THE NATIONAL NATURAL DISASTER REDUCTIONPLAN OF THE PEOPLE'S REPUBLIC OF CHINA
(1998-2010)

(China National Committee for IDNDR)

China is one of the few countries struck most severely by many kinds of natural disasters with a high frequency of occurrence,broad distribution in areas and severe consequences in losses.Especially in 1990s,economic losses caused by natural disasters have increased unsiderably. This has become an important factor adversely affecting our economic development and social stability. The Chinese Government pays close attention to the disaster reduction work and notable progress has been achieved as a result of the continuous endeavors by the Chinese people over more than 40 years.To further improve the disaster reduction work and ensure a sustainable social development and the smooth fulfillment of the Ninth Five-Year National Economic and Social Development Plan and the 2010 long-term objectives,it is necessary to integrate the Chinese national disaster situation with a summing-up of experiences and lessons of the past disaster reduction work. It is important to identify the guiding principles,major objectives and tasks and strategies, motivate all positive factors and resources and consequently reduce the natural disaster losses as far as possible.With this in mind,the national middle and long term disaster reduction plan is thereby formulated.

1. The Basic Situation of Natural Disasters and Disaster Reduction Work

1.1 A brief account of the natural disaster situation in China

1.1.1 There are many kinds of natural disasters with a high frequency and an obvious seasonal occurrence as well as severe losses.They may be discribed speafically as follows:

The atmospheric and squatic disasters.They mainly include flood and water-logging, drought, typhoon, storm-surge, big wind, hails, snowstorm, freezing, sea wave, sea ice and coastal erosion etc.The annual average areas affected by flood and water-logging are more than 10 million hectares, in which more than 5 million hectares are severely affected,and they mainly concentrate in summer and autumn.The annual average areas affected by drought are more than 20 million hectares,and more than 10 million hectares are severely affected mainly in spring and autumn. The annual typhoons that land the continent is about 7 times which mainly concentrates along the southeastern coastal areas.Storm surge is the most serious marine disaster in China,and the most hazardous storm surge in history has caused a total loss of more than 100,000 deaths.Other disasters have also caused serious losses and great damages.

The seismic and geological disasters include earthquake, cave breakdown, landslide, mud-rock flow, subsidence and desertification etc. China is a country with an high occurrence of earthquake. Since 1949, earthquakes have killed nearly 300,000 people, injured and disabled nearly 1,000,000 and destroyed more than 10,000,000 house units. In 1976, an earthquake with a magnitude of 7.8 on the Richter's scale hit Tangshan municipality which shocked the world and killed 242,000, injured and disabled 164,000. 410,000 places suffered from geological disasters such as cave breakdown, landslide and mudrock flow, taking an annual death toll of nearly a thousand people. The area of deserted land stands at 2,620,000 square kilometres nationwide.And the desertified land annually expands by 2,460 square kilometers, and the area of soil erosion exceeds 1,800,000 square kilometers. The biological disasters,the main crops pests,plant diseases,weeds and rodent disasters in China can be classified into 1,400 kinds.On average,the annual losses caused by biological disasters are 50 million tons of grain and more than 1 million tons of cotton. The annual areas caused by grass and forest diseases, pests and rodent disasters are more than 20 million hectares and 8 million hectares respectively.

Forest and grassland fires. Since 1950, an annual average of 16,000 forest fires has occurred in China, affecting nearly one million hectares of forest areas. Fires pose a threat to 2 hundred million ha of grassland,of which, nearly one hundred million ha are frequently affected.

1.1.2 The distribution of natural disasters shows an obvious regional differentiation

According to the characteristics of natural disasters and the actual situation of disaster management at present,the 31 provinces,autonomous regions and municipalities can be divided into three types of regions.

The first region includes 7 provinces,autonomous regions lying mainly in the Western and partly in the Northern China.The absolute quantity of direct economic loss in this region is low and the relative loss ratio (the average direct economic loss as compared to the gross domestic product) is medium or high and its resistant capability to natural disasters is weak.Most areas in this region is severe drought areas in China and the density of the population is low. The hazards are mainly drought, snowstorm, earthquake, sandstorm, mountainous flood,landslide and mudrock flow,etc.These natural disasters mainly affect agriculture and stock raising.

