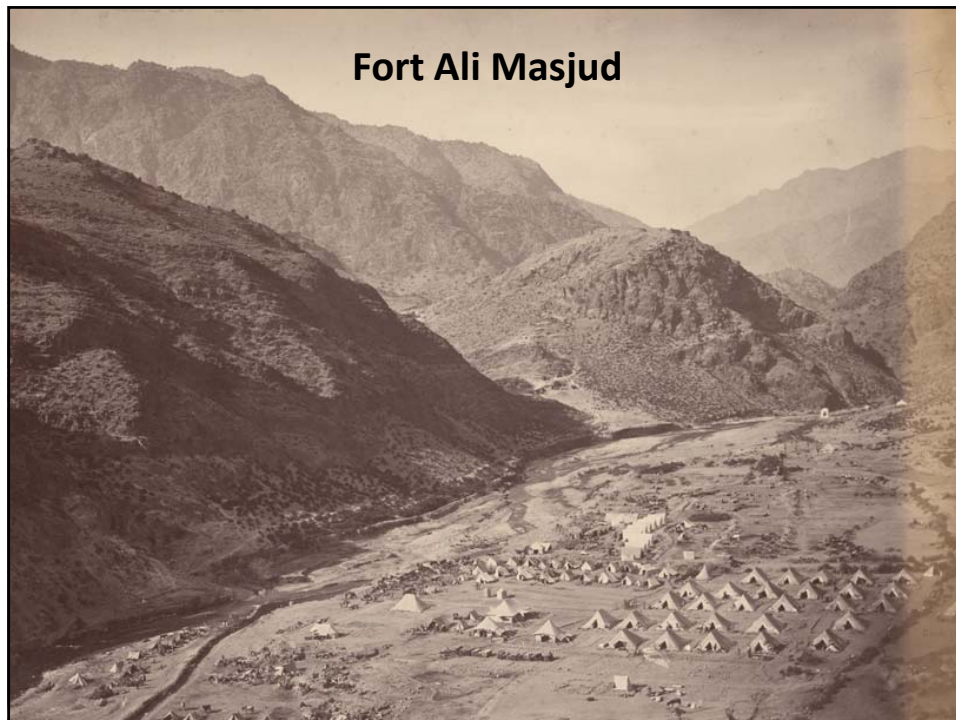




## The Bazar Valley Expedition

- The Peshawar Column and 1<sup>st</sup> Division gathered under Sir William at Fort Jamrud for the Peshawar Column to reopen the Khyber Pass Road and forts, and the 1<sup>st</sup> Division to punish the Bazar Valley.
- Although attacks were common resulting in casualties (incl. Gen Sir Havelock-Allen and LTC Houghton), sufficient resources were brought to bear to (1) effectively end major combat by 29 Jan and (2) quell the rebellion.





**Fort Ali Masjud**

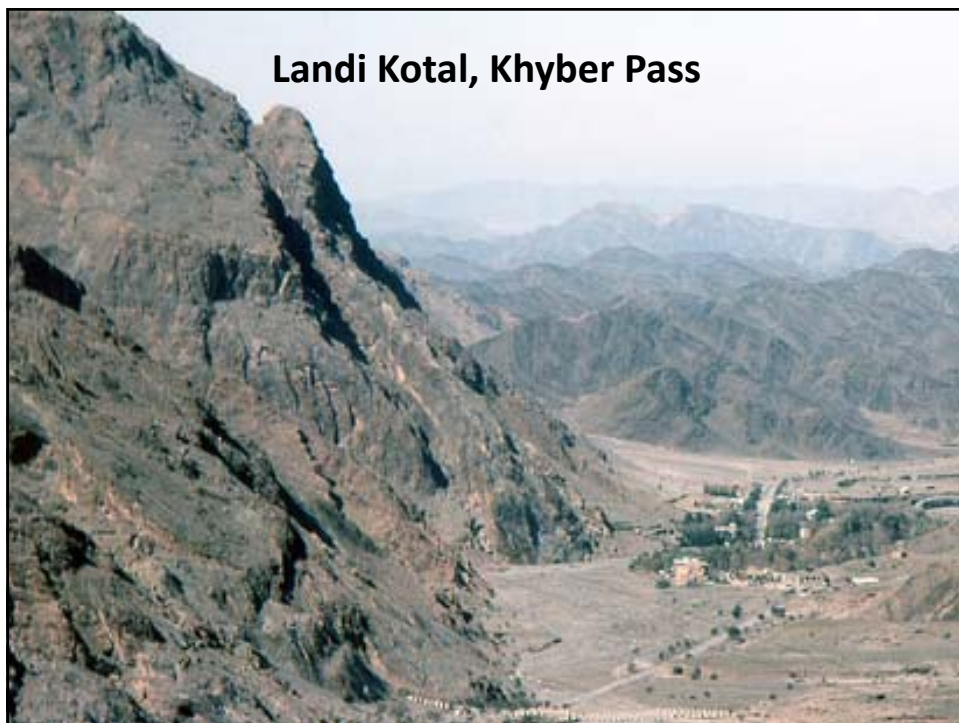
### **The 2<sup>nd</sup> Yorkshire's Last Stand**

