

Section 2. Effective Response to New threats and Diverse Contingencies

Given due consideration to the security environment which has radically changed due to the proliferation of ballistic missiles and weapons of mass destruction and the activities of international terrorist organizations, the National Defense Program Guidelines focus on effective responses to new threats and diverse contingencies as the primary role of the defense. It lists the following five items among new threats and diverse contingencies and analyzes responses to these situations in relation to the structure of the Self-Defense Forces (SDF): i) responses to ballistic missile attacks, ii) responses to attacks by guerrillas and special operation forces, iii) responses to aggression on offshore islands, iv) warning and surveillance of the vicinity of Japan and responses to the violation of airspace as well as responses to armed special operations vessels, and v) responses to large-scale and special types of disasters. These are situations that can actually have serious effects on Japan's peace and security in cases where they are responded to by defense operations or even if in cases where they do not necessarily involve defense operations. How promptly and appropriately the Defense Agency and the SDF can respond to such situations is a major issue.

This section describes how the SDF should respond to new threats and diverse contingencies under the joint operations posture and issues on which the Defense Agency and the SDF have been working, including the above five items listed in the National Defense Program Guidelines.

1. Response to Ballistic Missile Attack

While various efforts have been made by the international community since the end of the Cold War for non-proliferation of ballistic missiles and weapons of mass destruction, the proliferation still continues. As for ballistic missiles, Japan has been relying on US attack capabilities. However, non-state actors such as terrorist organizations with no governments and people to protect may obtain these weapons. There may be cases where conventional forms of deterrence do not work. For this reason, Japan began instituting a ballistic missile defense (BMD) system in FY 2004 to further ensure preparedness to respond to ballistic missile attacks.

Necessary amendments were made to the SDF Law during last year's regular Diet session. In addition, measures after the introduction of the system are being studied, taking into account the transition to the joint operations posture. The Japan-US joint technical research has brought about prospects for solving initial technical issues. In December last year, the Security Council and the Cabinet decided to begin jointly developing improved BMD interceptor missiles with improved defense capabilities in order to respond to ballistic missile attacks.

The History of Efforts for the BMD Development in Japan

1995	A comprehensive study on the posture of the air defense system of Japan and a Japan-US joint study on ballistic missile defense commenced
1998	Launching of a ballistic missile by North Korea over Japanese territory
1998	A joint Japan-US technical research on BMD (ballistic missile defense) aimed for a part of a sea-based upper-tier system approved at the Security Council and the Cabinet meeting
1999	The joint research on four major components for advanced interceptor missiles started
2000	The Mid-Term Defense Program (2001-2005) approved at the Security Council and the Cabinet meeting, with a decision to continue the joint Japan-US technical research on a sea-based upper-tier system and to take necessary measures after the review of its technical feasibility
2002	Decision by the US of the initial deployment of BMD
2003	Deployment of BMD in Japan started, following approval at the Security Council and the Cabinet meeting on Introduction of Ballistic Missile Defense System and Other Measures
2004	The National Defense Program Guidelines and the Mid-Term Defense Buildup Program approved at the Security Council and the Cabinet meeting, with a decision to take necessary measures after examining possible transition of joint technical research to a development stage, together with continued efforts of buildup to establish a necessary defense posture including development of the ballistic missile defense system
2005	A Japan-US Cooperative Development on advanced interceptor missiles for BMD approved at the Security Council and the Cabinet meeting

Fig. 3-2-1

(1) Japan's Ballistic Missile Defense (BMD)

1) History of Japan's Commitment to BMD

Japan's commitment to BMD started with information gathering and research on BMD systems in the mid-90s. A joint technical research on future equipment was launched in 1999 and the initial deployment of system equipment started in 2004. In December last year, the government decided to start joint development of improved BMD interceptor missiles with the US. (See Fig. 3-2-1)

2) Overview of the BMD System

a. Basic Concept

Since the Cabinet decision of December 2003, the BMD system being introduced by the Japanese government is based on the concept of a multi-tier defense system, which operates Aegis vessels⁷ for upper-tier interception and Patriot systems (PAC3)⁸ for lower-tier interception, replying on improvements to the capabilities of Aegis vessels and Patriot systems currently possessed by the SDF.

b. Configuration of the BMD System

Japan's BMD system adopts a multi-tier weapon system that intercepts in-coming ballistic missiles by Aegis vessels in the midcourse phase and by the Patriot system in the terminal phase. In addition to these, the system consists of sensors to detect and track ballistic missiles flying toward Japan and command/control and communication systems that effectively link weapons and sensors to systematically counter ballistic missiles. (See Fig.3-2-2)

