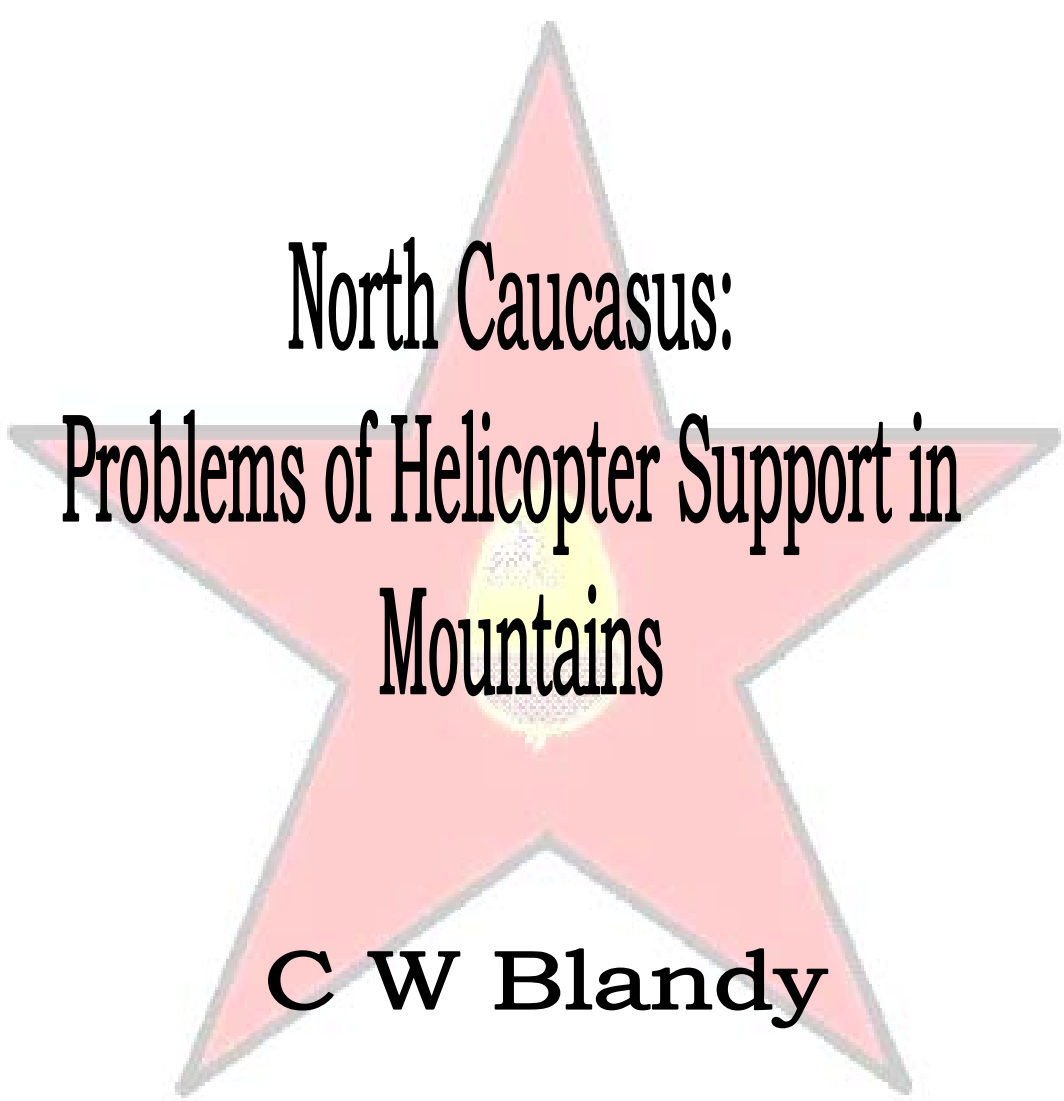


**Conflict Studies Research Centre**

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**North Caucasus:  
Problems of Helicopter Support in  
Mountains**

**C W Blandy**

**August 2007**

**Defence Academy of the United Kingdom**

# **North Caucasus: Problems of Helicopter Support in Mountains**

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## **Key Points**

- \* The Mi-8 helicopter accident on 27 April 2007 in south Chechnya emphasised the appalling state of Russian military helicopter aviation.
- \* By 1999 the average age of Mi-8 helicopters was 15-20 years old and that of Mi-24 helicopters was 20 years or older. On average 70% of the helicopter park required repair with one third needing major components.
- \* Since then, 13 years of conflict have passed without replacement helicopters and new modern designs, even before the first conflict (1994-1996) almost 100% of the attack Mi-24 helicopters were worn out. Transport helicopters have been worked to the limit.
- \* At least 10 of the 18 helicopter crashes in Chechnya in the last five years can be attributed to pilot error or equipment malfunction; 205 servicemen died.
- \* MOD chose to buy Mi-28 (Night Hunter) on grounds of cost in preference to Ka-50 (Black Shark) and Ka-52 (Alligator) regarded by military experts as better aircraft. All three will now be bought in small numbers until 2015.

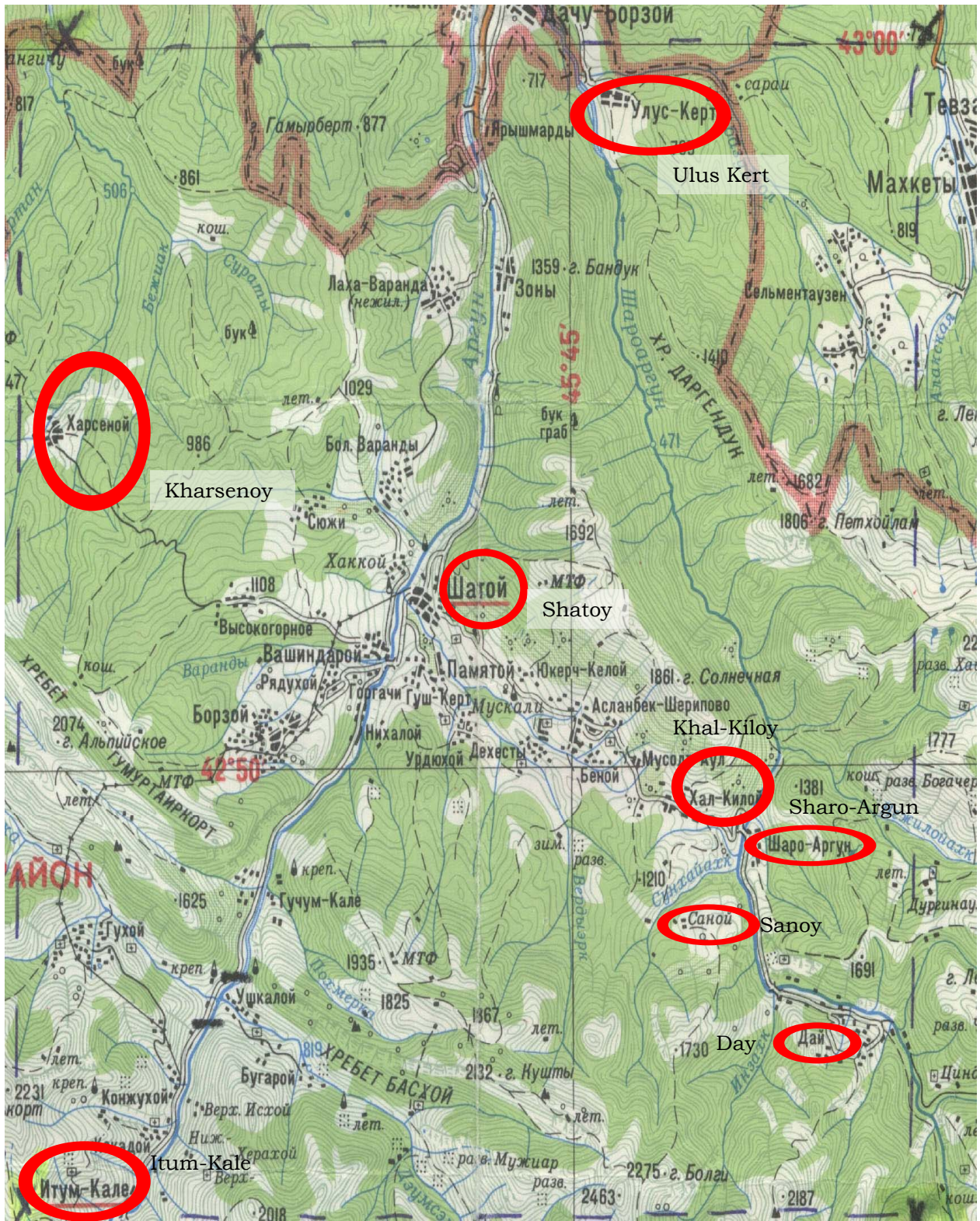
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**Map 1 – Shatoyskiy Rayon and Parts of Sharoyskiy and Itum-Kalinskiy Rayony**