On 19 January, 36th Sikhs and 2<sup>nd</sup> Yorks advanced from Mamanai. Whilst advancing along one of the passes, they had flank security on both high walls. Due to a misunderstanding, the Sikhs abandoned the western heights and the Afridi occupied the vacated high ground and poured withering fire on the 2<sup>nd</sup> Yorks below. With great difficulty the unit extracted itself to the mouth of the pass, only by abandoning their dead and some of the badly wounded.

Officers:  
5 KIA, 3 WIA  
Other ranks:  
28 KIA, 34 WIA



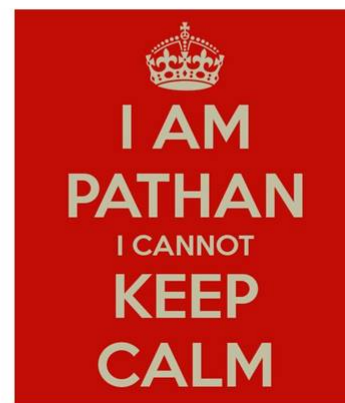






### The End of the Campaign

- The expeditionary force was broken up on 4 April 1898.
- A memorable feature of this campaign was the presence in the fighting line of the Imperial Service native troops under their own officers, while several of the best known of the Indian princes such as Prince Singh served on Lockhart's staff.



## The Tirah Expedition of 1897

10 June 1897 - 4 April 1898

### Belligerents



British Empire (British Raj)  
• Indian Army



Afridi  
Orakzai tribesmen  
Chamkani

### Commanders and leaders

General Sir William Lockhart GCB KCSI  
BG Sir William Penn Symons KCB  
MG Arthur G Yeatman-Biggs CB

Gul Badshah

### Units involved

Punjab Army Corps  
First Division  
Second Division

Afridi  
Orakzais  
Chamkanis

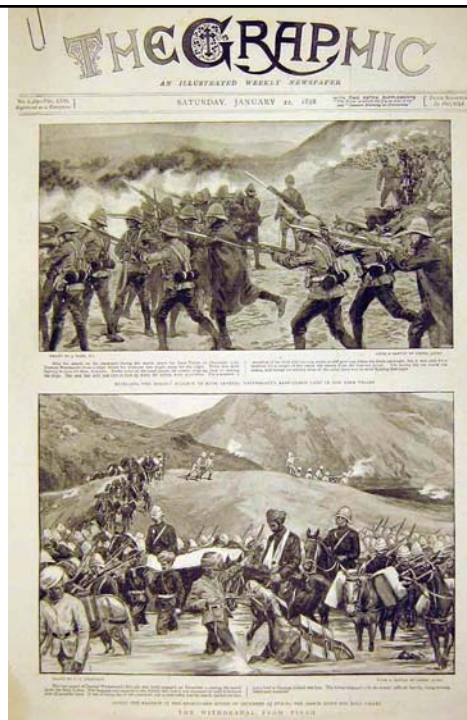
### Casualties from 12 October 1897 – 6 April 1898

Killed, all ranks .....287  
Wounded .....853  
Missing .....10  
Total .....1,150  
British Officers: KIA, 23; WIA, 56  
Native Officers: KIA, 4 ; WIA, 16

40,000 to 50,000 (estimated)

## The Aftermath

- Unsurprisingly, the Tirah Campaign caught the attention of the British public, stirred by journalistic accounts real and imagined – as well as by actual heroes and deeds.





## Tactical and Strategic Lessons Learned

### The Enemy – Pathan Tribesmen

1. The Afridis are mountaineers of the first rank, who never take risks they can avoid. They preferred shooting from cover to rushing with a sword. When even a few men in cover resisted, the Pathan was “extremely shy of coming on.”
2. Their tactics were not dictated by timidity or fear, but common sense. They quietly fall back as we advance, and patiently await their turn, which they know will come as soon as we begin to retire. That instant they assume the offensive.
3. The Afridis are now fairly well armed with the Martini-Henry rifle with an apparently unlimited stock of ammunition.
4. Hundreds of the Afridi served in the British Army.
  - a. Be-medalled Afridi pensioners were common
  - b. British drill-books and musketry regulations—Urdu editions— were found in deserted houses
  - c. Over 2,000 were on active duty during the Tirah period

### Terrain



1. The high mountains, precipitous cliffs, dangerous defiles, wild ravines, and rushing torrents – without roads – made military formations impossible.
2. The terrain favours guerilla tactics.