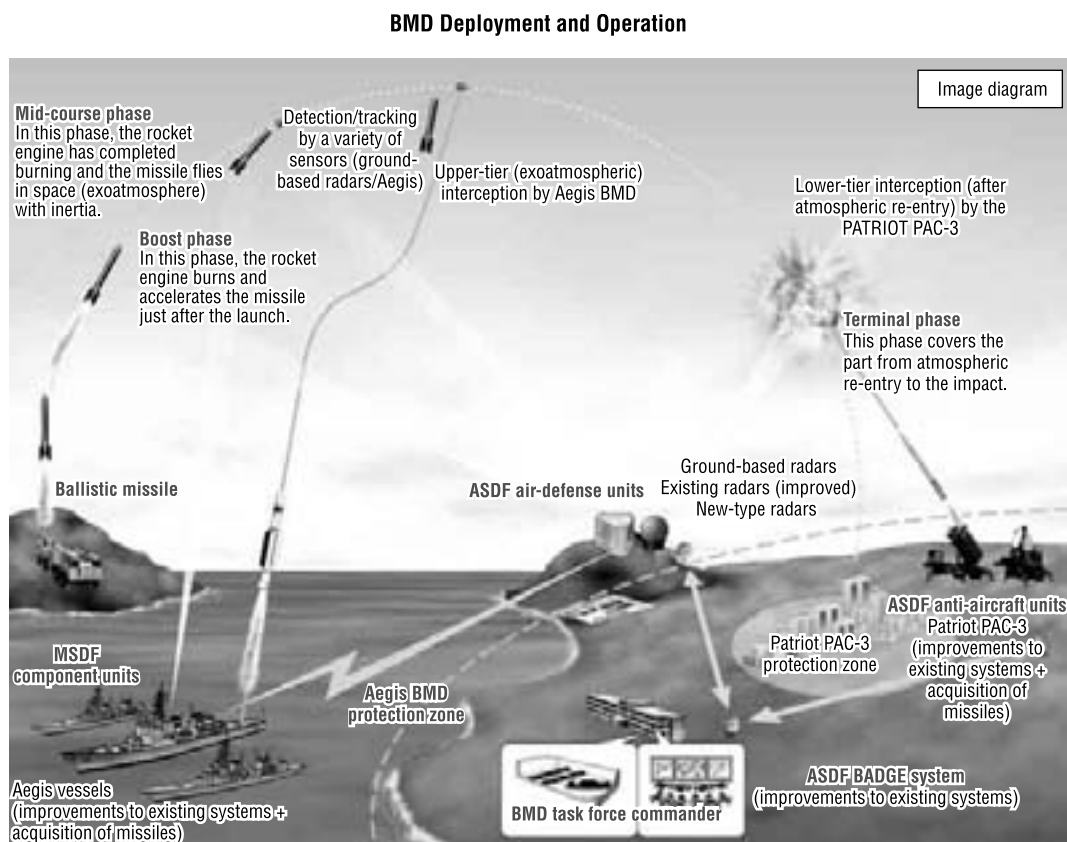


Fig. 3-2-2

c. Policy for Introducing the BMD System

In introducing the BMD system, the utilization of current equipment will be promoted from the perspective of developing an effective and efficient system while reducing acquisition and maintenance costs.

In addition to the above-mentioned improvement in the capabilities of the Aegis vessels and the Patriot system, in the area of sensors, an improved type of the current ground radar system will be used. Also, the newly introduced radar system FPS-XX⁹, which can detect both conventional airborne threats (airplanes, and others) and ballistic missiles, will be used in combination with the improved ground radar. The same policy applies to the Japan Aerospace Defense Ground Environment as a command/control and communications system.



FPS-XX

d. Status of Introduction of the BMD System

The specific near-term plan for introducing the BMD starts with the introduction of the first Patriot PAC-3 system at the end of FY 2006, aiming to develop a system by FY 2011 in which four Aegis vessels (with the added BMD capability), sixteen Patriot PAC-3 FUs¹⁰ (anti-aircraft artillery unit), four FPS-XX radars, seven FPS-3 radars (improved type) are linked by the command/communication system.

In the FY 2006 budget for the BMD system, a total of 139.9 billion yen (on a contract base) was appropriated for i) improvement in the capability of the Aegis vessels and the acquisition and launch test of SM-3 missiles, ii) improvement in the capability of the Patriot system and the acquisition of PAC-3 missiles, and iii) the introduction of a new warning and control radar system (FPS-XX).

3) Future Capability Improvement

The proliferation of ballistic missile technology still continues, and the possibility cannot be denied that ballistic missiles possessed by nations will develop into those with measures for avoiding interception such as using a decoy to deceive interception of warheads. It is therefore neces-