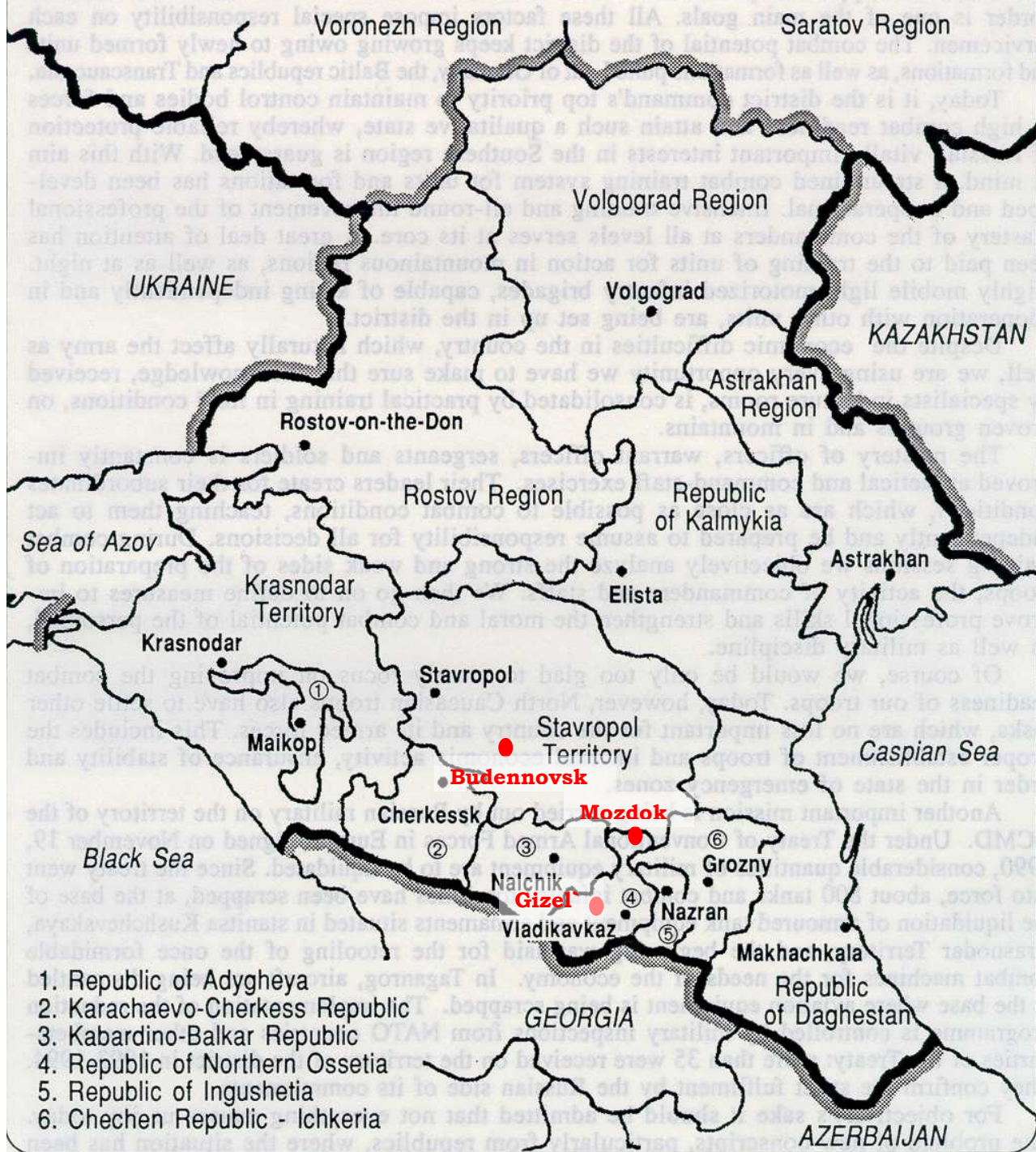


Obshchegeograficheskiye karti Rossiyskoy Federatsii – Ingushskaya Respublika, Chechenskaya Respublika, scale 1: 250 000, Moscow, 1995



# The North-Caucasian Military District

(Schematic Map)



Key



Main Helicopter Support Bases



# North Caucasus: Problems of Helicopter Support in Mountains

C W Blandy

## Introduction

*“Does one think about the countless kilometres covered by pilots in the sky above the Caucasus? In truth the helicopter was and remains the single means of viability for many outposts and headquarters. The delivery of personnel, provisions, fuel – all by helicopter.”<sup>1</sup>*

The helicopter crash during a counter-terrorist operation in the mountainous terrain of southern Chechnya on 27 April 2007 was the latest in a series of such crashes. It once again underlined the problems facing helicopter pilots in flying their machines over difficult terrain, attempting to land on minuscule landing sites under exacting weather conditions, and coping with gusting side winds, sudden shifts in wind-direction, violent up-drafts or down-drafts whilst in the hover.

During the operation federal forces suffered their heaviest losses of the year when a Mi-8 helicopter, part of a flight of three troop-carrying Mi-8s from Mozdok escorted by a pair of Mi-24s crashed into a mountain side. On board were a flight crew of three (two pilots and an engineer) and a reconnaissance group of 17 military intelligence (GRU) servicemen from 22<sup>nd</sup> Spetsnaz Brigade. The flight of three Mi-8 helicopters was transporting reinforcements to complete the encirclement of a band which was believed to be led by Doku Umarov. It would appear that whilst hovering over a possible landing site a rotor blade of the second Mi-8 came into contact with a rocky outcrop or tree, causing the aircraft to tilt over and slide down the mountain side.<sup>2</sup> A fuel tank ruptured. The aircraft burst into flames, causing ammunition to explode and killing all 20 on board.

The pilot’s rearward view in a Mi-8 is restricted. Manoeuvring a helicopter within a tight space, particularly in densely wooded or uneven surface areas amongst rocky outcrops is particularly hazardous. In a Mi-24 the removal of one of the two Perspex windows from the cabin allows the crew chief who is also *“the engineer to observe to the rear for flight safety or combat purposes”*.<sup>3</sup>

At first rumours circulated that the Mi-8 had been shot down, but Chechen President Ramzan Kadyrov was quick to confirm that the catastrophe was caused by a technical fault: *“I consider the statement about the fact that the helicopter was hit should [only] be made after careful verification. According to the information that the law enforcement organs sent to me from Shatoy rayon, and according to statements of eyewitnesses the aircraft fell through a technical fault and was not shot at.”*<sup>4</sup>

A top-ranking source from one of the security agencies of the Southern Federal District baldly stated that the cause of the crash was pilot error: *“The pilot of the*

*helicopter tried to hold the helicopter on a steep slope to enable special forces to land from a height of 1.5 metres. The pilot failed to hold the helicopter, it fell to the side and started falling from the slope. A fuel tank was punctured, there was ignition and an explosion.”<sup>5</sup>*

On 18 May 2007, an article appeared in *Nezavisimoye Voyennoye Obozreniye* (NVO)<sup>6</sup> on the subject of helicopter support, which highlighted deficiencies in transport helicopters and in particular those machines allocated to support the operations of special forces. The article highlighted the problem of using tired, worn out flying machines for special operations. The article confirmed that a flight safety commission had already been to the crash scene and had carried out an investigation, but it was still too early to arrive at the true reasons for the tragedy. As usual under these circumstances the investigation would have concentrated on three basic potential causes: it had been hit by small arms fire or PZRK (portable anti aircraft missile complex), pilot error or equipment failure.<sup>7</sup> A hindrance in finding the exact cause of the catastrophe was the fact that the black box had been severely burnt.

## **Security Situation**

In early February 2007 Deputy Interior Minister Colonel General Arkadiy Yedelev was quoted as revealing some statistics on the security situation in the North Caucasus. *“Over the last year in the North Caucasus 112 diversionary terrorist acts were prevented. 1171 boyeviki were detained. 174 participants were neutralised. The power structures lost 239 men in 2006. This was 100 less than the year before. Although the numbers were impressive, 239 men almost equalled the strength of an airborne battalion. The losses of the power structures appeared to be 1½ times greater than those for the boyeviki.”<sup>8</sup>*

Over the first five months of 2007 in Chechnya 30 servicemen were killed, averaging out at 6 a month. The casualty figures in 2006 for MOD troops serving in Chechnya amounted to five servicemen a month, at 57 killed and one missing. It is of interest to note that over the first five months of 2007 the armed forces lost 184 servicemen, so the 30 killed in action in Chechnya amounted to 16.3%, whereas in 2006 it was no more than 10%.<sup>9</sup> Clashes with members of illegal armed formations have continued to take place in Ingushetia and Chechnya, and an attempt has also been made on the life of the head of the Dagestan Ministry of Internal Affairs, Adul’girey Magomedtagirov.<sup>10</sup> General Yedelev acknowledged that *“Now in the Chechen Republic some 46 small bands are operating with an overall numerical strength of 450 people”*.<sup>11</sup>

Furthermore, guerilla detachments in his opinion continued to be replenished by young Chechen men. Assessments of numbers differ, however. One should remember Colonel General Baryayev’s statement in November 2006 that in the south of Chechnya there were still up to 700 *boyeviki*, which was at some variance at the time with the views of Adam Delimkhanov, a Chechen deputy premier, and President Kadyrov whose estimates were very much lower, in the region of between 60 and 90 *boyeviki*. As one would expect, in maintaining his view that there were only a small number of *boyeviki* in the mountainous south of Chechnya, speculating over the cause of the Mi-8 catastrophe, Kadyrov was quick to refute any suggestion that there was a large presence in Shatoy rayon:



*“According to operational information available to us, in this sector there is a small group of fighters, and the spread of information that a large bandit formation is there does not reflect the facts. Operations on search, capture and liquidation of boyeviki in the mountainous areas of the Chechen Republic are being carried out continuously, and this is not news. Members of special services, spetsnaz battalions and law enforcement organs are coping with this work.”<sup>12</sup>*

Kadyrov went on to add that in the republic a creative process was happening, the restoration of towns and populated points.

*“I state with absolute responsibility that the situation is peaceful. Accidents with flying machines happen not only in Chechnya, but in any region of a country and the world. And on this basis to make announcements that a battle is going on, I am convinced that is not absolutely correct.”<sup>13</sup>*

In the opinion of General Yedelev, Chechnya was no longer the leader of instability in the North Caucasus. People in the power structures were more concerned about Ingushetia, Dagestan and Kabardino-Balkaria, where *“two well-prepared and secret clandestine terrorist groups are operating”*.<sup>14</sup> General Yedelev also remarked, with some degree of preoccupation, that these were the bands of Astemirov, Mukhozhev and Solpagarov. It will be remembered that Astemirov had had a role in the Nal’chik raid on 13 October 2005.<sup>15</sup>

However the situation in Chechnya was not dissimilar to that in the republics mentioned above: the leadership still remained uneasy about the security situation. Due to the desire of Kadyrov, and incidentally a large proportion of the Chechen population, to hasten the removal of federal forces, it was in his interests to play down the numbers of *boyeviki* at large in the mountainous south. From the federal side there was a need to keep Kadyrov under control, hence perhaps an overestimate of the numbers in order to justify a large armed presence under federal military control. Thus Yedelev was unable to name the final date when the group of forces amounting to approximately 50,000 servicemen would be reduced, or the practice of deploying militiamen from other regions of Russia would cease: *“The moment is near, but a firm time is not yet in being for the transfer of complete power into the hands of the Chechen militia”*.<sup>16</sup>

## **Factors Hindering Helicopter Operations in Southern Chechnya**

### **Terrain**

The geographical dimensions of this mini-republic only measure some 100 by 80 kilometres, and its topographical surface is complicated, intricate and diverse, whilst rising steadily from north to south; see below. The territory over 1,200 metres, where the diehard Chechen anti-Russian elements are strongest, only represents some 19% of the land.

