

C4ISR: A Ground Zero Support to the Soldier from the Sky

*Bharatbhushan P. Joshi**

Principal, Cummins College of Engineering for Women, Nagpur, Maharashtra, India

Abstract

The precision 'surgical strike' that Indian soldiers recently carried out on terrorist camps and launch pads across the line of control was assisted by our eyes deep into the sky facilitated by our satellites. India is quickly developing a capability called 'C4ISR' - command, control, communications, computers, intelligence, surveillance, and reconnaissance. Advances in Indian space program are the symbol of the country's state-of-the-art technological abilities resulting into its phenomenal growth in its regional and global prestige.

Keywords: C4ISR, space program, Indian satellites, surgical strike, global prestige

INTRODUCTION

The Changing War Scenario

War has always been a part of human life for almost every country in the world. Wars are either fought between two countries or it's between two groups of countries. Wars are fought either to gain independence or to expand power or some are just fought because they were allies to the country at war. No matter for what the reason wars are fought, but earlier wars have left a great impact on how things are today. Two of most brutal wars in the world were World War 1 (WW1) from 1914 to 1918 and World War 2 (WW2) from 1939 to 1945. Both of these wars had some similarities and many differences. WW1 was fought from lines of trenches and was supported by weapon systems such as artillery, machine guns, infantry assault rifles, tanks, smaller airplanes and also poisonous gas.

The WW1 had minimal mobility. Whereas in World War 2 soldiers used electronic equipment such as radio and other advanced machines. Atomic power and missiles were also employed for the first time. Modern concepts of mobility and special operations were used. Submarines and tanks were also more heavily deployed. Cryptographic codes for secret communication became more complex in WW2. The most remarkable was the use of atomic bomb to end the war. Two most important technologies in the aviation history of World War II are radio and headlights. Both these technologies played a crucial role in the defensive and offensive strategies of the

countries involved. The warfare methodologies have changed quite a lot since WW II.



Fig. 1: C4ISR Surgical Surveillance.

The modern warfare is more about information warfare through use of intelligence and surveillance. It aims for precision in attack with minimum collateral damage and with quick action. Surgical strike is an attack on specific enemy territory, where the mission is completed with minimal collateral damage and casualties. In such cases, it was essential that the army possess highly detailed intelligence information about the adversary location, men and machines. The strategy of command, control, communications, computers, intelligence, surveillance, and reconnaissance