The second region includes 16 provinces, autonomous regions and municipalities which mainly locate in the central and partly in the north-eastern, northern and south-western part of China. The economic development level, the direct economic loss caused by the disaster and its resistant capability in this region is average.The northern part of this region is strongly influenced by the Antarctic anticyclone and the southern part belongs to the sub-tropical region with a higher precipitation and is also the middle reaches of China's big rivers.The density of population is medium or high in this region.The hazards are mainly drought, flood and water-logging, earthquake, freezing, hailstorm and agricultural pest and disease, and other disasters are landslide, mud-rock-flow and forest diseases, etc. These natural disasters mainly affect agriculture, industry and transportation.

The third region includes 8 provinces and municipalities directly under the central government which range along the eastern coastal areas. The absolute quantity of disaster direct economic loss is high. However, the percentage of direct economic loss is medium or low owing to its relatively strong economy and greater capability against disasters. The subtropical high pressure and tropical cyclone have influenced this region effectively. Moreover, this region is located in the lower reaches of the big rivers in China. Its population density is high. The major natural hazards are flood and water-logging, drought, typhoon, storm surge, and other disasters are earthquake, hailstorm and subsidence etc. The natural disasters mainly affect industry, agriculture, transport and city infrastructures.

1.1.3 The severe natural disaster loss has been increasingly on the rise

China has become one of the few countries suffering form severe losses caused by natunal disasters.On the average,there are about 200 million people being affected by disasters every year among whom several thousand people are killed. Moreover, 3 million people need to be resettled and more than 40 million ha of crops also become affected, with 3 million house units being collapsed. With the high-speed and sustained growth of the national economy the growing magnitude of the production and the accumulation of social property, in addition to the fact that the disaster reduction work has not been able to meet the needs of our rapid economic development,the losses caused by natural disasters have been on the rise. In the price level of 1990, the annual direct economic losses caused by natural disasters are 48 billion Yuan in the 50s, 57 billion Yuan in the 60s, 59 billion Yuan in the 70s and 69 billion Yuan in the 80s,and in the 90s,the disaster losses increased more rapidly and average annual losses are more than 100 billion Yuan.

1.2 the major works in natural disaster reduction

1.2.1 The Chinese Government has all along regarded disaster reduction as an important undertaking for promoting social and national economic development. while promoting the development of the national economy, the Government has made great efforts to the disaster reduction work. After many years of unremitting endeavors, the rising tendency of disaster loss has been restrained, especially the deaths caused by disasters have shown a remarkable decrease and great economic and social benefits have been achieved. Disaster reduction has become an important way for guaranteeing the sustainable development of the national economy and the society and it has played an important role in promoting the rapid development of the national economy and continued social progress.

1.2.2 China has made marked progress in the construction works in disaster reduction engineering and it mainly includes engineering works beneficial to large areas along the large rivers threatened by flood and water-logging, the large crop areas threatened frequently by drought and pest and plant diseases, the major areas threatened by seismic and geological disasters and storm surge as well as the cities and towns, roads and railways threatened frequently by mud-rock flow and landslide. Since the founding of the People's Republic of China, there have built a series of engineering projects, including 247 thousand