A point that needs to be emphasised was that the flight of three Mi-8s had difficulty in finding a suitable site on which the reinforcements could be landed. From Map 1 it can be seen that the whole of the area enclosed within the rayony of Shatoy, Sharoy and Itum-Kale is heavily wooded, predominantly by beech forests, oak, hornbeam and alder. It will be remembered that some 7 years earlier, the fact that

helicopters could find nowhere to land reinforcements because of the forests, let alone for the initial deployment of 6 Parachute Desant Company on Ht 776.0 on the Dargenduk feature was an essential factor which contributed to their massacre at Ulus-Kert at the end of February 2000.<sup>17</sup> The disaster led Colonel General Gennadiy Troshev to think long and hard about those events: *“I often ask myself the agonising question: was it possible to avoid such casualties, had we done everything to save the ‘desantniki’? In truth it’s your duty, general, in the first place to preserve life. No matter how hard, but in truth we did not do everything.”*<sup>18</sup>

**Figure 1 - Chechen Terrain from North To South<sup>19</sup>**

50% of Land Lowland Plain up to 300m in height
30% of Land Low Mountain & Foothill 300m-1,200m
11% of Land Medium Height Mountain 1,200m-2,400
8% of Land High Mountain over 2,400m

Whilst undoubtedly the area is densely forested, there are also small villages, hamlets or mountain auls where open spaces exist. Chechens forced out of the central plain areas or lower foothills during the Long Caucasian War in the 19<sup>th</sup> Century found their way to the comparative security of the mountainous south. It was more than likely that there would have been some open ground or space with portions of common land close to the villages. Villagers used open spaces and small patches of pasture close to villages as well as high mountain pastures.<sup>20</sup> Usage of common areas was regulated by village elders. Populated points such as the ‘towered’ village of Sharo-Argun were not settled by Chechens from the north until 1865.<sup>21</sup> Little has changed from those days. In the 19<sup>th</sup> Century the Imperial Russian Army had no hesitation in cutting great swathes of forest along tracks so as to afford better fields of fire in warding off ambushes. Why could not a number of landing zones have been established in densely wooded areas, and then used on a random, surprise basis? Of course they would still to be to some extent vulnerable to surprise ambush.

## Climate

Weather and terrain are very important factors, particularly when considering operations involving aircraft and helicopters in mountainous terrain. The influence of relief on climate appears in a most distinctive manner in the southern mountainous part of Chechnya.<sup>22</sup> On the Chechen lowlands whilst winds change

direction, uniform climatic conditions are more or less established, but in foothill areas such as the Terek Ridge,<sup>23</sup> even in comparatively small areas sharp climatic contrasts can be observed. Mountains of course have the capacity to exert a considerable effect on air currents. “*The direction of the wind to a large extent depends on the direction or orientation of a valley, mountain range or ridge. Furthermore in the narrower sections of valleys, gorges or ravines the wind becomes much stronger*”,<sup>24</sup> so any a pilot trying to manoeuvre around the area of the Sukhayakhk mountain stream and its confluence with the Sharoy-Argun river just by Khal-Kiloy could have faced increased turbulence.

In addition, there is a wind called the “*fen*” from the Swiss fohn (foehn),<sup>25</sup> a “*warm, dry wind*”. The *fen* at a height of 500-700 m is at its most distinctive. The appearance of the *fen* is accompanied by a rapid rise in air temperature. In the course of a few hours it can raise temperatures from 10-15° C. But after the cessation of a *fen* the temperature quickly drops to its previous level. The speed of the *fen* can sometimes reach 15-20 metres per second, sometimes tearing down trees and lifting roofs off houses. The *fen* can change direction twice in 24 hours. The most striking mountain valley winds appear in the valleys of such rivers as the Argun and Assa.<sup>26</sup> Quite clearly, helicopter pilots operating around or along either of the Argun rivers (Chanti and Sharoy-Argun) could not only face a sudden burst of wind, but also a sudden reversal of wind direction. Another problem, particularly during the rainy months of spring and autumn, is the danger of ice ingestion. An example of this phenomenon was on 22 January 2000 when a Mi-8 allotted to Colonel General Viktor Kazantsev, commander of the federal forces, crash landed due to ice from a height of about 20 metres in the Argun gorge.<sup>27</sup>

More often than not, the central lowland plain around Groznyy, the Terek and Sunzha ridges suffer from low cloud, dense mist or fog in winter which adds complications for piloting helicopters. On the other hand visibility around Shatoy in winter is bright and clear.<sup>28</sup>

## Operational Overview

The territory covered by the rayony of Sharoy and Itum-Kale, with their southern boundaries making up the Chechen part of the international frontier of some 81.4 km between the Russian Federation and the Republic of Georgia has long been an area of critical importance in Russia’s campaign against terrorism. The River Argun remains the main conduit for the movement of Chechen fighters and foreign mercenaries, not only enabling a logistic supply train from beyond the republic’s boundary, but also the ability to penetrate into the depths of Chechnya: on the other hand it also allows the fighters and their allies to depart “*on leave behind the Skalistyy Range from the spurs of which the River Argun flows*”.<sup>29</sup>

The Argun in essence is two rivers until they join each other at Dacha-Borzoy. The source of the Chanti-Argun lies to the south of the Georgian village of Shatili. The river flows past Itum-Kale and Shatoy before reaching Dacha-Borzoy. The Sharoy-Argun rises near Mt Narkhiyakh (3777 m) within the borders of Chechnya. Along its route it passes well-known villages such as Day, Sharo-Argun (rayon centre of Sharoy rayon) and in the north, prior to its confluence with the Chanti-Argun at Dacha-Borzoy, the hamlet of Ulus-Kert.

**Box 1 – General Description of Shatoy and Sharoy Rayony<sup>30</sup>**

**Shatoy Rayon - Local Administration:** 12 local government organs serving 28 rural populated points. Shatoy administers 3 local government organs of Cheberloyevskiy rayon. Population at 1 January 2000: 12,273 people, density - 240 people per sq km.

Rayon centre is Shatoy situated on the right bank of the Chanti-Argun. The territory consists of mountain and forested zones lying between the Chanti-Argun and Sharoy-Argun rivers.

**Climate:** Temperate, annual rainfall 150-200mm which occurs in spring and autumn, hottest months are July and August.

**Size:** 50,498 hectares, agriculture 17,453 hectares, industrial production 2.9 hectares. Length of water pipelines – 24.6 km, electricity power lines – 19.6 km, roads – 120.5 km.

**Terrain:** Rocky southern/eastern slopes; western/northern slopes forested. Some areas subject to water erosion; southern slopes affected by wind erosion; northern slopes with plentiful rainfall subject to landslides. Southern slopes are favourable for animal husbandry (sheep rearing). Northern slopes better for cereals, vegetable production and gardening (with the exception of early stone fruits and viticulture).

**Sharoy Rayon** – The rayon was formed on 26 May 2000, centre – Sharo-Argun. Size - 37,622 hectares. Agriculture - 3,000 hectares. Population size and density – 4906 people; 7.5 per sq km.

The importance attached to both the Argun rivers as conduits for illegal entry and illegal exit from Chechnya obviously exerted considerable influence on the deployment of Federal Border Service (FPS) posts and the patrolling of the state border. Initially an FPS Argun detachment was based in the small township (*mestechka*) of Tuskharoy, seven kilometres from Itum-Kale. Travel from the FPS aviation group at Gizel', just west of Vladikavkaz, involved a 40 minute flight by Mi-8 to the helipad at Tuskharoy. The FPS base at Tuskharoy has since been transferred to a more central location at Borzoy.<sup>31</sup> The practice was to fly at an altitude of 200m (normal flight) over North Osetian territory. However on crossing the Chechen border helicopters would immediately and sharply descend almost to ground level, hugging the ground at a speed of 200 kph "*with the wheels almost touching the ground*"<sup>32</sup> to avoid being hit by "Strela" or "Igla" PZRK and only gaining altitude to 'hop over' power cables. The '*vos'merki*' (Mi-8s) would normally be escorted by a pair of Mi-24 attack helicopters to provide additional protection and fire support.

One of the main routes for Chechen fighters and mercenaries was through the Kerigo gorge, across the Yukerigo pass straddling the Checheno-Georgian border and thence into the upper reaches of the Sharoy-Argun which in turn would lead downstream to the picturesque centre of Sharoy rayon, Sharo-Argun.<sup>33</sup> On the stretch of the Sharoy-Argun to the rayon centre there are many internal routes over passes within Chechen territory, such as the Dzheindazhare, Chentybarz and Durzume, leading to the north-west in the direction of Itum-Kale. From the village of Sharo-Argun not only are there additional routes leading north west to Itum-Kale and Shatoy located on the right bank of the Chanti-Argun, but also to the north and east toward Vedenov and Dagestan,<sup>34</sup> and of course onto Nozhaiyurt rayon, the Ichkerian heartland and historic centre of Chechen resistance.



The FPS detachment at Gezekhoy, located one kilometre north of where the Kerigo gorge merges towards the course of the Sharoy-Argun, is but one of some 72 frontier posts along the international border. FPS frontier posts are situated in depth around the whole of the Argun gorge, and from a bird's eye view they are easy to pick out. But whilst the majority look like fortified castles made out of stone and rock, in no way do they resemble some sort of architectural memorial to the time of General Yermolov!<sup>35</sup>

A Russian journalist visiting the Argun line in 2004 stated that it was only possible to reach the Sharoy command post by helicopter: movement by vehicle was unreliable. One had literally to force a way through by road. It was described to him by the commander of the Sharoy command post as being a route restricted by season: *“when it rains – you cannot travel along it”*.<sup>36</sup> Re-supply of all material, arms and ammunition had to be carried out by helicopter. Here, thanks to aviation, it worked steadily, being able to fulfil all requests in a changing situation. Moreover, owing to the difficult terrain helicopters were a much needed resource in deploying patrols and returning them to base, particularly after lugging a heavy rucksack of some 60-70 kg between observation posts. The flight time between Tuskharoy and the Sharoy command post was only 15 minutes. But without helicopters communication with the detachment could only be by radio. Sharoy commanded eight posts, deployed over a 27 km sector:

*“In comparison, on average the distance between posts on Kazakh or Mongolian perimeters may be more than 100 km but here there were eight posts over 27 km, for here there were no flatlands. Here the climate was different, heights varied – from 3,000 to 4,500 m; a further complication was the broken relief.”*<sup>37</sup>

## The Operation and the Crash

Whilst the special operation in Shatoy rayon may well have been against a small band of geurillas, there was a chance that it could have been led by the so-called President of Ichkeria Doku Umarov.<sup>38</sup> This would have raised the operation's importance: to encircle the *boyeviki*, to confine them within a location from which they could not effectively escape. Quite clearly this required troops, militiamen and servicemen from 22 Spetnaz Brigade at Mozdok, to supplement the FPS in the area.