Future Measures to Avoid Intercepting Ballistic Missiles

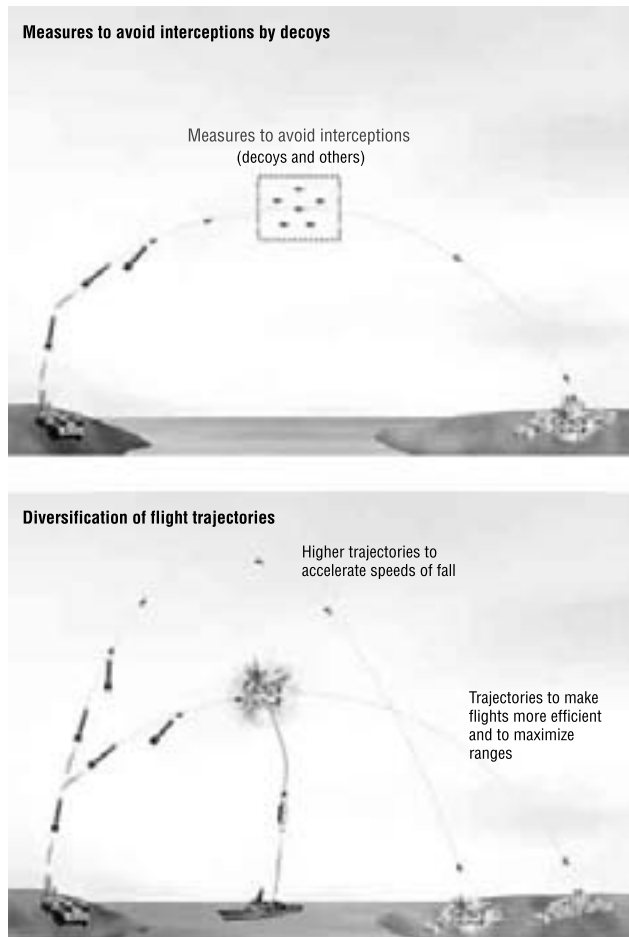


Fig. 3-2-3

sary to continue to improve the interception capabilities in order to match such advances in ballistic missiles. Expansion of the defense coverage and improvement in the interception probability of conventional ballistic missiles are also required, and it is necessary to increase the efficiency and reliability of the BMD system by improving the kinetic energy performance of interceptor missiles.

From these perspectives, the Mid-Term Defense Program states that the government will study the course of capability improvement of Aegis vessels and the Patriot system from FY 2008 and onward (after the achievement of listed defense capability in the schedule of the National Defense Program), taking into consideration the status of BMD technology development in the US, and will then take necessary measures. As for the Japan-US joint technical research that began in 1999, in December last year, the government decided to start joint development based on research outcomes obtained so far. Furthermore, efforts to improve future capabilities have been made, such as Japan-US joint development to improve the capabilities of radar and combat command systems. (See Figs. 3-2-3 and 3-2-4)

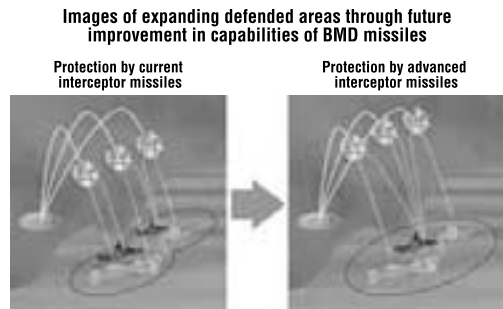


Fig. 3-2-4

[COLUMN]

Q & A

What kind of technology is necessary for targeted country to cope with ballistic missiles?

What is the current status of the development of such technology?

A ballistic missile flies at a high speed (flies at about Mach 9 or faster, which is more than four times the maximum speed of an F-15 fighter), leaving only a little time left for the targeted country to cope with the attack. In addition, the missile is launched from a distant place and its warhead is small. These factors make radar detection very difficult.

A small warhead shielded by a hard shell needs to be destructed to make the missile's offensive power ineffective. But the destruction of the warhead would require large energy. The method to generate large energy is called "bullet-to-bullet" method, which would use the mass and the flying speed of an interceptor missile to directly hit and destruct a ballistic missile. A key to establish such method is a technology in which an infrared seeker, the "eye" of interceptor missile, can identify the target and



accurately control its attitude to directly hit the target.

Japan has introduced the SM-3 missile which is to be launched from an Aegis-equipped vessel. A series of SM-3 firing tests conducted by the United States have shown successful results. The Patriot Advanced Capability-3 (PAC-3) missile has also shown intended results not only in firing tests but also in an actual use in the Iraq War in 2003. In the war, the PAC-3 missile successfully shot down incoming ground-to-ground missiles. Japan has confirmed the technological reliability of these interceptor missiles in light of results of Japanese simulations in addition to successful results of U.S. firing tests. Japan and the United States also have promoted joint research and development in a bid to enhance relevant technologies in the future.

(2) Improvement in the Fields of Legislation and Operation

1) Legal Authorization to Respond to Ballistic Missiles

In cases when ballistic missiles¹¹ are bound for Japan and where they are regarded as means of an armed attack against Japan, intercepting the missiles will be taken as a defense operation in an armed attack situation.

On the other hand, there was no legal basis for SDF operations in cases where ballistic missiles were bound for Japan and where an armed attack had not been recognized and a defense operations order had not been issued. Therefore, during last year's regular Diet session, the SDF Law was amended to allow the following action to be taken, fully taking into account i) that prompt and appropriate actions should be taken and ii) that civilian control should be ensured.