kilometers of flood prevention/control dikes, 84 thousand reservoirs of all sizes, 12 thousand kilometers of tide barrage and more than 490 thousand irrigation and drainage stations. The key engineering projects which have an important bearing on the overall disaster reduction works are:the flood prevention and control dike along the lower reaches of the Yellow River, the flood prevention and flood division project on the middle and lower reaches of the Yangtze River and the comprehensive flood prevention and control project along the Huai River,and the projects which are being constructed,such as the Three Gorges Project of the Yangtze River,Xiao-liang-de Project of the Yellow River,the Fei-lai-xia Comprehensive Hydrologic Project of the Beijiang River,etc. In the field of reinforcing seismic designing for new building and new projects in big cities and large industrial and mineral enterprises, and seismic strengthening of existing building and structures lacking in earthquake resistant capability, China has reinforced and strengthened the seismic capability of 14 main railways, more than 90 key plant factories,6 major oil pipe lines, 20 big oil refinery factories and a series of key steel enterprises, super large ethyne structures and large reservoirs. There have also been many kinds of forest shelter systems and sand prevention and control projects being built up. Across the country, 6 million ha of afforestation and 12 million ha of grass have been planted every year. The regional forest shelter belts, such as the Three-Northern Forest Shelter-Belt, the Coastal shelter-belt system, the forest shelter-belt on the middle and upper reaches of the Yangtze River, the plain afforestation project and the Tai-hang Mountain greening engineering projects have been compelted which have considerably enhanced the forest coverage rate. China has also formed a comprehensive prevention and control system for combating forest fire. Moreover, the biological disasters prevention and the control system as well as the the disaster prevention bases in stock raising regions have made new progress.

1.2.3 Non-engineering works in disaster reduction have been reinforced significantly. During the past four decades, the monitoring and forecasting system have been formed and improved constantly, including the monitoring and measuring network for the hazards and their related factors and phenomenon, the real-time information collecting and transmitting electrical system, the data processing, analysis, simulation and warning system as well as the broadcasting, disseminating and service system for the forecast and warning information etc. Up to now, the country has formed the meteorological monitoring and forecasting network consisting of 2,534 meteorological stations, 957 precipitation

stations, 143 wireless exploiting stations for space and radar stations for wind. The constructed hydrological monitoring network consists of 3,006 hydrology stations, 1,107 water level measurement stations, 14,158 rainfall stations, 61 experimental stations and 11,179 groundwater measurement wells. The seismic omen monitoring system consists of 1,300 stations. The agricultural and forest pests and diseases measuring network consists of more than 3,000 stations. The grassland pests and rodents measuring and reporting network consists of more than 240 stations and points. Moreover, the forest and grassland fire monitoring and geological hazards surveying and reporting systems have been formed. To foretell and forewarn the disasters, the telephone, wireless communication, television and grass-roots broadcast networks have been utilized. And the improvement of forecasting,forewarning and monitoring for natural hazards has provided a dependable basis for the governments to prevent and respond to the disasters rapidly and efficiently.

1.2.4 The disaster management works have been continuously strengthened. To cope with major disasters, there have created all kinds of disaster prevention and resistance agencies and disaster monitoring, forewarning, emergency affairs decision-making, conducting, organizing and coordinating structure. There also have formed the disasters information networks at the central, provincial, autonomous region and municipal levels. The work in classifying disaster management, quick assessment of disaster losses and the research work in disaster regionization and the statistics standard of disaster losses have been unfolded. This has put the disaster management work on a scientific and regulated basis. The central and local governments have increased disaster relief fund year by year. Once a major disaster occurs, the governments quickly arrange disaster relief materials which has ensured the basic life of the victims and helped the production and daily life to recover rapidly. The fund and grain deposit association organized by the local people themselves have developed quickly, playing an important role in disaster relief work.The disease prevention and control network as well as the disaster medical assistance network have given efficient treatment to the patients, thus fundamentally bringing infectious diseases under control.

1.2.5 The People's Liberation Army, Military Police Forces and reserve duty forces, officers and men in the public security as well as the militia have played an important role in disaster reduction works. As the quick response forces for

disaster reduction, they have actively involved in disaster reduction works in collaboration with the local governments. Especially in disaster rescue and relief work, they play a crucial role as a main force and have made outstanding contributions.

1.2.6 China has strengthened the disaster reduction works in comprehensive coordination, scientific and technological education and international cooperation. In 1989, in response to the UN call of promoting the International Decade for Natural Disaster Reduction (IDNDR), the Chinese Government set up the Chinese National Committee for IDNDR (CNCIDNDR) as the inter-ministerial coordination organization responsible for the formulation of policy and lines. It gives guidance to local governments in disaster reduction undertakings, organizes and coordinates relevant departments and the society to promote disaster reduction work so as to further international cooperation in disaster reduction.