Shooting had started near the wooded area around the small hamlet of Khal-Kiloy, situated some 10 km south-east from the rayon centre during the night of 26/27 April.<sup>39</sup> The Mi-8 crash was a few kilometres from Sanoy, due south of Khal-Kiloy, on the left bank of the Sharoy-Argun river. The Sukhayakhk before it tumbles into the Sharoy-Argun river in fact separates the Sanoy feature from the high ground on which Khal-Kiloy stands.

An article in *Kommersant*<sup>40</sup> stated that at approximately 0900 on the morning of 27 April a reconnaissance group from 22 GRU Spetsnaz Brigade (based in Rostov oblast), investigating the area of streams feeding the Sharoy-Argun river, clashed at Sanoy with a band of up to 20 men led by 'brigadier general' Tarkhan Gaziyeu commanding the 'south-western front'.<sup>41</sup> The reconnaissance group were forced to stop and deploy on the left bank of the Sharoy-Argun. They radioed for reinforcements after they had recognised Gaziyeu's call-sign "Tarkhan" when he called for assistance from other fighter bands. Within a few minutes

reconnaissance vehicles belonging to Battalion 'Yug' and militia from Shatoy centre were on their way, but the track became impassable and in the end they had to go on foot.

It took just over an hour for the three Mi-8s from Mozdok to prepare and fly to the combat area near Khal-Kiloy/Sanoy. Each of the Mi-8s had two sections of spetsnaz from 22 Brigade on board. However finding a safe and secure landing site was difficult. In the end at 1130 the lead helicopter was able to land a few metres from dense bushes on the mountain side and land its troops. The evacuation from the first helicopter proceeded normally, but the second aircraft crashed as described above.

As well as the firepower from the escorting pair of two Mi-24s, an Mi-8 also has very considerable fire power. Possible armament variations for a Mi-8 are shown below.

### **Box 2 – Mi-8 Armament Variations**

**Mi-8C** in 1961 could have an outrigger structure with two pylons, able to take a load of perhaps 500 kg (1,100 lb) attached to each side of the fuselage just in front of the main landing gear. Each pylon could take a 16 or 32 shot 57 mm rocket or a 250 kg (550 lb) bomb. Armaments have been progressively increased.<sup>42</sup>

**Mi-8E** in 1977 was seen with six rather than four pylons. Together these can carry six bombs, or six 16/32-shot rocket pods and four anti-tank guided missiles (Swatter) maximum range 4,000 m. This weapon mix makes the Mi-8E very versatile and with the inclusion of a flexible-mounted 12.7 mm machine gun in the nose, a very heavily armed helicopter.<sup>43</sup>

**Mi-8T** is a medium assault/transport version with a probable armament of 57mm rockets, bombs, or AT-2C/ Swatter ATGMS.<sup>44</sup>

**Mi-8TV or Mi-8TVK** is used as a gunship or direct fire support platform. The armed variant is fitted with 7.62mm built-in machine guns and six external weapons racks with S-5 rockets. The helicopter can also deploy AT-2 Swatter 9M 17P Scorpion AT missiles.<sup>45</sup>

However, turning to the problem of the second Mi-8 experiencing difficulties in the hover, it is interesting to note John Everett-Heath's comments concerning the lift capability of a Mi-8: "*When fully fuelled and armed the HipE [Mi-8E] can still lift 12-14 troops, but when operating at maximum gross weight there is little power available for manoeuvre at low speed and in the hover*".<sup>46</sup> With three crewmen and 17 passengers the aircraft, if fully fuelled and armed, was well over the weight limit, particularly if account is taken of exacting mountain and weather conditions.

## **Failure of Command, Pilot Error and Equipment Failure**

### **Helicopters in Chechnya 1994-1995**

According Colonel General Pavlov "59% of army aviation crew commanders participating in operations in Chechnya had served in Afghanistan. They had all been trained to the level of first class, i.e. they were able to carry out inter-aerodrome flights in conditions when the lower cloud level was 100m and visibility 1 km."<sup>47</sup>

To create the federal troop grouping, pilots were taken from three regiments of the North Caucasus Military District. This did not include pilots from heavy transport Mi-26 helicopter subunits as there were none of these within the district, nor a special control and communications flight in Mi-9s.<sup>48</sup>

In the first phase of operations, transport and special tasks predominated over actual combat tasking. In the standard planning assumptions, the planned outlay of flight resources on combat tasks was 65-70%, 15% on transport tasks and 5-10% on special tasks, but in the conduct of operations in Chechnya in December 1994 - January 1995 army aviation's combat tasks amounted to 17%.<sup>49</sup>

Two squadrons of attack helicopters Mi-24 [23 in each] and two squadrons of transport helicopters Mi-8 [21 in each] were reinforced by heavy lift Mi-26s whose main task was to transport water for troops in the battle for Grozny and subsequently because the urban water supply had been severely damaged. One Mi-26 could deliver 15-20 tonnes of water in one sortie. They were also intensively used for transportation of personnel and ammunition, and evacuation of the wounded, sick and refugees in all phases of the operation.

### **State of the Helicopter Park in First Chechen Conflict<sup>50</sup>**

Almost 100% of Army aviation (ASV) attack helicopters were worn out. Armament and on board equipment was obsolete, and as a result these helicopters could only operate during daylight hours. Before 1994 only two of the newest Ka-50 helicopters had been purchased, therefore they were not used in Chechnya. These helicopters required the creation of a system with on board communications, control and target indication, but this needed money which ASV did not have.

Use of helicopters in Chechnya was restricted due to imperfections in navigation and target indication systems, especially in difficult meteorological conditions. Therefore, as in the second world war, fire support of troops took place mainly by day and in good weather. Attack Mi-24 helicopters flew out on missions only when direct visibility exceeded 1.5 km and pilots could see the target clearly.

These helicopters were actively used in the course of combat operations in the south of Chechnya. However, despite the mass use of helicopters and palpable losses inflicted on illegal bandit formations, pilots called themselves 'kamikaze', on account of the fact that the majority of Mi-24s used in Chechnya had been in service for 15 years or more and did not have a protective system against enemy heat-seeking missiles. No more than half a normal ammunition scale (Boyekomplekt) was carried on board the aircraft due to ammunition shortages.

In General Pavlov's evaluation of the situation, if severe measures had not been implemented, especially in units which formed the helicopter park, then by the beginning of 2005 the ASV could have lost the whole of the attack helicopter grouping. For the whole of 1994, excepting the two Ka-50s, the ASV only received one attack helicopter, four Mi-26s, four Mi-8s (and these were deficiencies from 1993). Losses in the six months to 12 June 1995 amounted to 4 x Mi-24 and 3 x Mi-8.

## The Second Conflict

Following the Dagestan phase in the second conflict 32 Mi-24s were deployed to bases at Mozdok, Gizel' (just north-west of Vladikavkaz), Kaspiysk, and the Bolshredikhinskiy helicopter pad.<sup>51</sup> Presumably the main effort of two helicopter regiments remained based centrally at Budennovsk as in the first Chechen conflict.<sup>52</sup> Daily mixed helicopter groupings were allocated to ground forces operations - two to three transport Mi-8s, two to four Mi-24s. As a rule helicopters operated as part of a tactical grouping composed of two to four Mi-24s and one to two Mi-8s carrying spetsnaz troops. Having landed the troops, fire support from Mi-24s would then be under the control of a forward air controller. Pairs of Mi-24s would carry out roving missions looking for opportunity targets which accounted for a third of combat helicopter missions: targets included vehicle convoys, single vehicles, fuel and ammunition dumps, underground fuel refineries and collections of people. Attack helicopters covered desants by 'Vosmerki' transport helicopters including the transportation and landing of spetsnaz troops in the mountains. Mi-24s took part in blocking operations and destroying areas on the road sector between Itum-Kale and Shatili used by guerillas. ASV helicopter losses in combat operations up to the autumn of 2000 amounted to seven Mi-24P and four Mi-24V.<sup>53</sup> Pilots often carried out two to three missions per day with an "*average flight time of two hours and fifty minutes*".<sup>54</sup> From the end of February 2000 the tactical employment of helicopters was changed, due the fact that the main guerilla formations had been broken up into smaller groups and scattered, and the number of Mi-24 roving missions for opportunity targets was then increased. A measure of the work-intensity rate of Mi-24 crews is illustrated by the following statements: "*24 April 2000 helicopter pilots completed more than 50 combat missions. 11 June 2000 around 60 combat missions were carried out.*"<sup>55</sup> Another task undertaken by ASV Mi-24V helicopters was the protection of convoys.<sup>56</sup>

The table in the Appendix lists helicopter losses in Chechnya and Ingushetia between 19 August 2002 and 27 April 2007. It is interesting to note that 10 out of the 18 crashes were either due to technical faults or possible pilot error, and only eight attributed to enemy action such as strikes by PZRK, ground fire or grenade launcher. One of the worst helicopter disasters suffered by federal forces was the downing of a Mi-26 at Khankala on 19 August 2002 with a loss of 127 lives. Quite clearly one of the factors which contributed to this disaster was the singular failure of command, the lack of discipline and control throughout the chain of command. It was true that it had been a regular practice for Mi-26 to complete 3-4 return flights with troops daily from Khankala to Mozdok and return under proper control and with regard to regulations, but the catastrophe on 19 August had ignored regulations with regard to seating and it was only a matter of time before such an accident actually happened.

