

The Employment of Sniper in Modern Battlefield

Erdem Barışık* Gökhan Baltacıoğlu**

*War Colleges Command, Army War College, Yenilevent-34330, İstanbul, Turkey. Tel: +90 212 398-0100,
e-mail: erdembrsk@gmail.com

**Army War College, Dept. of Operations&Intelligence, 34330, İstanbul, Turkey. Tel: +90 212 398-0100/3262
e-mail: gbaltacioglu@gmail.com

Abstract- Snipers are important instruments on the battlefield whose casualty-producing capability is an enormous force multiplier for companies and battalions. This essay will define the role of the sniper on the modern battlefield and how to most efficiently employ their capabilities (the “momentum” of snipers). Additionally, the history of the sniper will be reviewed with a particular focus on their tactical employment in light of technological improvements.

Keywords- Sniper; battlefield; force multiplier; momentum; employment.

1. Introduction

Many of battles occur in urban areas in today's conflicts. In the three dimensional urban environments, it is not clear from which direction the attack and danger will originate. A sniper who shelters himself successfully in any part of a house can give units a rough time. Snipers are the undefined factors of the battles that cause the most unease for commanders and leaders. In such uncertainty, the morale of the commanders whose soldiers are killed one-by-one is adversely affected. Consequently, in any battle high levels of casualties are possible.

The leading tactic used by low-power units on high-power units is the use of snipers. Snipers are heavily employed in asymmetric warfare and can result in large numbers of casualties. When considering that conventional battles one may turn into asymmetric ones, the sharp shooting techniques, weapons, equipment and training should be re-evaluated.

2. The Definition of Sniper

In the 1770s, a very fast and hard-to-hunt bird named “Snipe” could be hunted only by high-skilled shooters who could shelter themselves. Those hunters were named “Sniper”. Then this name started to be used for marksmen shooting the enemies from long distances in battles by hiding and laying an ambush.

There are varied definitions of snipers. Accordingly, a sniper is "an individual highly trained in field craft and marksmanship who delivers long range, precision fire at selected targets from concealed positions.”(Patrick, 2011)

In another definition, the sniper is “a selected soldier who is trained marksman and observer, who can locate and report on the enemy; however well concealed, who can stalk or lie in wait unseen and can kill with one shot.” (Sparkes, 2005)

And in another definition, the sniper is defined as “the shooter who can perform shootings in hidden positions or from long distances exceeding the capacity of any normal personnel.” (Sheppard, 2011)

Crueru (2012) defines the sniper as “an elite military person operating often isolated from their own forces, having the mission of observing the area of operations, gathering raw data and intelligence, and striking by surprise important objectives of the enemy.”.

When evaluating the definitions, it can be seen that the concept of “accurate shot from long distance in hidden position” is consistently referenced. For the purpose of this study, snipers are defined as: personnel having special and advanced weapons and material and equipment who can shoot from fixed and hidden positions to long distances; are able to neutralize the enemy generally in one shot and can move alone and independent from his unit.

3. The Sniper in Historical Perspective

The historical development of snipers parallels the development in weapon systems and optics. Weapons development from the Middle Ages to modernity enabled long-distance shots while the development of optics led to improved accuracy of shots. Those developments have led to a rise in the capability of snipers to shoot targets from long distances with high self-confidence.

Snipers were first used on the battlefield during between 1775 and 1783. The snipers independence of movement from their units inflicted serious casualties on enemy forces and were critical in victory (Sparkes, 2005).

Sniper units established in battles between 1808 and 1814. The snipers in those units, compared to other soldiers, had been equipped with more accurate weapons, clothing more suitable to terrain conditions and were organized as small groups. Also, their use of cover and concealment and use of maneuver tactics were the first examples of the successful employment of snipers (Sparkes, 2005).

World War I was the milestone for sharp shooting history and promulgated the view that

“The most effective gun against a sniper is another sniper”. Counter-sniper units had been established by some armies in order to fight against sniper units established by other armies during previous wars. Thus, the foundations of companies known as “counter-snipers” was laid. In World War I, the snipers had provided important contributions in battle. Their spotting skills had allowed them to be used as a means of intelligence collection. The snipers reporting their observations about enemy activities and terrain conditions enhanced their commanders’ decision-making process. In order to improve the surveillance skills of snipers and increase the accuracy on target, the idea of organizing the snipers as a team of two, rather than locating them alone, was developed in World War I. Thus, the one of team members focused on shooting, while the other performed effective surveillance (Sparkes, 2005).

Snipers were more frequently seen in World War II and new concepts started to be used. The use of female snipers was one of those concept innovations (Sparkes, 2005). The snipers had played an important role, especially in urban warfare, where the challenges for snipers and counter-snipers factored heavily in battles.