- a. When the Director-General of the Defense Agency determines based on advance signs that ballistic missiles may fly toward Japan, he or she may order SDF units to destroy the missiles with the approval of the Prime Minister. Possible actions by the SDF include deploying the ASDF's Patriot system and the MSDF's Aegis vessels under an order from the Director-General to prepare for incoming ballistic missiles, and destroying the missiles under the previously issued order when they actually fly toward Japan.
- b. In addition to "a" above, there may be cases where situations suddenly change, including when almost no information is available on missile launches and when missiles are launched mistakenly or accidentally, and there is no time to obtain approval from the Prime Minister. Therefore, the Director-General can prepare emergency response procedures and have them approved by the Prime Minister under normal circumstances in preparation for such cases, and also can issue in advance an order to SDF units to destroy ballistic missiles with Aegis vessels for a given period of time when they actually fly toward Japan, according to the emergency response procedures, in order to protect lives and properties within the territory of Japan. (See Fig. 3-2-5)

2) Concept of Ensuring Civilian Control

In order to defend against ballistic missiles, in addition to action by the SDF, the government as a whole needs to take actions such as alert and evacuation to protect people, diplomatic activities, information gathering by departments concerned, and strengthening preparedness for emergencies. When ballistic missiles are actually flying toward Japan, it is inevitably necessary to destroy them using interceptor missiles. It is also necessary for the government to make a decision on the possibility of missiles flying toward Japan by comprehensively analyzing and evaluating specific situations and international situations.

In view of the importance of such incidents and the necessity of action by the government as a whole, the approval of the Prime Minister (Cabinet decision) and individual orders of the Director-General are

required so that they can fulfill their responsibilities. In addition, the Law requires ex-post facto reporting to the Diet, making clear the involvement of the Diet. Emergency response procedures defining how SDF units should respond to emergencies where ballistic missiles are flying toward Japan and there is no time to obtain approval from the Prime Minister due to sudden changes in situations are under consideration, taking into account weapons systems to be introduced in the future.

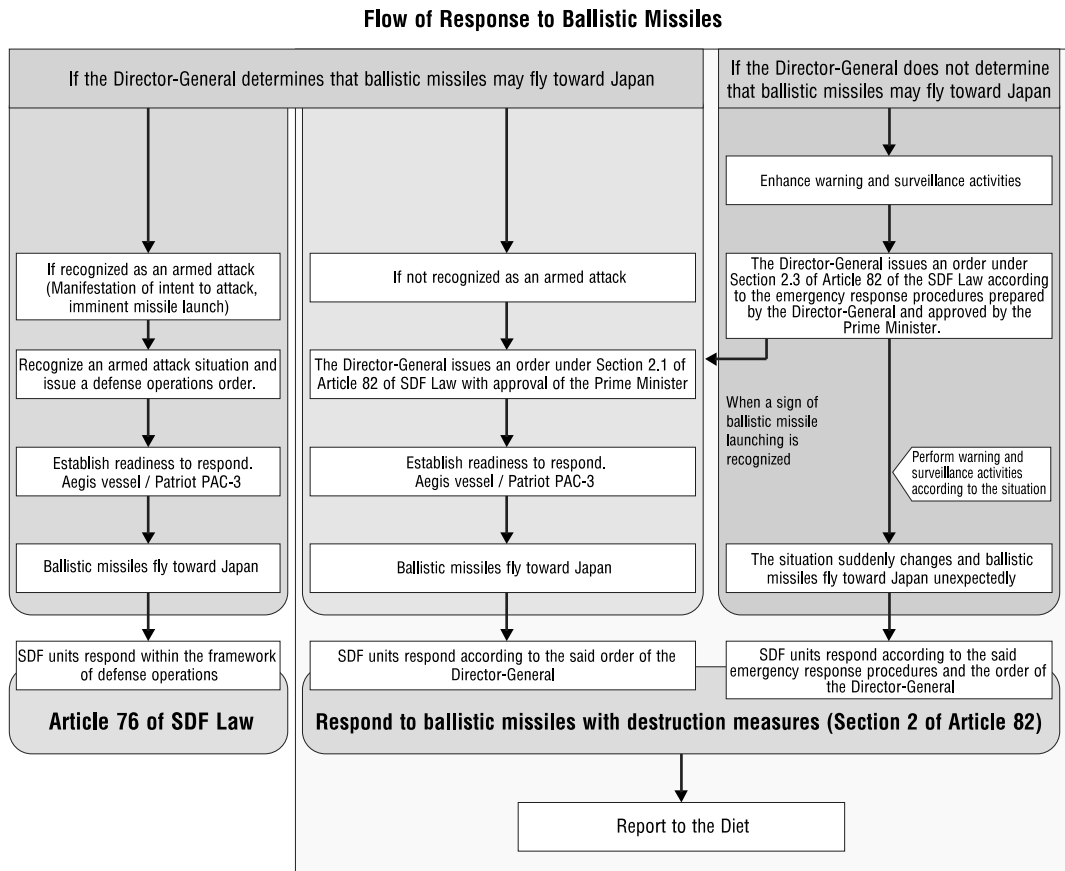


Fig. 3-2-5

3) Operational Efforts

a. Response to ballistic missile attacks through joint operations

MSDF's Aegis vessels, ASDF's radars, the Patriot system, and the command/control and communications system should be used in an integrated manner to destroy incoming ballistic missiles. As for the operation of the ballistic missile defense system, what effective responses should be like is being studied, for example including designating the Commander of Air Defense Command as the commander of units to respond to ballistic missiles, and various postures are being developed. The GSDF will play a main role in handling damage from missiles.

b. Japan-US cooperation to respond to ballistic missile attacks

Further cooperation with the US forces in Japan as well as the US government is required for the efficient and effective operation of the BMD system. Related measures for improved cooperation were agreed upon at the Japan-US Security Consultative Committee (2+2) meetings in October last year and in May this year

pointing out the way for Japan-US security cooperation.