Retribution followed swiftly after President Putin's remark, repeated by the defence minister Sergey Ivanov: "*Destruction of the M-26 – it is a second Kursk...*"<sup>57</sup> Colonel General Pavlov, commander of Army Aviation was dismissed from his post and the ASV transferred back to the VVS (Airforce).<sup>58</sup> Pavlov was a scapegoat; ASV assets in Chechnya were subordinated directly to the federal forces commander,<sup>59</sup> whilst Pavlov had the wider responsibility for ASV matters as a whole. At that time, the condition and availability state of the federal forces helicopter fleet in Chechnya had been a matter of grave concern to Colonel General Pavlov:

*"Over the last 7 years we have not even received one new rotary wing aircraft. The average age of our Mi-8 helicopters is 15-20 years old, and Mi-24 from 20*



*years and older. The Mi-26s are considered to be comparatively new. But on average 70% of our helicopter park requires repair. A third of our helicopters need one or more assemblies, spare parts, rotor blades.”<sup>60</sup>*

Another contributory factor may have been:

*“Despite the ASV’s importance to the army and the constant operational demands placed upon it, between 1992 and 1999 2,000 pilots were cut from the ASV ranks (about 50% of all pilots) and the number of attack and transport helicopters in military districts were reduced from 2,000 to about 900.”<sup>61</sup>*

Shortly after the Mi-26 catastrophe in August 2002 Yevgeniy Matveyev, an independent expert and member of the Russian Helicopter Society, provided a picture of the strains and demands facing the aviation group in Chechnya.<sup>62</sup> The helicopter fleet at that time consisted of: 22 Mi-24s, 17 Mi-8s and two Mi-26s.<sup>63</sup> However, following the crash into a minefield at Khankala on 19 August only one Mi-26 remained in operation. Whilst the number of Mi-24 attack helicopters was sufficient the number of Mi-8s in the transport group was inadequate. The daily requests for transport helicopters exceeded capability. Matveyev noted the constant and ceaseless requests of “*Field commanders [who] constantly demanded: give, give us helicopters*”.<sup>64</sup> In essence after the downing of the Mi-26 at Khankala, transport helicopters became the hostages of ground commanders for the never-ending need for re-supply of ammunition, equipment and people.

*“Out of 17 Mi-8s available on paper – there were special purpose machines type, 1 x Mi-8MTKO and 1 x Mi-8MTKYa. Machines requiring maintenance, repair and awaiting spare parts reduced availability still further. One machine was set aside for the commander’s use. So probably out of 17 Mi-8s there were only 10 ‘work horses’ available. For troops in the mountains where everything had to be supplied by air this was no more than a drop in the ocean.”<sup>65</sup>*

Helicopter losses in the period August 1999 to 19 August 2002 had at 36 averaged one per month.

In mountain locations federal forces required intensive use of air cover. Therefore in Chechnya the aviation group, especially its transport establishment, operated to the limit of its capabilities, but obviously this situation could not be maintained forever. The aviation system, as Matveyev reminded readers, simply could not continue for an extended period right at the ceiling of its capabilities.<sup>66</sup> Obviously there was a requirement to reserve capability, so that in the event of necessity, the intense operations could be continued without any degradation of pilot safety. Matveyev also made the observation that in long-drawn out regional conflicts it is not possible to have a regular established helicopter unit or subunit, for the aviation grouping must be flexible, constantly adjusting to changing conditions and therefore the requirement must be for a composite entity. At that time – August 2002, Matveyev believed that the transport capabilities of an aviation grouping **should be at least doubled**.<sup>67</sup> In a likely establishment of a separate attack helicopter regiment<sup>68</sup> one could expect to find 40 x Mi-24 and 20 x Mi-8, so basically Matveyev was suggesting that an upgraded transport helicopter requirement would be for 40 x Mi-8 instead of the 17 available. In North Caucasus Military District there are two helicopter regiments, based at Budennovsk where both helicopter units have some 56 x Mi-24 and 21 x Mi-8 each. Moreover at that time, whilst large bandit formations were a thing of the past, there was still plenty of activity by smaller groups against federal forces.

The situation has not improved markedly in the intervening five years. Matveyev writing in May 2007<sup>69</sup> reopened the debate about the the army having its own integral aviation. Furthermore, the article certainly implied that the military helicopter world was struggling. Its repeated theme was a strong demand for the allotment of modern, specially equipped and manufactured helicopters when participating in operations involving special services. As a corollary to that theme, it goes without saying that helicopters for casualty evacuation, troop movement and logistic re-supply, particularly in mountains where altitude reduces load capacity and efficiency, should manifestly be of equal importance.

As Matveyev noted, the phrase “*Helicopters aren’t pulling*” put into ordinary civilian language means that helicopter engines are weak, feeble and are not developing the necessary power, resulting in a lack of rotor thrust. Matveyev explained that throughout the working life of a helicopter there is a foreseeable progression of technical deterioration: of turbine blades, condensation seals, increase of gap clearances, lowering of disposable power and pick up response of the engine, and an increase in fuel consumption. Old aircraft, old engines and assemblies may still have a capacity for work, but they do not satisfy the technical demands of modern combat operations.

Matveyev felt that the whole world today is actively occupied in renovation, but this does not mean the restoration of efficiency or the work capacity of the helicopter fleet. John Everett-Heath 19 years earlier had recognised the same points:

*“However, there are critics of the Hip [Mi-8]. Writing in a November 1986 issue of Vozdushnyy Transport a senior pilot-inspector of the Kirghiz Civil Aviation Directorate claimed that Mi-8s built between 1981 and 1983 weighed 360 kg (794 lb) more than those built between 1968 and 1973; furthermore, after each overhaul they gained ‘another’ 40-60 kg (88-132 lb)! Rotor thrust was lost and, due to changes in turbine blade manufacture, engine power reduced. As a result in the mountains in spring and summer, the newest Mi-8s were no more productive than the Mi-4.”*<sup>70</sup>

For what reason, Matveyev asks, are the spetsnaz forced to use second rate aircraft to carry out a desant operation in the mountains? In the new century helicopters being used in the fight against terrorism must satisfy the very highest demands, to be at the very head of the queue rather than just at a standard commensurate with ordinary military instructional training. Spetsnaz helicopters must not simply be able to “pull”, but be of reliable quality. Despite the rise in the cost of armament and military equipment Matveyev believes that the manufacturing quality is lower.

Matveyev drew attention to the fact that a helicopter commander must have complete confidence in his machine. Suitable equipment, relevant training, and a timely rotation of pilots play a part in this. Reliability and the execution of any task depended on a multitude of minor details on which in turn depended not only victory over the enemy, but also survival. In order to go to war, the most highly trained cadres must be able to benefit from the most up to date instructional technology, modern, futuristic simulators and advanced level training centres.<sup>71</sup>

Frequently, one hears about the low number of hours which Russian military pilots are able to fly, in turn reducing their competence and experience, but is that necessarily true for helicopter pilots in a war zone such as Chechnya, in particular for pilots within FPS aviation? And yet there is a general view that pilots appeared to be better trained in the first Chechen war, due to the fact that many had had

earlier experience of warfare in Afghanistan. The accident figures in the Appendix appear to bear this out.

## Search for Solution to Helicopter Problems

### Future Procurement

Even at the start of the first Chechen conflict in recent times, let alone the second, the ASV helicopter fleet was an ageing asset. In fact it could be said that most of the Mi-24 attack helicopters were at the end of their service lifespan. The Mil' Experimental Design Bureau (OKB) and the Defence Ministry had drawn up a joint plan to extend the in-service life of the Mi-8, Mi-24 "*Krokodil*" and Mi-26 starting from January 1999.<sup>72</sup> Budgetary constraints ostensibly prevented the scheme from being brought into operation. The figures quoted by the Mil' OKB were: US \$1 mln to US \$1.5 mln to update one Mi-24V or Mi-24VM (standard for foreign clients); a complete new aircraft would cost US \$2.5 mln to US \$3 mln. The leading Mi-24 modernisation designer Yuriy Borovnikov was quoted as saying: "*Modernisation permitted the Mi-24V's extension of service life for five years and therefore Mil' expected to obtain an order for modernising all the Mi-24Vs in service with the ASV (more than 1,000 helicopters)*".<sup>73</sup>

In addition Mil' also expected to receive an order for the modernisation of the Mi-24V export model. In comparison with its predecessor, the Mi-24VM had an increased altitude ceiling and was equipped with new armament – guided anti-tank missile complex "Ataka-V" or air to air missiles "Igla-V" and a double-barrelled automatic gun. However, the MOD only paid the Mil' OKB for the modernisation of one helicopter, "*but it [was] more than likely that Mil' received some sort of order from the MOD: otherwise the Russian Army would be without any helicopters, since by now the means to make Mi-24s airworthy [was] less than 20%*".<sup>74</sup> The ASV itself did not admit that the helicopter serviceability rating had fallen below 20% until July 2000.<sup>75</sup>

The various types of Mi-8 helicopters had proved their worth over many years, but the real demand was for the design and production of attack helicopters which would compare favourably with US designs. The rivalry between Mil' and Kamov OKBs started in 1976 in the competition to construct a new attack helicopter which had the potential to counter the United States N-64 "Apache". The Central Design Bureau and the Council of Ministers took the decision to develop a helicopter on a competitive basis. Competition between the Mil' Mi-28 and the Kamov V-80 (subsequently known as the Ka-50 'Black Shark') reached its peak in 1984, just about the time when the AN-64 was being accepted into the American Army. In February 1984 the aviation construction ministry took the decision to prepare for the series-production of Mi-24s at the Progress plant in Arsen'ev, but after a few months the military announced their preference for the V-80 (Ka-50).

Without belabouring the point, there would appear to be substantial reasons for the military preferring the Kamov-V80/Ka-50, particularly in preparing for general war. As the "*Ka-50 Story, The Past, The Present and the Future*" postulated: "*The engagement of armoured ground targets predicated the need for a new helicopter to be equipped with a target designation system which would enable it to operate as a strike element of an integrated aerial and ground surveillance strike complex.*"<sup>76</sup>

**Box 3 The Ka-50<sup>77</sup>**

To reduce the helicopter weight and hence improve its flying performance its designers proposed a truly revolutionary solution: the operator-navigator was excluded from the helicopter crew along with the systems ensuring his protection and survivability. The concept of a single-seat helicopter was corroborated by the experience of operating tactical attack planes and fighter bombers in which the pilot successfully combines his direct functions with those of the navigator.