With the unfolding of the IDNDR activities, the disaster reduction work has received even greater attention by authorities at all levels and much more impetus has been given to this work, thus further pushing ahead the disaster reduction work. With the joint efforts at all levels of governments and disaster management agencies, a series of disaster reduction engineering projects have been implemented. Many kinds of education measures in disaster reduction have been adopted, the training and fostering of disaster reduction personal has been speeded up and public awareness of disaster reduction has been enhanced greatly. Science and technology have been applied more widely in disaster reduction work, and much progress have been achieved in the research and application of all kinds of high and new technologies. Satellite, remote sensing, geographical information system and global position system etc. have been applied in many aspects of disaster reduction work, and a comprehensive capability for application of science and technology has been created basically.

A series of international cooperation programs have been implemented smoothly. International exchanges in disaster reduction legislation,the disaster reduction plan for earthquake resistance in the cities, a comprehensive study on disaster reduction, the building up of government capability in disaster reduction etc. have made new progress.

1.3 The Main Experiences and Problems

Our main experiences in disaster reduction work over the past 40 years may be

summed up as follows:

1.3.1 Great attention and strong support from all levels of the government is an important prerequisite for the continuous development of disaster reduction work. The central and local governments have taken as the basic objective the reduction of the disaster deaths and property losses as well as the ensurance of the economic growth and social stability, paying close attention and giving strong support to this work. On the basis of a unified organization and coordination, a great quantity of fund and resources have been provided for disaster reduction engineering project construction and for disaster resistance and relief. And the disaster reduction tasks have been incorporated into the middle and long-term national economic and social development plan and the annual plan.All these have ensured a continuous and positive development for the disaster reduction work.

1.3.2 The coordination and cooperation among related agencies and the wide participation of the whole people is a sure guarantee for doing a good job in disaster reduction work.In the large scale engineering projects construction for disaster reduction, disaster resistance and relief and post-disaster recovery and rehabilitation, the close coordination and cooperation among related agencies and the joint efforts of the People's Liberation Army, the Military Police Force, the Reserve Duty Force, the office and men in public security and the Militia Force as well as the wide participation of the people have ensured the smooth fulfillment of all the tasks.

1.3.3 Stressing the main points while looking after the common points and forming an overall plan have become a principle which should be observed in disaster reduction work.With limited fund resources, it is necessang to reasonably arrange all disaster reduction resources and integrate disaster reduction with benefit creation. Efforts should be made to put prevention first and integrate disaster prevention, resistance and relief. Make priority arrangement of the disaster reduction engineering projects which have an important significance to the economic and social development.Moreover,the natural disasters which threaten the safety of people's life and property and social economic development most seriously should be treated as focal points in our work.

1.3.4 Giving full play to science,technology and education has become a strong

force to push forward the disaster reduction work. It is important to strengthen disaster reduction scientific research, speed up the application of disaster reduction scientific achievement, quicken disaster management modernization level and use high technologies more widely. And in this way, science and technology benefits in disaster reduction have been developed fully and the comprehensive capability in disaster reduction has been improved. We must strengthen disaster reduction education, disseminate disaster reduction knowledge and undertake disaster reduction training. The enhancement of public awareness of disaster reduction has laid a foundation for furthering disaster reduction work.

1.3.5 Strengthening the building-up of a legal system has become an objective demand for the smooth development of disaster reduction undertaking. The establishment of the disaster reduction law and regulation system and the formulation of related laws, regulations, codes and plans, have served to institutionalize and legalize the disaster reduction work.

Although great achievements have been made in China's diaster reduction work, there still exists some problems calling for our attention.The main problems are: the existing disaster reduction facilities cannot meet the demands of the rapid national economic development. The disaster reduction plans at various levels of governments have not been formulated systematically and in a standardised way and the disaster reduction laws and regulations have yet to be perfected. The hazards assessment technologies and measures are still relatively backward and exploitation and application of the disaster reduction scientific and technological achievements should be strengthened.The disaster rescue equipment are still backward, the preservation of disaster relief materials have to be improved and the capability of disaster emergency response has yet to be enhanced. Moreover, it is necessary to further strengthen publicity and education on disaster reduction.