(3) Missile Defense of the United States and Japan-US Cooperation

1) Missile Defense of the United States

The US missile defense program has a long history. It began almost as soon as ballistic missiles were first developed, and the current concept of BMD system originates from the Strategic Defense Initiative (SDI), which began in 1984 during the Reagan administration. Since then, successive administrations committed themselves to the missile defense program, and have invested a cumulative amount of about 10 trillion yen in the program. Keenly aware of the changes in the security environment in the post-Cold War era, the Bush administration

The US Multi-tier Defense System against Ballistic Missiles

Early detection of ballistic missiles	<ul style="list-style-type: none">• Surveillance by satellites• A new satellite system carrying an infra-red sensor with improved performances in terms of monitoring ranges, system, and information communication (STSS: Space Tracking and Surveillance System)• Sea-based and ground-based radars		
Interception at the boost phase	<ul style="list-style-type: none">• Airborne Laser(ABL)		<ul style="list-style-type: none">• Ground/Sea/Space-based system (KEI: Kinetic Energy Interceptor) (under research and development)
Interception at the mid-course phase	<ul style="list-style-type: none">• Ground-based Mid-course Defense System (GMD)• Sea-based Mid-course Defense System (SMD)		
Interception at the terminal phase	<div>Extra-atmospheric to atmospheric<ul style="list-style-type: none">• Terminal High Altitude Area Defense System (THAAD) (under development)</div> <div>Atmospheric<ul style="list-style-type: none">• Patriot System (PAC-3)• Medium Extended Air Defense System (MEAD) (under joint development with Germany and Italy)• Arrow Missile (jointly developed with Israel and entered the deployment phase in March 2000)</div>		

Fig. 3-2-6

Example of Multi-tier Defense Against Ballistic Missile and Evolution of U.S. Approaches

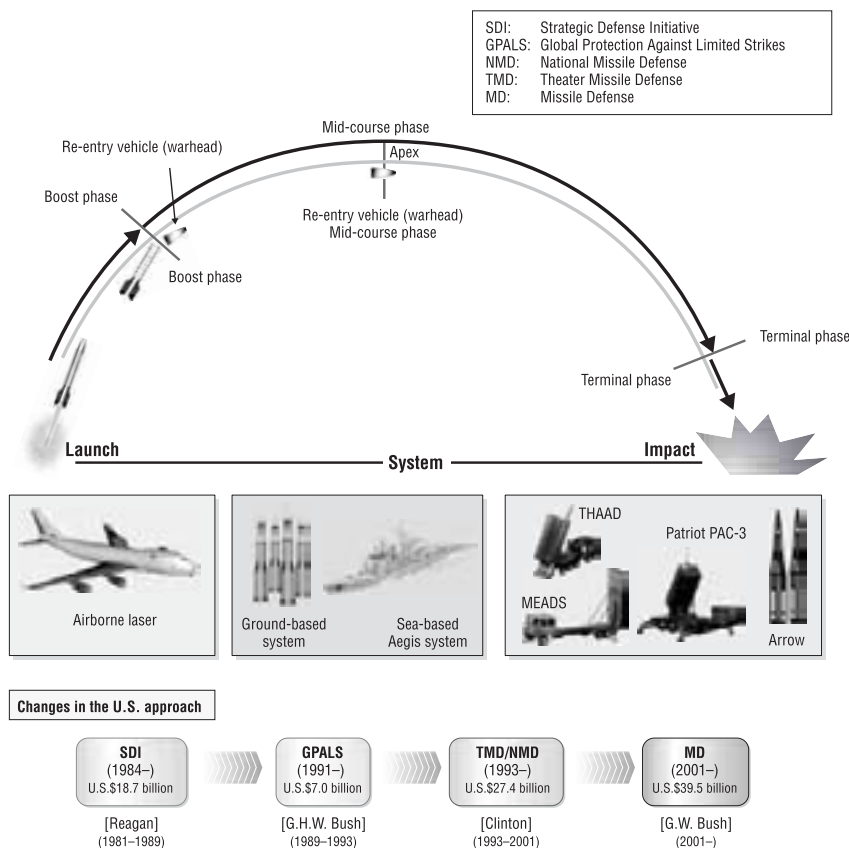


Fig. 3-2-7

positioned missile defense as a vital issue of its national defense policy¹² and withdrew from the Anti-Ballistic Missile Treaty¹³ in June 2002 to promote the development of missile defense systems. The following is an overview of the US missile defense program

The US aims to develop a multi-tier missile defense system in which interception systems suitable for each of i) the boost phase, ii) midcourse phase and iii) terminal phase of flight are combined and complement each other to defend against missiles, and to deploy the systems as they become available.¹⁴ (See Figs.3-2-6, 3-2-7 and 3-2-8)