Essentially, the concept of a single-seat helicopter was substantiated as follows. A helicopter needs to fly at extremely low altitudes (5 - 50 m) to approach the target area with the minimum risk of being hit by the enemy air defence capabilities. The Mi-24 experience proves that at the most critical stage of the flight the pilot is steering the helicopter all alone because the operator-navigator is unable to perform his duties at low altitudes. Upon his approach to the target area, the pilot has to climb from 35 m to 70 m to engage targets along a 4-kilometre line of attack over plain terrain and from 100 m to 245 m under mountainous conditions. At such altitudes the pilot is unable to assist the operator-navigator in target identification unless he is equipped with an independent sighting and surveillance system.

However the outcome of competition was unsatisfactory for both firms. Despite the fact that at the beginning of the 90s orders for both helicopters were accepted, neither Kamov nor Mil' received a full-value order. True, ASV bought 12 Ka-50 'Black Shark', but this decision was entirely due to the need to support the failing Kamov production plant.<sup>78</sup> The "Akuly" did not enter service with troops – they remained at the Centre for Combat Training of ASV Pilots at Torzhok.

On 6 July 2007 Igor' Plugatarev provided an update on the process of selecting new generations of helicopters.<sup>79</sup> For several years heated discussions had been conducted within Russian army circles on the comparative combat capabilities of the Mi-28 ('Night Hunter'), Ka-50 ('Black Shark') and the Ka-52 ('Alligator'). The dominant persuasion had been that the Mil' helicopter was inferior to the Kamov helicopters in many respects. Kamov had designed, constructed and tested the Ka-50 and the Ka-52 during counter-terrorist operations in Chechnya.

It had been proposed that the two Kamov helicopters would partially replace the well-tested Mi-24. However, a year ago production started on the Mi-28N in which the Defence Ministry had a stake following the intervention of General Baluyevskiy despite critical remarks from military fliers.<sup>80</sup> Amongst the criticisms was the fact that the rear propeller (rotor) does not have any protection and has low ground clearance. In field conditions, especially in mountainous terrain, it could sustain damage in landing. Secondly, the cannon is situated under the nose where body vibration is at its highest. In firing the Mi-28N is not as accurate as the Ka-50 and Ka-52. In practice it was not possible to stabilise the barrel during firing. Thirdly, the machine has poor stability in a side wind. These problems will complicate the use of the helicopter in mountains.

According to Plugatarev, the Defence Ministry believes two regiments will be armed with Mi-28N before 2010 and by 2015 there will be 300 Mi-28Ns. BBC Monitoring also carried a report from Moscow's "Channel One Worldwide (for Europe)" on 8 July 2007 that there would be 300 Mi-28s by 2015. The report also quoted a Mil' worker likening the Mil-28 to "a large computer, with its own intellect".<sup>81</sup> The Deputy General Director of Mil', Mikhail Korotkevich, did not confirm these



extremely optimistic estimates. Korotkevich stated that the MOD RF did not intend to buy more than 10 x Mi-28N annually between 2007 and 2015, ie no more than 100 helicopters in nine years; and another source within the air force mentioned an even lower figure of only 50.<sup>82</sup> Kamov at the same time did not fare well either, with only five Ka-50 and five Ka-52 planned to be bought by the MOD annually.

Possibly the crux of the matter was highlighted by Yevgenyy Matveyev;

*“All the helicopters – both the Mil’ ‘hunter’ and the Kamov ‘predators’ are not sufficiently adaptable to modern conditions. Helicopters are heavy and weigh over 10 tonnes, they were created for conditions on the front line and not for those wars which are happening in Chechnya and Iraq. Therefore all three machines today can only have a very narrow sector of combat usage and it follows that they cannot cover the range of problems needed for defence capability.”<sup>83</sup>*

Whilst in Matveyev’s view the defence ministry and the manufacturers had solved the problem of spending the money allocated for equipping the army with new combat helicopters it had avoided the matter of rationalisation and effective use of new helicopters.<sup>84</sup> Furthermore, in his opinion defence procurement since 2004 had concentrated under its aegis a pile of Mil’ and Kamov money, but it failed to raise the strategic question: developing the main principles of a helicopter strategy which with time could radically change the design and production of modern military, and specialised civilian helicopters for MChS (Ministry for Emergency Situations) and the Interior Ministry.

Plugatarev also noted one other hindrance to the success of the Russian helicopter industry, namely, the fact that Russia does not have its own manufacturer of helicopter engines. In response to a question from Matveyev about a decision made at the level of the Russian President two years ago concerning production of helicopter engines within Russia, Korotkevich stated that all engines mounted on series-produced helicopters Mi-8, Mi-17 Mi-24 and Mi-28 were produced by the Zaporozhye plant “Motor-Sich” in Ukraine. The Mil’ Klimov plant had mastered the production of VK-2500 engines, but it was not a series-production plant and could only produce engines in limited quantities which were supplied to the Rostov plant and mounted on Mi-24s and Mi-28s. Korotkevich judged that it would be unlikely that there would be any mass-production of helicopter engines in Russia for five years despite optimistic assurances from manufacturers. Perhaps, he suggested, the French company Turbomeca might step into the breach, with ambitious plans to set up a service centre at Astafuyevo airfield Moscow and to fit out the Ka-226 with the French Arius engine?<sup>85</sup>

An article appeared almost two years ago on the question of strengthening Russia’s southern borders in the Caucasus and Kazakhstan.<sup>86</sup> In the authors’ view questions relating to border protection necessitated deep thought in order to obtain the required effectiveness. The real question was about the use of aviation: *“The current system using aviation means for border security is deplorable”*.<sup>87</sup> Under the subheading of ‘Aircraft against a Helicopter’, the authors maintained that to guarantee operational contact and re-supply of border formations (border posts, detachments, mountain rifle units etc) it was necessary to use special aviation which could carry out different transport tasks both in the high mountains of the Caucasus and along the comparatively flat Russian-Kazakh border. Consideration should obviously be given to monitoring and patrolling the Russo-Chinese border with similar types of aircraft. At that time, the Federal Security Service (FSB) and its border service had only helicopters. Helicopters carried out reconnaissance

patrolling and supply functions which were scarcely expedient on account of high costs: at least three times more costly than by aircraft,<sup>88</sup> less secure and possessing a number of other negative points.

**Box 4 – Helicopters’ Negative Points**<sup>89</sup>

1. Heightened noise – a give-away, absolutely unacceptable for reconnaissance pilots.
2. Insufficient altitude ceiling for use in the high Caucasus mountainous terrain. Therefore helicopter usage limited in some areas.
3. Endurance time of a helicopter 3 – 4 hours, which is short for patrolling borders.
4. Helicopters require three times more fuel than a fixed wing aircraft of the same weight.
5. Due to low altitude ceiling vulnerable to being hit by PZRKs.
6. For a number of reasons helicopters are more prone to air accidents than fixed wing aircraft.
7. A modern transport-combat helicopter and a special fixed wing aircraft cost the same, but in use the fixed wing aircraft is 3 – 4 times less expensive.

The authors of the article turned specific attention to Chechnya, saying that the experience there showed that front aviation’s fixed wing aircraft and helicopters were unsuitable for low intensity conflicts and anti-partisan struggles. They cited the example of the USA where light aircraft are used for patrolling the US-Mexican border and coastal strips, which allows the authorities not only to detect vehicles in desert locations but also boats in the sea; also flying close enables the authorities to ascertain numbers and a series of other facts.

Looking at South America and the campaigns against partisans and bandits, the authors cited the use of jet and piston engine instructional-training aircraft such as the Brazilian ‘Tukano’ and the Argentinian ‘Pukara’ which have proved their effectiveness in thick jungles and mountains. They mentioned that the majority of narcotics laboratories in rural Colombia are found through the use of fixed wing aircraft. Following detection a helicopter desant is landed.

According to the authors the MOD and the FPS received a proposal to fund the exploitation of light aircraft. But the replies were as if they had not read the basis of the proposal. Previously they had been inclined towards heavy-freight aviation almost suitable for inter-continental flights, capable of transporting armour and complete subunits. For patrol aircraft, they had been informed, the FSB intended to order from the “Aviakor” Samara factory two reconnaissance AN-140s. But these are suitable for front scale reconnaissance, and not for local wars. To use similar aircraft on the Caucasus border would be a senseless squandering of money.<sup>90</sup>

The authors contended that it would have been logical for the MOD, FPS or internal troops to have announced a competition for the creation of light patrol-reconnaissance or strike aircraft. Such a reconnaissance aircraft would have to be in flight for no less than 8-19 hours at a height of some 9,000 to 10,000 m. There must be two crews on board, so that they could work a shift system, and appropriate living facilities. The strike aircraft would have a combat payload of not

less than 500 kg, observation apparatus and a highly accurate weapon, protection against PZRK, with armour capable of nullifying 12.7 – 14.5 mm rounds. If targets were detected by the reconnaissance aircraft, ground-attack aircraft from the nearest aerodrome should reach the target area within 15 minutes. In such situations fixed wing aircraft such as Su-24s, Su-25s and Mi-28 helicopters are currently used; however they are not entirely practical and far from always effective. The authors concluded their article with the view that for the MOD and FSB-FPS to make such a decision it is important that the concept of counter-terrorist combat operations in mountains are worked out and adopted.

It is difficult not to attribute the lack of direction in choice and selection of helicopters or other aircraft to the absence of a basic military doctrine which should define the requirements for military constructors for the next 20-30 years. The defence industry remains a priority for Senior Deputy Prime Minister Sergey Ivanov, former defence minister. In April 2007 Ivanov studied the local problems of the defence industry in the Far East, where Ka-50s and Ka-52s are manufactured by the Progress plant close to Vladivostok. It later emerged that both Ka-50s and Ka-52s would be supplied to GRU special forces brigades.<sup>91</sup>

## **Conclusion**

The problems of helicopter support in the mountains of southern Chechnya provide stark examples of the failure of command, pilot error and equipment failure throughout both the Russo-Chechen conflicts over the last 13 years.

Much of the parlous state of the military helicopter park is due to a devastating lack of investment in and direction of the military industrial complex dating from the Yeltsin years. The MOD and manufacturers had avoided the matter of rationalisation, failing to answer the strategic question relating to the main principles of a helicopter strategy, and putting in place viable long-term procurement options even when short-term procurement had been ruled out.