In order to ensure a sustainable development of the national economy and bring about an overall social progress, the disaster reduction work should be given greater attention along with the rapid development of the economy. And in this way the strategic objectives of China's national economy and sucial progress can be attained.

2. Main Guiding Principles, Objectives, Tasks and Measures of Disaster Reduction

2.1 Guiding Policies of Disaster Reduction

Disaster reduction must serve the national economic and social development. Sustained and stable economic development and social progress are the basis for deepening disaster reduction. On the other hand, a continuous strengthening of disaster reduction will provide a guarantee for the economic development and social progress. Relationship between disaster reduction and economic construction must be handled properly. The principle of giving paralled attention to both disaster reduction and economic construction should be adhered to.

It is essential to pay more attention to disaster prevention and combine prevention with resistance and rescue.Raising the people's consciousness of disaster reduction is also important.In the construction of production and living facilities, attention should be given to disaster reduction. It is necessary to apply various techniques and measures of disaster reduction and vigorously push forward integrated disaster reduction. It is important to give full play to overall benefit of various disaster reduction engineering and push forward disaster defense, resistance and rescue work in a comprehensive way.

Controlling the overall situation and highlighting important points are essential. Efforts should be made to solve major problems related to overall disaster reduction. The limited resources must be pooled together to strengthen engineering construction of disaster reduction in key regions,and make especial efforts for mitigating impact of the most serious disasters that are likely to effect national economic and social development. Effective ways must be sought to reduce other natural disasters. We must give full play to the role of science,technology and education for disaster reduction and strengthen the study of basic theory and applicable technology for disaster reduction.Accelerate the process of transforming scientific research results into disaster reduction capabilities. Improve the overall capability for disaster reduction, education of disaster reduction must be orientated to the society. Combining popular education with professional education in this regard is important. And the people's knowledge of disaster reduction,should be enhanced. We must bring every positive factor into play.Giving full play to initiatives of the Central Government, local governments and all trades and professions is something that should be done well. Under the unified arrangement and coordination of the government with support from related departments, enterprises and all circles of the society are to be actively involved, so as to do disaster reduction work well.

To strengthen international cooperation for disaster reduction is another important aspect. Strengthening international cooperation by various channels and levels for disaster reduction is essential. We must continue to improve our disaster reduction work and improve China's position in the field of international disaster reduction.

2.2 Main Objectives of Disaster Reduction

The main objectives of disaster reduction are: Through the construction of a set of disaster reduction engineering works which have an overall and key importance for national economic and social development,scientific and technological achievements will be widely applied in disaster reduction, a fairly perfect operation mechanism of disaster reduction will be formed to reduce impact of various disasters on the national economic and social development, significantly decrease the relative propotion of disaster losses, and bring about a notable reduction in the number of deaths and wounded people.

2.2.1 Disaster reduction for agriculture and rural areas

Implement the policy of putting agriculture on the top of the national economic and social development, set up a perfect infrastructure system for agricultural disaster reduction. Basically solve the flood probltem of the Yangtze River and the Yellow River, effectively control flood of other rivers;mitigate serious water shortage in parts of North China. Basically control the accelerating tendency of soil erosion, desertification, soil secondary salinity and grassland degradation.Capabilities of defense disaster for agriculture must reach the level of resisting medium natural disasters. Science and technology on disaster reduction must be widely applied. Capabilities of integrated disaster reduction must be greatly improved. Capabilities of disaster defense in villages and township enterprises must also reach similar levels. Through the construction of integrated agricultural disater defense and resistance engineering, we are aiming at raising the capabilities of disaster reduction in agriculture, bringing down losses in agricultural production and death rate as well as that of the wounded in rural areas.