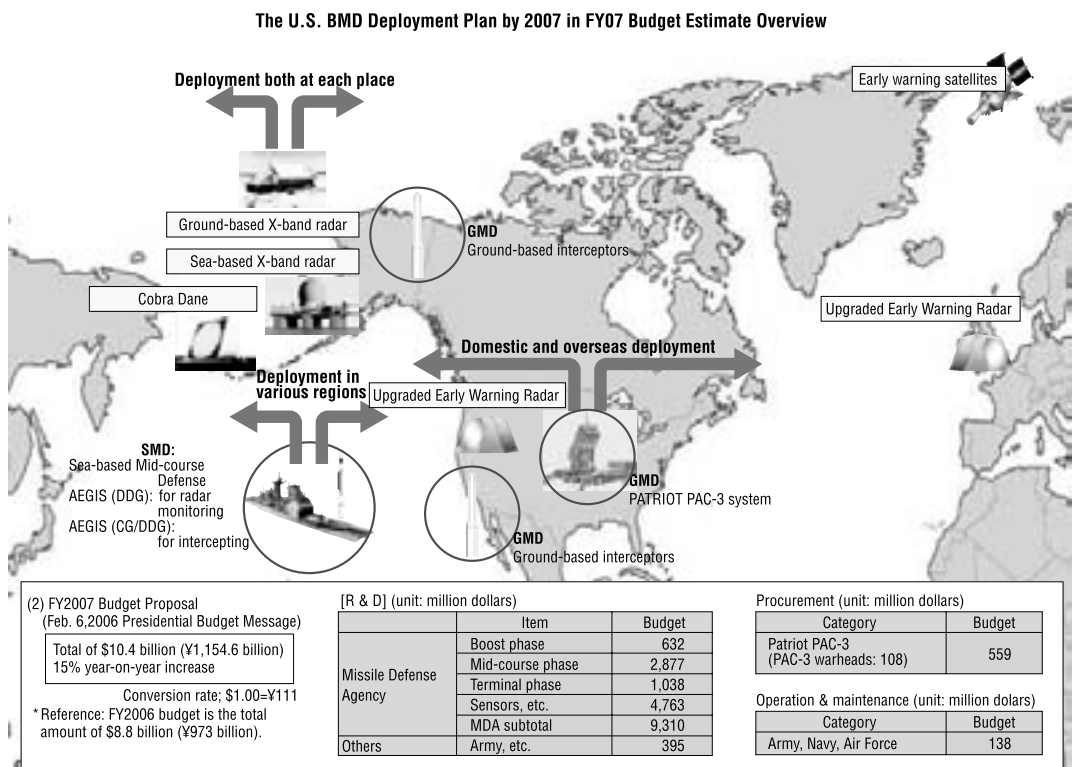


Fig. 3-2-8

2) Transition to Japan-U.S. joint development of improved missile

In 1998, the government decided to start Japan-US joint technical research on a sea-based upper-tier system (the current sea-based midcourse defense system) in 1999 with the approval of the Security Council. This joint technical research jointly carries out design, prototype and necessary tests of interceptor missiles with higher capabilities than the sea-based midcourse defense system currently under introduction in Japan. So far, design, prototype and necessary tests of four major components (nose cone, second-stage rocket motor, kinetic warhead, infrared seeker) have been carried out. A total of about 26.2 billion yen was allocated from FY 1999 to FY 2005 for necessary expenses for these activities.

The verification of element technologies was completed with the prototype and testing of the four components carried out in the Japan-US joint technical research, obtaining prospects for solving technical issues. Consequently, in December last year, the Security Council and the Cabinet decided on transition to joint development, using the outcomes of the Japan-US joint research as a technological basis for the development of interceptor missiles with improved capabilities. The development uses the approach of developing systems that are technically feasible in different stages of development and improving them as

technological advances are made. In June 2006, the Japanese and U.S. governments reached an official agreement on the matter. For the joint development, about 3 billion yen was appropriated for expenses for system design in the FY 2006 budget. As the statement by the Chief Cabinet Secretary about "the Japan-US joint development of improved SM-3 missiles for ballistic missile defense in December last year, a decision will be made on transition to the deployment stage of the interceptor missiles, based on the outcomes of the joint development. (See Fig. 3-2-9)

Description of Japan-U.S. Cooperative Development of Advanced Interceptor Missile for BMD