### Command and Control

1. Commanders had difficulty controlling attack or defence because they had difficulty communicating.
  - a. A general's half-dozen gallopers were often useless.
  - b. Most messages went by foot.
  - c. Sometimes signaling worked.
2. Every officer should know beforehand what is the "general idea," so that even when isolated, and without orders, he may intelligently cooperate.
3. Outcomes often depended upon the judgement, initiative and decisions of company and section commanders and NCOs – and, in cases, even privates.



### Troop Movements

1. Every march was practically a march through a defile from start to end, commanded throughout by hills on either side.
2. The enemy occupied trenches or sangars on the summit of every commanding knoll. When assaulted by a company or two, they simply withdrew higher up the mountainside.
3. The British would hold the lower spurs as the column passed.
4. Rear-guards were continually engaged by skirmishing bands. As flank security withdrew one after the other, the enemy swooped, seemingly from nowhere, often in great number.
5. The drill book advised a rapid, aggressive attack and a steady and controlled withdrawal. **Both were disastrous at Tirah!**
  - a. Attack needed to be slow and deliberate to allow time for outflanking and to prevent scattering and exhaustion.
  - b. In retreat, movements often had to be at an all-out run to avoid being overwhelmed.

### **Effective Attacking Techniques at Tirah**

1. "All 'attack formations' laid down in the drill-book, are, of course, entirely inapplicable to hill-fighting." (Officer's diary)
2. Officers were told not to lead too quickly, but to regulate the pace by the difficulties of the ground and the condition of their men, the object being to maintain a steady advance without getting scattered or unduly separated from support.
3. As a general rule the Afridis never await a charge, but if ever a position is stubbornly held, and must be carried by assault, there is no doubt that the whole of the troops in the front line should charge together, their supports following close. To send them forward in detachments or dribblets is disastrous.
4. With the tribesmen, whether dwellers in the hills or plains, it is most necessary to assume a vigorous offensive whenever opportunity offers, and whatever are the odds.

### **An experienced Officer's advice**

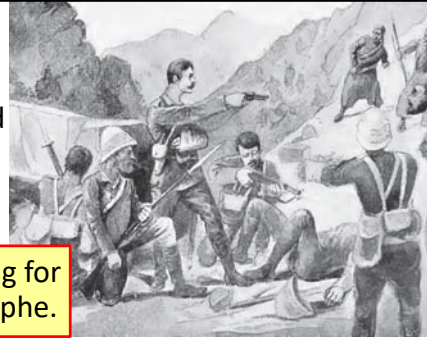
5. "To attack a position on a mountain top:
  - a. Use an extended line of skirmishers to lead the way, an officer always with them.
  - b. Each company will follow its own skirmishing section, itself not extended, but with files well opened out.
  - c. Other companies will follow closely in support, and generally more or less in echelon.
6. "Great depth in attack is not considered necessary, as it is in civilised warfare, but the importance of an enveloping attack is not to be over-estimated.
7. "Directly the tribesmen thought there was the slightest danger to their flank or line of retreat, they were off."



### Effective rear-guard tactics

1. The drill book assumed slow and dignified pursuit by the enemy and directs that "retirements should be made in quick-time."

This approach was totally wrong for Tirah, and often led to catastrophe.



2. Experienced units had selected men firing independently until their company established its new position in the rear.
3. They then fired a final volley, rose together, and **raced** back to the new position – **almost always** getting away safely.
4. "If there is any mistake made, or any sign of hesitation or wavering, it is instantly taken advantage of, and in a moment, where all was going well the minute before, disaster may ensue."

### Extract from letter from an Officer in the Derbyshire Regiment:

The 29<sup>th</sup> of December was a particularly hard day. We were the rear-guard, and the enemy, apparently knowing it was their last chance at us, followed us up very boldly.

We have got very cunning by this time at these rear-guard actions, and had only fifteen casualties (I believe there were one or two in other regiments as well) as the result of being chased for several hours by the Zakka.

That does not sound dignified, but it is exactly what happened.

The way we have found most paying to conduct these retirements is as follows:

the rear-guard is formed in successive lines, one behind the other, each on the most suitable bit of ground possible, generally the crest line of a ridge.

When the moment to retire begins, the line nearest the enemy doubles straight down as fast as it can past the other lines and takes up a position behind the rear most one.

1

The line immediately behind the retiring line covers the movement by its fire.

These beggars move so fast over this country that the only practical method is when once a retirement is begun, for the retiring men to run like hares, otherwise one gets caught in the undesirable position of having one's back to the enemy.

The time when things begin to be serious is when one or two are hit between the time of leaving a position and reaching the next line.