Questions over the type of helicopter suitable for counter-terrorist operations such as in Chechnya and the North Caucasus as opposed to general conventional war have now been partially solved by the decision to provide Ka-50s and Ka-52s for spetsnaz GRU brigades. However, the purchase of Mi-28 (Night Hunter) by the MOD for the army purely on grounds of low cost will not satisfy military experts, due to its inferior performance to the Ka-50 and Ka-52.

**Appendix****Helicopter Losses in Chechnya 19 August 2002 – 27 April 20007<sup>92</sup>**

Date	Hel.	Min.*	Location	Pax	Dead	Weapon
19.08.2002	Mi-26	SV	Khankala	156	127	Hit by PZRK. Crash-landed in minefield
31.08.2002	Mi-24P	SV	Meskheta	2	2	Hit by PZRK
26.09.2002	Mi-24V	SV	Galashki - Ingushetia	2	2	Hit by PZRK
17.10.2002	Mi-8	MVD	Komsomol'skoye	25	3	Groundfire
29.10.2002	Mi-8 MT	MVD	Khankala	4	4	Technical problem
03.11.2002	Mi-8 MT	SV	Khankala	9	9	Hit by PZRK
11.11.2002	Mi-24	SV	Khankala	2	0	Technical problem
20.03.2003	Mi-24	VVS	Mt Daykhokh 2855 m	2	2	Hit mountain Shatoy rayon
20.03.2003	Mi-24	VVS	Mt Daykhokh 2855 m.	2	2	Hit mountain Shatoy rayon
06.07.2003	Mi-8 MT	VVS	Bachi-Yurt	19	5	Hit by <i>boyeviki</i>
02.08.2003	Mi-24	VVS	Konzhukhoy Itum- Kalinskiy rayon	2	0	Technical problem
07.08.2003	Mi-8 MT	VVS	Dyshne- Vedeno	3	1	Ground fire
18.11.2003	Mi-24	VVS	Khankala	2	0	Broke up in flight
12.09.2004	Mi-24	VVS	Alkhan-Kala	2	2	Hit by grenade
10.03.2005	Mi-8	OGV	Alkhan-Yurt	16	15	Rotor blades hit object
22.03.2005	Mi-8	MVD	Oktyabr'skoye Groznyy suburb	13	2	Technical fault
16.07.2005	Mi-8	MOD	Itum-Kale	9	9	Hit mountain
27.04.2007	Mi-8	MOD	South-east of Shatoy rayon	20	20	Unable to maintain stability on the hover when landing troops
<b>56 months</b>	<b>18 ac destroyed</b>			<b>288</b>	<b>205 71.2%</b>	<b>10 pilot errors or technical failure</b>

**\* Key****SV Ground forces****MVD Interior troops****VVS Airforce****OGV Federal forces command****MOD Defence ministry**

Helicopters downed by enemy action are found in the un-shaded columns in the table. Whilst serial 1 appears in the un-shaded column, the irresponsible way the Mi-26 had been loaded was a large contributory factor.



## Endnotes

- <sup>1</sup> [http://redstar/2007/05/23\\_05/3\\_03.html](http://redstar/2007/05/23_05/3_03.html) *Krasnaya Zvezda*, 23 May 2007 “Zdes'nachinayetsya rodina” by Tat'yana Mikhaylova.
- <sup>2</sup> [http://jamestown.org/chechnya\\_weekly/article.php?issue\\_id=4096](http://jamestown.org/chechnya_weekly/article.php?issue_id=4096) *Chechnya Weekly* Volume 8, Issue 18 (May 3, 2007) “Chopper Goes Down in Southern Chechnya”. It is not known whether the blade was from the main or the tail rotor.
- <sup>3</sup> John Everett-Heath “*Soviet Helicopters – Design, Development and Tactics*” 1988, Jane's Information Group page 123, paragraph 1.
- <sup>4</sup> <http://www.kavkaz-uzel.ru/newstext/news/id/1185127.html> 27 April 2007 “Prezident Chechni: Mi-8 upal iz-za neispravnosti”.
- <sup>5</sup> RIA Novosti 11 May 2007.
- <sup>6</sup> [http://nvo.ng.ru/forces/2007-05-18/3\\_resurs.html](http://nvo.ng.ru/forces/2007-05-18/3_resurs.html) *Nezavisimoye Voyennoye Obozreniye* 18 May 2007, “Dvigateli ne tyanut” by Yevgenyy Matveyev.
- <sup>7</sup> Ibid.
- <sup>8</sup> [http://www.ng.ru/regions/2007-02-05/6\\_siloviki.html](http://www.ng.ru/regions/2007-02-05/6_siloviki.html) *Nezavisimaya Gazeta* 5 February 2007 “Siloviki podpravili statistiku” by Vladimir Mukhin.
- <sup>9</sup> [http://www.ng.ru/politics/2007-06-19/1\\_poteri.html](http://www.ng.ru/politics/2007-06-19/1_poteri.html) *Nezavisimaya Gazeta* 19 June 2007 “Boyevyeyepoteri nevoyyuyushchey armii” by Vladimir Mukhin.
- <sup>10</sup> <http://www.vremya.ru/2007/100/4/180278.html> *Vremya Novostey* No. 100, 9 June 2007 “Spetsoperatsiya ‘Preyemnik Basayeva’” by Tat'yana Gritsenko.
- <sup>11</sup> [http://www.ng.ru/regions/2007-02-05/6\\_siloviki.html](http://www.ng.ru/regions/2007-02-05/6_siloviki.html)
- <sup>12</sup> <http://www.kavkaz-uzel.ru/newstext/news/id/1185127.html> of 27 April 2007 “Prezident Chechni: Mi-8 upal iz-za neispravnosti”.
- <sup>13</sup> Ibid.
- <sup>14</sup> Ibid.
- <sup>15</sup> See C W Blandy ‘*Chechnya: Continued Violence*’ CSRC, Caucasus Series 06/54, December 2006, page 10, Box 5.
- <sup>16</sup> <http://www.kavkaz-uzel.ru/newstext/news/id/1185127.html>
- <sup>17</sup> See C W Blandy “*Chechnya: Two Federal Disasters*” P38, CSRC April 2002, page 10 “Ulus-Kert: The Battle Against Overwhelming Odds”.
- <sup>18</sup> Gennadiy Troshev “*Moya Voyna*”, Moscow, Vagrius, 2002 page 330.
- <sup>19</sup> Figure 1, being a very generalised diagram, does not take account of features such as the Tersko-Sunzhenskaya Highland which lies between the River Terek and the Chechen Central Plain.
- <sup>20</sup> A. I. Khasbulatov “*Agrarnyy vopros v politike tsarizma v Checheno-Ingushetii vo II pol. – nach. XX v.*” page 17 in “*Checheno-Ingushetiya v Politicheskoy istorii Rossii i Kavkaza v dorevol'yutsionnom proshlom*”: A. I. Khasbulatov (Editor-in-Chief), Sh. B. Akhmadov, Ya. Z. Akhmadov, A. A. Mamkiyev, V. E. Naumenko. Checheno-Ingushskiy nauchno-issledovatel'skiy institut istorii, ekonomiki, sotsilogii i filologii. Unpublished manuscript.
- <sup>21</sup> Edil'bek Matsiyev “*Chechenskoye Obshchestvo Segodnya*”, 2(10)/2007 Prague Watchdog (Chekhiya) and Tsentr ekstremal'noy zhurnalistiki Soyuzha zhurnalistov Rossii, pages 19-20.
- <sup>22</sup> Yu. A. Aydayev “*Chechentsy istoriya, Sovremennost*”, “Mir domu tvoyemu”, Moscow 1996, pages 85-88, ‘Klimat’.
- <sup>23</sup> *Moskovskiy Novosti* No 40, 5-12 October 1997 “*Novoye Slovo Chechni*” by Dmitriy Bal'burov. According to the rebel leader Shamil Basayev: "You see everybody knows that in Dolinsk and Goragorsk one must never appear without a guide. We have this place they call the Bermuda triangle. Precisely why do people disappear there? You understand that there, there is a gorge in the Terek Ridge where gusts suddenly arise, each one an air funnel. And that's why people get carried away by the wind." See also Blandy “*Chechen Status – Wide Differences Remain*” CSRC, P27, February 1998, page 29, Box 12.
- <sup>24</sup> Aydayev, Op cit. Page 87.
- <sup>25</sup> The Oxford Concise Dictionary, Ninth Edition, page 525 “fohn (fe:on) n, also (foehn) 1 a hot southerly wind on the northern slopes of the Alps. 2 a warm dry wind on the lee side of mountains. [German, ultimately from the Latin *Favonius* mild west wind].”
- <sup>26</sup> Aydayev, Op cit. Page 88.