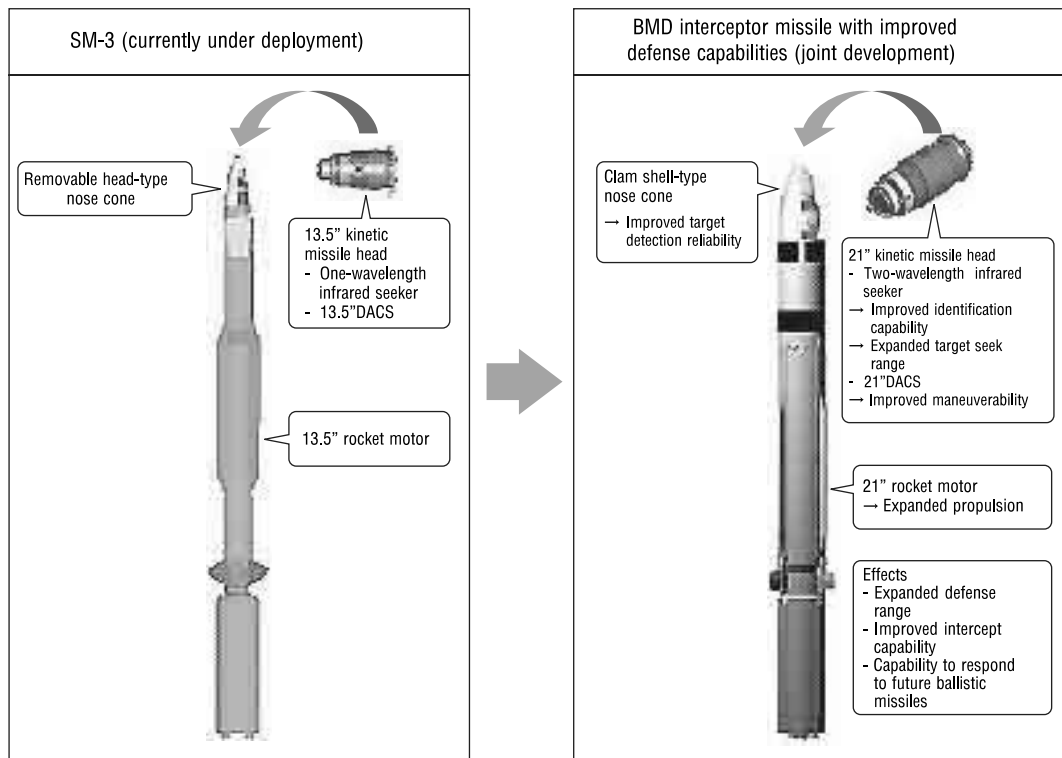


Fig. 3-2-9

3) Relevance to Three Principles on Arms Exports

Japan's BMD program aims to develop its own BMD system by improving the capabilities of the Aegis vessels and Patriot system currently possessed by Japan. Therefore, it does not conflict with the Three Principles on Arms Exports.

On the other hand, transition to the Japan-US joint technical development of BMD systems aimed at future improvement involves the necessity of exporting BMD-related arms to the US as part of the development. When the decision was made in December last year on the transition to the joint development, it was determined that the Three Principles on Arms Exports would not apply under the condition that strict control is maintained and a framework for the provision of arms required to be exported to the US would be developed through coordination with the US and tight control would be exercised (statement by the chief cabinet secretary).

Pertaining to this decision, on June 23 this year, the Foreign Minister and the U.S. Ambassador to Japan

exchanged letters concerning the provision of arms and arms-related technology to the United States. This exchange established a framework to provide arms and arms-related technology under tight control, for example prohibiting usage for purposes to which Japan had not agreed in advance, and prohibiting transfer to third countries.

4) Strengthening of Japan-US Cooperation on BMD

Since the decision was made to introduce BMD systems into Japan, efforts have been continuously made to strengthen the Japan-US BMD cooperation.

The Mid-Term Defense Program mentioned measures for strengthening the Japan-US Security Arrangement as follows: "The government of Japan will strengthen Japan-US bilateral efforts to enhance ballistic missile defense capabilities and to promote cooperation with the US in the fields of defense policy, operations, and equipment and technology." Furthermore, the Cabinet decided to exchange letters concerning BMD cooperation between the Minister of the Foreign Affairs and the US Ambassador to Japan. Following the Cabinet decision, a Memorandum of Understanding (MOU) on BMD cooperation was signed between the Japan Defense Agency and the US Department of Defense on December 17, 2004.

Additionally, on June 23 this year, the Foreign Minister and the U.S. Ambassador to Japan exchanged concerning BMD cooperation, including Japan-U.S. joint development.

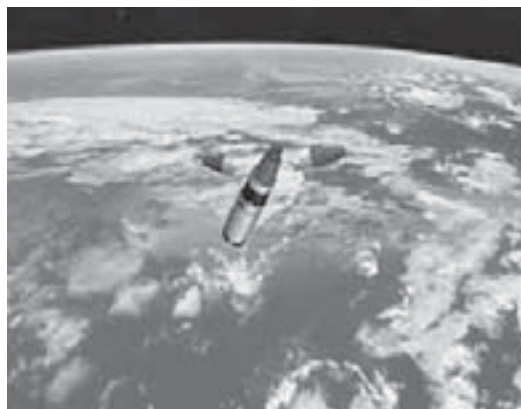
[COLUMN]

COMMENTARY

Successful test regarding Japan-U.S. joint technical research on BMD

It is necessary to further improve the speed and the kinetic performance of an interceptor missile for an incoming ballistic missile to be shot down at an early time and with certainty. Four primary missile components have been the target of the Japan-U.S. joint technical research on a sea-based upper-tier system for the ballistic missile defense (BMD), launched in 1999. The research has been conducted to enhance the destruction and discernable capabilities of the missile's warhead and improve kinetic performance of the interceptor missile.