2.2.2 Disaster reduction for industry and urban areas. Basically carry out integrated disaster reduction plans of cities and towns above the county level throughout the whole country. Cities and their buildings and facilities must meet the require disaster defense standards. Various disasters threatening the

development of industrial production and city security must be brought under effective control. In as much as major cities and towns, industrial bases,lifeline projects and key enterprises have greater capabilities of fighting relatively big disasters infrastructures and various lifelines in major cities are to be free from the advers effects of a medium or minor disaster and are in a position to have a recovery within a short time in case of a major disaster.

2.2.3 Regional disaster reduction. Basically establish a rather good integrated regional disaster reduction system. Disaster reduction engineering and regional economic construction are to be carried out simultaneously. Disaster losses of key regions are to be significantly decreased.Disaster reduction plan of the high-risk regions are to be implemented. Development of resources are to be systematically managed. Man-made secondary disasters are to be effectively controlled. Successful experiences of disaster reduction are to be widely popularized in areas with similar conditions. The integrated disaster reduction capabilities will therefore be improved markedly.

2.2.4 Disaster reduction for the society.Basically introdues a national law and regulation system for disaster reduction.Widely popularize disaster reduction education of various forms. Notably raise the people's consciousness for disaster reduction. Teams of science, technology and education for disaster reduction are to meet the requirements at various levels. Disaster monitoring system and information system will be further improved. Capabilities of disaster preparation and rescue will be strengthened. Insurance will become an important way for disaster compensation. Science and technology on disaster reduction will be widely applied.The government's capabilities of disaster reduction will be not ably improved. An integrated system of a modernised disaster reduction management from the central to the local governments will come into being. As a result, China's non-engineering construction of disaster reduction will be close to or gradually reach world advanced level.

2.2.5 International cooperation on disaster reduction. We must extensively take part in international activities for disaster reduction,and put bilateral and multilateral international exchange and cooperation, on a regular basis so as to make a contribution towards promoting a sustainable development of world disaster reduction activities.

2.3 Major Tasks and Measures of Disaster Reduction

The major tasks of disaster reduction are:In accordance with the overall task and policies and the general plan for national economic and social development, redoubled efforts must be made to accelerate the engineering and non-engineering construction, to improve the operating mechanism of disaster reduction, and raise the general level of disaster reduction in China, in order to bring about an all-round development of China's disaster reduction. With a view to completing the tasks,the following measures will be taken:

2.3.1 Make sure that disaster reduction should be regarded as a foundation in the sustainable national economic and social development in China.Government at various levels must pay more attention to disaster reduction, incorporate it into the national economic and social development plan, map out disaster reduction scheme as well as emergency scheme and take measures to push forward disaster reduction work.

2.3.2 Identify the focal points in disaster reduction. Make large and medium cities, main engineering with overall and key importance to the national economic and social development and flood and drought disasters affecting the whole China or large regions as the focal points of our work. Concentrate superior strength to reduce disaster losses and its impact on the national economy.

2.3.3 Improve management mechanism of the national disaster reduction step by step. The disaster reduction coordinating organizations at ministries level of the State Council must improve the integrated coordinating capabilities for disaster reduction.Function at sectors of the State Council must take their own responsibilities, cooperate closely, work in coodination so as to do a good job.Clarify responsibilities of the Centual Government and local governments in disaster reduction. Carry out disaster management at different levels.and set up an improved integrated management system of disaster reduction gradually.

2.3.4 Give full play to modern science and technology to raise China's capability of integrated disaster reduction.Especially, we must strengthen monitoring and forecast of major disasters,improve disaster information collection and rapid processing, evaluate disaster properly and build mechanism for disaster reduction information sharing. Improve regulation for material store system and transfer. Further strengthen research on integrated disaster reduction, and raise

emergency capabilities for disaster defense.

2.3.5 Strengthen the building-up of a legal system on disaster reduction. Vigorously carry out research on disaster reduction legislation, improve and perfect law and regulation system on disaster reduction in order to make disaster reduction work more institutionalised and standardized.