- <sup>27</sup><http://216.239.59.104/search?q=cache:aFaClAtOvd4J:www.aeronautics.ru/chechnya/losses/losses.htm+War+in+Chechnya+-+Russian+AF+Losses&hl=en&ct=clnk&cd=1&gl=uk> “War in Chechnya – Russian AF Losses” September 2001.
- <sup>28</sup> Aydayev. Op. Cit. Page 90.
- <sup>29</sup> [http://nvo.ng.ru/wars/2004-09-24/2\\_argun.html](http://nvo.ng.ru/wars/2004-09-24/2_argun.html) *Nezavisimoye Voyennoye Obozreniye* 24 September 2004 “Argunskiy strategicheskiy rubezh” by Igor Plugaterev.
- <sup>30</sup> <http://www.chechnya.gov.ru/republic/map/41.html> “Pravitel’stvo Chechenskoy Respubliki: Shatoyskiy rayon” and Sharoyskiy rayon”.
- <sup>31</sup> [http://redstar/2007/05/23\\_05/3\\_03.html](http://redstar/2007/05/23_05/3_03.html) *Krasnaya Zvezda*, 23 May 2007.
- <sup>32</sup> [http://nvo.ng.ru/wars/2004-09-24/2\\_argun.html](http://nvo.ng.ru/wars/2004-09-24/2_argun.html) *Nezavisimoye Voyennoye Obozreniye* 24 September 2004.
- <sup>33</sup> *Chechenskoye Obshchestvo Segodnya*, 2(10)/2007 Op Cit.
- <sup>34</sup> Ibid.
- <sup>35</sup> [http://nvo.ng.ru/wars/2004-09-24/2\\_argun.html](http://nvo.ng.ru/wars/2004-09-24/2_argun.html) *Nezavisimoye Voyennoye Obozreniye* 24 September 2004.
- <sup>36</sup> [http://nvo.ng.ru/wars/2004-10-01/2\\_argun.html](http://nvo.ng.ru/wars/2004-10-01/2_argun.html) *Nezavisimoye Voyennoye Obozreniye* 1 October 2004 “Argunskiy strategicheskiy rubezh-2” by Igor Plugaterev.
- <sup>37</sup> Ibid.
- <sup>38</sup> Doku Umarov was born in Kharsenoy, north-west of Shatoy, see Blandy “Chechnya: Continued Violence” Conflict Studies Research Centre, Caucasus Series 06/54, December 2006, page 2, Box 1.
- <sup>39</sup> <http://www.vremya.ru/2007/76/4/1/176835.html> *Vremya Novostey* No 76, 28 April 2007, “V boy vstupit’ ne uspeli” by Eduard Lomovtsev.
- <sup>40</sup> <http://www.kommersant.ru/doc.html?DocID=762971&IssueId=36264> *Kommersant* No 73, 28 April 2007 “Spetsnaz GRU sgorel pered boyem” by Sergey b-Mashkin
- <sup>41</sup> See C W Blandy “Chechnya: Continued Violence”, CSRC, Caucasus Series 06/54, December 2006, page 4, Box 3.
- <sup>42</sup> John Everett-Heath Op Cit, page 123, paragraph 1.
- <sup>43</sup> Ibid.
- <sup>44</sup><http://64.233.183.104/search?q=cache:Gek0tBpJCgYJ:www.fas.org/man/dod-101/sys/ac/row/mi-8.htm+Mi-8&hl=en&ct=clnk&cd=5&gl=uk>
- <sup>45</sup> <http://64.233.183.104/search?q=cache:HV5Klmd9CisJ:www.army-technology.com/projects/mi8t/+Mi-8+helicopter&hl=en&ct=clnk&cd=1&gl=uk>
- <sup>46</sup> John Everett-Heath Op cit, page 100, paragraph 1.
- <sup>47</sup> *Krasnaya Zvezda* 4 February 1995, quoted in “Rossiyskiye Vooruzhennyye Sily – V chechenskom konflikte: Analiz – Itogi – Vывody” by N N Novichkov, V Ya Snegovskiy, A G Sokolov, V Yu Shvarev, “Trivola” Paris-Moscow 1995 page 116.
- <sup>48</sup> Novichkov et al, Op. Cit. page 116.
- <sup>49</sup> Ibid.
- <sup>50</sup> Material in this section from Novichkov et al, Op. Cit. page 117-8.
- <sup>51</sup> “Mi-24 – Rossiyskiy Udarnyy Vertolet” Chast’ 1, No 104 “Chechnya” P. N. Sergeev, editor. Page 38
- <sup>52</sup> It will be remembered that the helicopter aerodrome at Budennovsk was the main objective of Shamil’ Basayev’s raid on 14 June 1995.
- <sup>53</sup> “Mi-24 – Rossiyskiy Udarnyy Vertolet” Chast’ 1, No 104 “Chechnya” P. N. Sergeev, editor. Page 38.
- <sup>54</sup> Ibid.
- <sup>55</sup> “Mi-24 – Rossiyskiy Udarnyy Vertolet” Op. Cit.
- <sup>56</sup> Former Deputy Commander of Internal Troops Lieutenant General (Retd) Igor’ Nikolayevich Rubstov, quoted in *Bratyshka*, No 9, September 2000, p10, “Ne nastupayte na Chechenskiye grabli” by Al’bert Istomin. See C W Blandy “Chechnya: Federal Retribution Encirclement, Forceful Intervention & Isolation” P34, CSRC, March 2001, page 87 “During the interview with General Rubtsov, the question arose about whether air cover was an important factor. In his view, helicopter accompaniment or escort of a column was a pretty complicated measure, for in the conditions pertaining in Chechnya vehicle columns move no faster than 40 kph (25 mph). The cruising speed of a helicopter is around 200-250 kph and it could not be airborne for more than one hour. In his view the best variant when a helicopter is given the task of covering the

column march-route is for it to sit on the nearest point to the federal troop column and to lift off on call after a predetermined interval of time. Thus, it is possible to economise on motor resources, fuel and at the same time to ensure the safe passage of the column.”

<sup>57</sup> [http://www.ng.ru/politics/2002-09-09/1\\_ivanov.html](http://www.ng.ru/politics/2002-09-09/1_ivanov.html) *Nezavisimaya Gazeta* 9 September 2002 “*Sergey Ivanov peredal slova nashego prezidenta: gibel’ Mi-26 – eto vtoroy “Kursk” . . .*” by Vladimir Mukhin.

<sup>58</sup> Stephane Lefebvre “*The Reform of the Russian Airforce*”, CSRC, B57, July 2002, page 9 “From 1980 to 1990 the ASV command was subordinated to the VVS, while its helicopter units became part of the ground forces. In December 1990, it was re-subordinated to the High Command of the Army to improve coordination with ground troops.”

<sup>59</sup> [http://www.ng.ru/politics/2002-09-09/1\\_ivanov.html](http://www.ng.ru/politics/2002-09-09/1_ivanov.html) *Nezavisimaya Gazeta* 9 September 2002

<sup>60</sup> Ibid.

<sup>61</sup> Stephane Lefebvre, Op cit, page 9.

<sup>62</sup> [http://nvo.ng.ru/armament/2002-08-30/1\\_chechnia.html](http://nvo.ng.ru/armament/2002-08-30/1_chechnia.html) *Nezavisimoye Voyennoye Obozreniye* 30 August 2002 “*Tridtsat’pyaty*” by Yevgenyy Matveyev.

<sup>63</sup> There were three Mi-26s in total in the prelude to the second Chechen campaign, with the first loss of a Mi-26 in Botlikh rayon, Dagestan on 24 September 1999.

<sup>64</sup> [http://nvo.ng.ru/armament/2002-08-30/1\\_chechnia.html](http://nvo.ng.ru/armament/2002-08-30/1_chechnia.html) *Nezavisimoye Voyennoye Obozreniye* 30 August 2002.

<sup>65</sup> Ibid.

<sup>66</sup> Ibid.

<sup>67</sup> Ibid.

<sup>68</sup> John Everett-Heath, Op Cit, page 101.

<sup>69</sup> [http://nvo.ng.ru/armament/2002-08-30/1\\_chechnia.html](http://nvo.ng.ru/armament/2002-08-30/1_chechnia.html)

*Nezavisimoye Voyennoye Obozreniye* 30 August 2002.

<sup>70</sup> John Everett-Heath, Op Cit, page 101.

<sup>71</sup> [http://nvo.ng.ru/armament/2002-08-30/1\\_chechnia.html](http://nvo.ng.ru/armament/2002-08-30/1_chechnia.html)

*Nezavisimoye Voyennoye Obozreniye* 30 August 2002.

<sup>72</sup> *Rotor and Wing*, October 2000, page 34 “*The Hind Hunts in Chechnya*” by Adam Geibel.

<sup>73</sup> <http://www.kommersant.ru/doc.aspx?DocsID=212907> *Kommersant* No 19 12 February 1999. “Novykh vertolotov u rossiyskikh voyennykh ne budyet by Ivan b-Safronov, Il’ya b-Bulavinov.

<sup>74</sup> Ibid.

<sup>75</sup> “*The Hind Hunts in Chechnya*”, Op cit.

<sup>76</sup> <http://wmilitary.neurok.ru/ka50/ka50story1.html>.

<sup>77</sup> Ibid.

<sup>78</sup> <http://www.kommersant.ru/doc.aspx?DocsID=212907>.

<sup>79</sup> [http://nvo.ng.ru/armament/2007-07-06/6\\_hunter.html](http://nvo.ng.ru/armament/2007-07-06/6_hunter.html)

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<sup>80</sup> [http://nvo.ng.ru/armament/2006-08-25/6\\_hunter.html](http://nvo.ng.ru/armament/2006-08-25/6_hunter.html)

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<sup>81</sup> BBC Monitoring Channel One Worldwide (for Europe), Moscow, 0610 GMT on 8 July 2007.

<sup>82</sup> [http://nvo.ng.ru/armament/2007-07-06/6\\_hunter.html](http://nvo.ng.ru/armament/2007-07-06/6_hunter.html) *Nezavisimoye Voyennoye Obozreniye* 6 July 2007.

<sup>83</sup> Ibid.

<sup>84</sup> Ibid.

<sup>85</sup> Ibid.

<sup>86</sup> [http://nvo.ng.ru/armament/2005-09-02/6\\_maks.html](http://nvo.ng.ru/armament/2005-09-02/6_maks.html) *Nezavisimoye Voyennoye Obozreniye* 2 September 2005 “*Izгой MakSa-2005*” by Yevgeniy Koshelev, Viktor Myasnikov.

<sup>87</sup> Ibid.

<sup>88</sup> Ibid.

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<sup>89</sup> Ibid.

<sup>90</sup> Ibid.

<sup>91</sup> [http://nvo.ng.ru/armament/2007-07-06/6\\_hunter.html](http://nvo.ng.ru/armament/2007-07-06/6_hunter.html) *Nezavisimoye Voyennoye Obozreniye* 6 July 2007 “Nochnoy okhotnik’ povenchalsya s ‘Chernoy akuloy’” by Igor’ Plugatarev.

<sup>92</sup> <http://www.kommersant.ru/doc.html?DocID=762971&IssueId=36264> *Kommersant* No 73, 28 April 2007 “Spetsnaz GRU sgorel pered boyem” by Sergey b-Mashkin.

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See:

John Everett-Heath “Soviet Helicopters – Design, Development and Tactics” 1988, Jane’s Information Group.

Stephane Lefebvre “The Reform of the Russian Airforce”, CSRC, B57, July 2002. <http://www.defac.ac.uk/colleges/csrc/document-listings/russian/>

Marcel de Haas “The Use of Russian Airpower In the Second Chechen War” CSRC, B59, January 2003. <http://www.defac.ac.uk/colleges/csrc/document-listings/russian/>

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