The use of snipers has changed with technological development since the end of World War II. Sharp shooting in contemporary technology-intensive wars requires pro-activeness and has also commenced the development of systems for finding the counter-snipers positioned against snipers.

4. The Momentum of Sniper in Battlefield

Victory or defeat in battle depends on common effects from the momentum of combat units, combat support units and combat service support units. On the contemporary battlefield, especially in asymmetric environments or complex terrain (battles in urban areas etc.), snipers have an important role in defeating the enemy. A sniper’s ability to accomplish the task depends on the establishment of momentum on the battlefield.

Figure 1 illustrates that the weapons, ammunition and equipment constitute one side of momentum and the other side of momentum

consists of mission planning, training and other skills which a sniper has to master. When conducting a historical analysis, it is seen that effects of planning, training and qualifications exceed the effects of other parameters, in parallel with development of advanced sniper weapons. For example, in World War II a sniper, using only his standard-issue rifle, inflicted the highest number of enemy casualties (700 enemy soldiers) (Dougherty, 2013). Why did he come to the fore while other soldiers had same rifle? The answer is planning, training and his shooting skills.

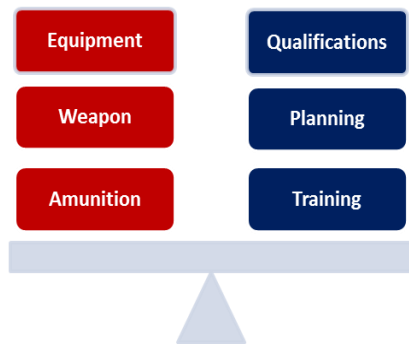


Fig.1. The Momentum of Sniper

4.1. Planning

The success of snipers in their tasks is based on successful planning. Through an appropriate plan, the planner may get more efficiency from a sniper than the planner expected. The planner must know the skills and critical characteristics of snipers. The sniper may be high-skilled, but the skills wouldn't be enough unless a detailed planning is made. While the factors of task, enemy, terrain, existing forces and time are considered in operations such as attack and defense, the same factors must be considered in sniper's task planning. The sniper needs to make a flexible plan in order to accomplish the task. If there is enough time, a detailed plan must be done; if there isn't enough time, the task must be accomplished by performing a hasty situation evaluation. Coordination is the most important part of a sniper's task planning. The sniper must coordinate the information about enemy and friendly forces, terrain, weather conditions, light situation, local civil people in task

area, target list, fire support, control measures and fire forbidden areas with authorities making task plans (Headquarters Department of The Army, 1994).

4.2. Technical Knowledge and Training (Headquarters Department of The Army, 1994).

Stalking Skill: The sniper must use the appropriate stalking skills while closing with enemies.

Sheltering and Camouflage: Sheltering protects snipers from enemy observation and camouflage will conceal their bodies, weapons and equipment in any terrain. The sniper must use the sheltering and camouflage skills effectively in order not to be seen by enemies.

Distance Estimation: In order to neutralize the target, the sniper must estimate the distance between himself and the target, and be able to adjust his weapon in harmony with this distance.

Knowing Weapons and Equipment: A sniper's closest friend is his rifle. Knowing the properties of his weapon and equipment, using them in harmony with weather, terrain and enemy conditions are required for success.

Spotting Skill: The sniper must maneuver to a position where he can observe enemy activity. The sniper with high spotting-skills can identify an enemy's weak points.

Shooting Procedures: The sniper must execute all steps of the shooting process from having a comfortable position to the trigger pulling phase.

Accurate Shot: The sniper will obtain to shoot accurately by implementing the rules of correct targeting.

4.3. Qualifications

4.3.1. Personal Characteristics

Discipline: The sniper must be disciplined while planning and be able to put the plan into action step-by-step.

Initiative: The sniper should take the initiative because he will accomplish his task independent from his company.

Courage: The sniper is required to close near enemy lines. Such a situation requires being brave.

Patience: Often the sniper may have to stay in the same position and location under negative weather conditions for long durations.

4.3.2. *Physical Characteristics*

Considering the terrain and weather factors, the sniper must have advanced physical skills in order to accomplish his tasks. For example, a duty which must be fulfilled in mountainous terrain and under heavy rain requires advanced physical conditioning.

4.3.3. *Moral Characteristics*

The sniper is an effective force in battlefield, especially in urban warfare. Discrimination between combatants and non-combatants is critical to war ethics. In this respect, a sniper must have moral values and receive ethics training. In the opposite case, he may find himself in violation of the laws of war.