2.3.6 Investment sources must be expanded and input at disaster reduction increased. The investment from governments at various level for disaster reduction must be in conformity with the national economic and social development. The investment is to be increased as our national power grows.It is important to encourage enterprises to enhance disaster defense and participate in local construction of disaster reduction; It is essential to give full play to the role of insurance in disaster compensation; We must display the fine tradition of "disaster from one side, rescue from all directions"; Mutual help and mutual relief among the people should be strengthened. Efforts should be made to establish a socialised mechanism for disaster relief and rescue.

3. Important Actions on Disaster Reduction

3.1 Disaster Reduction for Agriculture and Rural Areas

In engineering for disaster reduction,it is important to strengthen control of major rivers and lakes,and construct a set of key water conservancy projects with integrated benefit for disaster reduction capable of fighting the biggest flood ever occurred since 1949. Build agricultural infrastructure focusing on farmland water conservancy.Vigorously disseminate agricultural technologies for dry land based on water saving and moisture maintaining.Improve capabilities of flood defense, drought resistance and waterlogging drainage.Focus on soil conservation and environment improvement,continue to carry out engineering of shelter-forest in "the Three-North"(North-east China, North China and North-west China), middle and lower reaches of the Yangtze River and the coastal line, afforestation on the Taihang Mountain, and desertification protection; trengthen integrated defense of biological disasters, and storm, orest and grassland fire and livestock diseases, and snow disaster, undertake construction of integrated disaster reduction engineering in regions where township enterprises have a high density.

In non-engineering disaster reduction, carry out the national agricultural

disaster reduction plan;edit agricultural disaster reduction regionalization. Build a set of demonstration areas on dissemination and application of practical techniques to agricultural disaster reduction. Enhance monitoring and prediction on disaster weather, major insect hazard, livestock diseases, forest and grassland fire; Establish and improve the test and report system of natural agricultural disasters as well as a disaster evaluation system.

3.2 Disaster Reduction for Industry and Cities

In engineering for disaster reduction, construct key engineering well for defense of flood, earthquake, typhoon, windstorm, landslide, debris flow, collapse, subside and fire. Effectively raise the disaster defense and resistance level of large and medium industrial bases, main lines of communication and transportation, important facilities and lifeline engineering. Improve the disaster defense system of enterprises strengthen the constrution of disaster reduction of enterprises. and the administration of dangerous sources, and control occurrence of secondary disaster. Every city's building and facility must reach the national disaster defense design standard, main flood defense cities must complete the required engineering. Other cities with the task of flood prevention must raise their flood prevention capabitilies.

In non-engineering disaster reduction, draw up an industrial disaster reduction plan for various trades and an integrated disaster reduction plan for cities. Strengthen the construction of a system guaranteeing the city's lifeline and that of an emergency response system. Raise the fire control level for modern buildings and facilities.

3.3 Regional Disaster Reduction

In engineering disaster reduction, comprehensively strengthen disaster reduction construction in East China, take regional disaster reduction projects as an important infrastructure, with an emphasis on the capital circle, the coastal developed areas, dense-populated areas major food and cotton producing areas. In the centeal pant of China, mainly construct disaster reduction projects for industrial and agricultural production bases and cities. In west China, mainly construct disaster reduction projects for basic infrastructure and agricultural and livestock production bases, protect an environment for suvvival and development.

In non-engineering disaster reduction, identify high risk disaster areas in a scientific way, and draw up an integrated plan for disaster reduction and

resource utilization. Select some high risk areas which have great impact on regional economic and social development and are highly developed in industrial and agricultural production to establish demonstration areas of integrated disaster reduction, In coordination with the state strategy for poverty elimination, great efforts should the made to push forward the work of integrated disaster reduction in poor areas with frequent disasters and accelerate the speed in eliminating poverty.