For many reasons it is impossible to leave dead or wounded men behind, as would be done in European warfare, and a retirement through this country, which is quite difficult enough for an active man to get over unhampered, is, when there are several wounded men to be helped along, not all joy. This has been pretty nearly the only sort of fighting we have had ever since the Sampagha was taken, and we none of us love it; the chances are very one-sided, and the enemy know this just as well as we do.

2

## **Camps, Picquets and Patrols**

### **1. The Security of camps**

- a. Camps and bivouacs were constantly harassed by long-range rifle fire at night. Strong picquets were posted at 1,500 yards to a mile out.
- b. On dark nights, prowling snipers would get in between the picquets and the camp.

### **2. Patrolling**

- a. Every day foraging parties, strongly escorted by never less than a brigade, with artillery, had to go far afield to collect fodder and supplies, returning to camp by sunset; and on these occasions they were invariably followed up by the enemy and casualties ensued.
- b. "Patrolling of any kind in the night was, of course, entirely out of the question, and was never attempted."

### 3. Picquets

- a. Picquets had to be of a strength independent of support.
- b. They were usually in positions occupied by the enemy, attacked and captured, posted with a half company or company, who then dug in.
- c. Picquets were always instructed to fight where they stood, and never under any circumstances to attempt to fall back on the camp.
- d. Often fiercely attacked, they had only their own watchfulness and efforts to see them safely through the night. Sentries were always placed inside the entrenchment. Others slept on their alarm-posts.
- e. At no time during the campaign was a picquet overpowered.

### Special Forces - Gurkha Scouts

1. Gurkha Scouts were specially trained to work on the steepest hillsides, and selected for their wiry physique, fleetness of foot, and skill as marksmen.
2. Scouts wore the uniform of their regiments, and their equipment differed in no respect from that of the regular soldier, except when engaged in night affairs, when they sallied out by themselves to try and stalk, and cut off "snipers," who were harassing the camp.



On these occasions they went barefooted, wore plain clothes, and took with them just their rifles and bayonets, a few rounds of ammunition, and, of course, their knives— the well-known kukri.



3. During the campaign, Gurkha Scout numbers were increased from 120 to 500 at the request of the GOC, Sir William.

"During the present expedition the Scouts drawn from the 3<sup>rd</sup> and 5<sup>th</sup> Gurkhas have proved especially valuable. Being trained mountaineers and accustomed to guerrilla warfare, they were able to climb the most precipitous hills, lie in ambush at night, and surpass the tribesmen in their own tactics." **Sir William Lockhart's Despatches.**

4. "But the traditional Light Company containing only picked men and officers has merit. Train them highly and specially and in return grant them some small distinctions and privileges in time of peace, and posts of honour and danger in time of war."

### Artillery

1. Six Mountain Batteries of six 2.5" guns each were available.
  - a. The batteries were massed and fires concentrated at Sampagha and Arhanga Passes, to marked effect.
  - b. Otherwise, greater effect can usually be obtained by dispersion of the guns, or even splitting up a battery to work by sections.
2. The highly effective 2.5" gun could follow infantry anywhere "so long as he does not go on his hands and knees".
3. When new at the commencement of a campaign), the 2.5-inch gun "stands any amount of knocking about."



**Extract from letter from an experienced Artillery Officer:**

I cannot help asking why everyone is full of its [artillery's] praises during an expedition; and why, as soon as it is over, do they set to work to abuse it in the papers or elsewhere?

They say it can't knock down sangars. They started saying this after the Malakhand in 1895. But the sangars there were enormous natural boulders which a 40-pounder could not have moved!

Personally, I never try to demolish sangars. I try to kill the men inside them, and it is on record that we did this with some success at the Malakhand.

On the 14<sup>th</sup> September 1897 we brought down the Tsalai tower with two percussion shrapnel, and sent the stones of the Saragheri sangars flying high in the air. Firing at houses in Maidan and Bagh, our shells would go through the walls, and burst inside, which is exactly what is wanted; and on two occasions we set buildings ablaze by our fire.

**Military Medical Services, British and Indian**

1. Surgeon-Major-General A.A. Gore provided hospital beds for 12% of troops and followers. On 20 December, the number of sick in hospital at peak was 11.16% of the force.
2. Twenty-three field hospitals were mobilised for Tirah, each equipped for three months to accommodate 100 sick men.
3. 3,000 bed base hospitals were formed at Rawalpindi, Nowshera, and Kohat.
4. The proportion of wounded to killed was as 3 to 1. With the Germans in 1870-71 it was as 5 to 1.
5. Transport to Shinauri was by strongly escorted mules and ponies, on foot, in doolies (palanquins) or stretchers.
6. From Shinauri wheeled ambulances were available for 75 miles to the rail at Khusalgarh, whence it was a run of 80 miles to Rawalpindi.