The moral considerations of snipers are very important for protecting civilian life. For example, during a conflict in the 1990s, crimes against humanity were made by shooting innocent people who were burying their dead relatives, civilians searching for food and water, and children playing in streets. In total, 225 civilian (including 60 children) had been killed and 1030 civilians had been injured (Kapic and Pavlovic, 1996).

5. The Use of Snipers in Battle in Accordance With Technological Developments

5.1. *The Use of Snipers in Urban Warfare*

The increase of urban populations and the migrations from rural areas to urban areas have impacted the implementation of military operations. The battlefield has become increasingly urban.

The snipers play an important role in urban warfare. High accuracy weapons have made snipers an element which must be taken into account. The use of snipers in urban areas varies depending on rules of engagement (ROE). If the ROE allow large-scale damage, there may be no need for snipers because the use of heavy weapons with higher effects might be more appropriate. But when considering that ROE generally prohibit collateral damage, snipers may be considered as critical factors from the commander's perspective (Headquarters Department of The Army, 2002).

Some of the tasks which may be given to snipers in urban warfare are as follows (Headquarters Department of The Army, 2002);

- Neutralizing counter snipers,
- Suppressing the enemy forces limiting the mobility of allied forces,
- Making accurate shots to enemies' vehicles driven by personnel and the personnel of those vehicles,
- Executing the shots on drivers, commanders and leaders of armored vehicles of enemies,
- Suppressing withdrawing enemy forces,
- Controlling the critical terrain,
- Collecting the intelligence, etc.

Evaluating contemporary battles, especially urban warfare executed by NATO forces, the leading dangers faced by soldiers are mines, Hand Made Explosive Materials (HMEM) and snipers. The low risk level and cost-effectiveness of snipers increase their use on the battlefield. Considering issues such as preparation and storage of the mines and HMEMs and transporting them to battlefield, the usage of snipers becomes more possible. The sheltering options of enemy snipers who exploit the urban terrain, their intermixing in civilian populations before and after the action, the difficulty of the determination of their location and the risk of civilian damage due to this reason, and the limitations of NATO soldiers' weapon use are seen as problems which should be solved. Also the

difficulty in determining the point of origin of sniper fire requires commanders to consider the risk which snipers create (Broekhuizen, 2008).

Given the important role of snipers in contemporary urban warfare, their use will increase in future battles. Additional considerations for enemy snipers:

- Which systems will detect them? and
- How to neutralize those snipers?

5.2. The Incorporation of Technological Developments in Sniper Tactics

5.2.1. Ammunition and Weapon Systems

Guided Sniper Rifle Bullets: The guided sniper rifle bullet is a system which will increase the shooting efficiency of snipers in battle. This is guided rockets' guidance system's application to light weapon ammunition. It is projected to improve the shooting distance and accuracy rate under bad weather conditions by integrating optical sight and control systems to ammunition. By means of guided light weapon ammunition, immobile and mobile targets can be targeted.

Figure 2 illustrates the working process of guided sniper rifle bullet. The use of system is easy. The system works on a "Shoot and Update" mode. The shooter updates the bullet's course by following the target after the bullet leaves the weapon (defenseupdate.com, 2013).

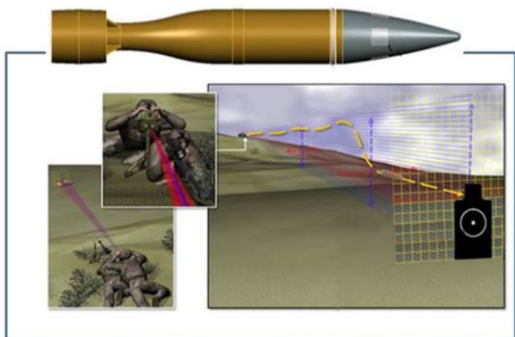


Fig.2. Guided Sniper Rifle Bullet

Single Shooting System: Snipers generally have only one shooting opportunity in order to neutralize their targets. The single shooting system is a system providing the chance to neutralize the target with only one shot under every weather conditions during day and night within the maximum efficient range of the weapon. The system aims to improve the accuracy rate of the first bullet and decreases the amount of bullets required to neutralize the target. The system works by being integrated into the scope of sniper's rifle. Single shooting system measures the distance-to-target by considering the weather conditions and reflects the measured distances to the scope. The single shooting system takes on the task of observers in sniper the team concept. It is evaluated that single shooting system would replace the observers in future battles (defenseupdate.com, 2013).

Optical Sight System Mounted on Weapon: This is a system aiming to improve the long-distance shooting abilities. It is projected to transform light weapons to precision sniper rifles by mounting the system on rifle. System provides the target's distance from sniper, vertical and horizontal deviation, wind speed, pressure and temperature information, and shows the best position for covering the target with fire (defenseupdate.com, 2013).