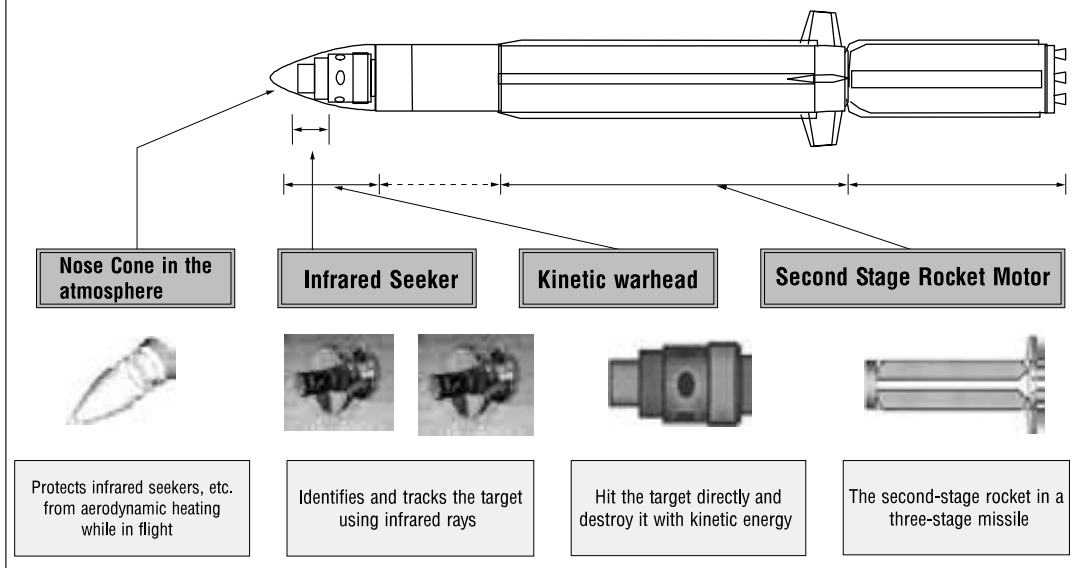
Japan and the United States jointly conducted an interceptor launch test on March 9 this year as part of efforts to confirm the performance of a test-manufactured system developed under the joint technical research on BMD. The March test ended in success as the separating function of a test-manufactured cram shell (bivalve)-type nose cone, a component meant to protect the interceptor missile's warhead, was confirmed to work as intended in space about 100 kilometers above the Pacific Ocean after it was fired from the U.S. Navy's Aegis-equipped vessel Lake Erie off Kauai Island of Hawaii. The nose cone is an important component designed to shield a built-in infrared seeker and a kinetic warhead from aerodynamic heating which would be generated around the interceptor missile during its flight in the atmosphere. The nose cone is designed to be immediately detached from the missile when it becomes unnecessary with the missile entering into



Nose cone separating into two parts, right and left ways (image)

outer space. In view of the need to maximize the function of the infrared seeker and the kinetic warhead after the detachment of a nose cone, a cram shell-type nose cone is a very effective method with the cone set to separate into two parts, one right and the other left, before being detached off the missile. Data obtained from the Japan-U.S. joint technical research on BMD, including those from the March 9 test, will be reflected in their joint development of the BMD system, started in the current fiscal year.

Interceptor missile components studied in the Japan-U.S. joint technical research



2. Response to Attacks by Guerrillas and Special Operations Forces

In a country like Japan with high levels of urbanization, even relatively small-scale infiltration and attacks can pose serious threats to the peace and security of Japan. These activities take various forms, including illegal actions by infiltrating armed agents¹⁵, which are to be dealt with primarily by the police, and armed attacks, such as destructive actions by guerrillas and special operations forces, which are a form of aggression on the territory of Japan.

(1) Response to Attacks by Guerrillas and Special Operations Forces

1) Basic Idea

If an armed attack is made on Japan by guerrillas and special forces, public security operations will be conducted. If these actions are recognized as an attack on Japan, defense operations will be conducted. Forms of armed attacks on Japan include i) destruction of facilities and attacks on people by guerrilla, (an irregular force), and ii) subversive activities, assassination of important figures and raids on operations centers by special operations forces (regular forces).



GSDF's 6th division personnel engaged in mountainous area search in training responding to attacks by guerrilla and special forces

2) Operations to Respond to Attacks by Guerrillas and Special Operations Forces

In operations to counter attacks by guerrillas and special operations forces, a posture for information gathering should be promptly established to discover and capture or destroy them at the earliest possible time. It is therefore important to quickly gain control of the situation, minimizing damage from the assault.

a. Discovery and Prevention of Various Types of Ships

Efforts will be made to identify ships and submarines transporting guerrillas and special operations forces at the earliest possible time to prevent them from advancing through the use of the destroyers, submarines, and aircraft of the MSDF and ASDF.

b. Search and Discovery of Guerrillas and Special Operation Forces

In case of possible infiltration into the territory of Japan by guerrillas or special operations forces, the GSDF's patrol and other units will be engaged in warning and surveillance activities in coastal areas, and should an infiltration actually occurs, the patrol and air units will search for and find the guerrillas or special operations forces. Also, when necessary, units will be promptly deployed to protect critical facilities.

c. Capture and Defeat of Guerrillas and Special Operation Forces

When guerrillas or special operations forces are found, fighting units will be promptly concentrated in the area to besiege and capture or defeat them. (See Fig. 3-2-10)

Example of Operations for Coping with Guerrillas and Special Forces



Fig. 3-2-10