5.2.2. The Sniper Detection Systems

The difficulty of detecting the small caliber ammunition during combat requires improved situational awareness (Broekhuizen, 2008) (understanding that the conditions are appropriate for sniper attack, and taking precautions against this attack), and led to release of various systems. Those systems can be classified as active systems and inactive systems;

5.2.2.1. Inactive systems

Inactive systems are the systems being activated by attacks from counter-sniper. In other words, they are the systems which require an impact for activation and utilize various sensors. The location

and distance of counter-snipers are detected by sensors through ammunition fired by counter-snipers, and the precautions are taken.

UAV Sniper System: A UAV sniper system is a sniper system having long distance combat systems and higher accuracy rates by means of its ability to move during day and night; this system is projected for urban warfare.

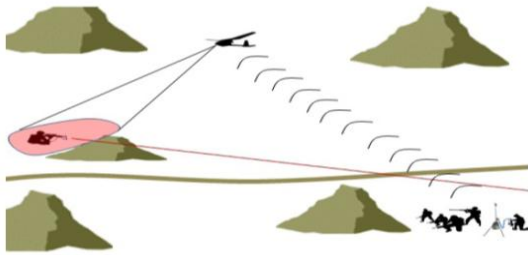


Fig.3. Man-portable UAS used in support of counter-sniper operations (Snyder, 2011)

Figure 3 illustrates the implementation of all of the properties of a sniper on a UAV, including light weapon systems. The UAV sniper system, which has more efficient speed and shooting range and accuracy rate than traditional snipers, provides actual intelligence about the area of operation (AOR) and provides a high degree of situational awareness. In this system driven by operator, the location of counter-sniper and the effects of meteorology are detected through sensors. The location of counter-snipers is covered with fire by determining the location with higher accuracy. As a result, the target is neutralized with a high accuracy rate (Targos, 2008).

Sniper Detection System Mounted on Vehicle: The sniper detection system mounted on vehicles is an acoustic system used especially in urban areas and consisting of microphones for detecting sound waves. This is a highly accurate sniper detection system which uses shock wave from bullets to guess the bullet trajectory (Duckworth at al., 2001). It determines the location of firing in very short durations and with high accuracy. The sniper detection system mounted on vehicle consists of a sensor system determining the

firing action, a process unit determining the firing location and distance with definite exact accuracy, and the operator panel showing those data. Sensor systems determine the firing location.

The processor unit determines the firing distance with exact accuracy via laser range finder and measures the distance and informs the operator. The gunner shoots in harmony with determined distance and the sniper is neutralized without any collateral damage (Donaldson, 2011).

The Sniper Detection Kit Carried by Personnel: The kit having one kg-weight, which can be carried on shoulder, has acoustic sensors. Shock waves of bullet are detected by sensors, the system provides the information of firing direction and distance (Snyder, 2011).

5.2.2.2. Active Systems

The active systems are used for location of snipers before firing. With active systems, the goal is to detect the sniper's location and then to neutralize him. The active systems work based on the blinding laser principle. In the first phase, the optical sight of a sniper's weapon is detected by the system via low-power laser ray. In the second phase, the stronger laser ray is sent in order to blind the optical sight to determine the sniper's location and to measure the distance (Broekhuizen, 2008).

6. Conclusions

As in every field, technologies and systems used in sharp shooting show rapid changes. Technology minimizes the various failures made by soldiers. The developments in weapon and ammunition systems may decrease the total number of snipers moving as a team and provide cost advantages to armies. In addition, developments in optic systems improve the snipers' observation and engagement skills. But there is a point which shouldn't be overlooked. No matter how battlefield technology improves, this does not change the reality that snipers must have task planning skills, knowledge and training, and qualifications which are necessary to accomplish the mission.

Urban warfare has an important place in contemporary battles. Forces operating in urban environment are under threat from snipers. Various systems have been developed in order to eliminate that risk. The developed systems determine the location of snipers creating the risk and neutralize those snipers. It is projected that the casualties of armies who employ these systems in the future will suffer fewer casualties.

In today's battlefields, decreasing the rate of collateral damage is a subject that is never overlooked. Thanks to their shooting capabilities combined with technology, snipers will provide contributions to decrease that rate.

Two factors come to the fore within those projections: developed systems and the trained soldiers, with technological knowledge, personal, physical and moral qualifications to use those systems. One of two can't be effective without the other. That's why the armies having both of those two factors, as the past demonstrates, will be the determiners the outcome of battles in the future.

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