3.4 Disaster Reduction of the Society

We must strengthen national microscopic administration on disaster reduction, accelerate legislative process for disaster reduction, work out integrated disaster reduction plans of each province, autonomous region and municipality directly under the Central Government. Draw up disaster risk regionalization. Raise the level of collectiing, processing, applying and sharing of the integrated information of disaster reduction. Improve the forecasting and monitoring system for major disasters. and the comprehensive ability for disaster reduction Draw up the an emergency scheme for major natural disasters. Improve the disaster emergency command, dispatch and communication system. Establish and perfect the storage system for disaster rescue materials. Carry out a comprehensive evaluation on disasters and establish a scientific system of disaster evaluation.

Through news medium, various kinds of magazines, and performances, widely disseminate disaster reduction. Enchance the people's consciousness of disaster reduction. Deepen the disaster reduction education in primary and secondary schools, and extend professional education of disaster reduction at different levels. Improve professional capabilities of disaster managerial personnel. Enhance scientific research on disaster reduction. Pay great attention to the basic theory research on space-time distribution law of disaster formation, occurence and development, and on the disaster inpacts on enviroment, economy, society and interaction law.Vigorously push forward studies on applicable sciences and high technology to prevent disasters. speed up the transfer of scientific and technological achievements for disaster reduction, widely push forward the application of scientific technology and high technologies such as satellite, remote sensing, geographical information system,and global position system to reduce disasters. Establish a disaster insurance system.Encourage enterprises and indiveduals to take disaster insurance. Strengthen capabilities of the society to enduce disaster impact. Actively and constanty push forward social

donations. Encourage the people to support and help each other. Encourage various organizations to widely participate in the work of disaster reduction. Take practical measures to help the special groups of people in the society such as the aged, the children and the handicapped to improve capabilities to resist dlisasters. Improve medical system of the Central Government and local governments. Raise capabilities of medical organizations for emergency and disaster resistance.

3.5 International Cooperation for Disaster Disaster Reduction

In the disaster reduction of major engineering projects,we encourage the introduction of import investment and advanced technology.Build up various kinds of demonstration areas and engineering projects of disaster reduction through different kinds of cooperation.

In the disaster reduction of non-engineering projects.we vigorously push forward international cooperation on the disaster reduction capabillity of the government, information exchange, dissemination, education and personnel training, scientific research, technological development and international humanitarian aids.

Strengthening international cooperation in disaster reduction is an important task of China's disaster reduction. The Chinese Government welcomes international organizations, governmensts of various countries, social groups and individuals to participate in the construction of disaster reduction of China. We will fully engage ourselves in the exchange and coopertion with other countries in the fields of personnel, investment, and technology etc. We will take an active part in international activities for disaster reduction and continue to work together with the international community for a more secure 21 century.

(**Note:** The plan does not include the Hongkong Special Administrative Region,Taiwan Province and the Macao Region.)

Appendix 1. Projects of Disaster Reduction Now Under Way

1. Three-gorge Dam of the Yangtze River
2. Afforestation of the Taihang Mountains
3. The Third Stage of " the Three-North" Shelter Forest System
4. Shelter Forest System in the Middle and Upper Reaches Areas of the Yangtze River
5. Sand Defense and Control of China
6. Shelter Forest System along the Coastal Line
7. Integrated Development of Grassland
8. Disaster Defense and Reduction for Disaster Sensitive Pastoral Areas
9. Soil Erosion Defense and Control of China
10. Dam of Xiaolangdi of the Yellow River
11. Harnessing of the Huaihe River
12. Integrated Harnessing of the Taihu Lake
13. Monitoring Network of Major Diseases,Insects and Mice for Crops
14. Research Plan and Situation of Disaster and Insect of Crops
15. Harnessing of Dangerous Rock in Lianzi Cliff and Landslide in Huangla of the Three Gorges of the Yangtze River
16. Defense and Control of Major Geologcal Disaster in China
17. Earth quake Resistance for Newly-built Engineering projects and Fix for Present Non-protected Buildings, Engineering Facilities and Equipment
18. Regional Plan of Integrated Earthquake Defense System for Northwest of Beijing,Shanxi-Hebei-Inner Mongolia Area,and the Yangtze River Delta in Jiangsu
19. Basic Research on City's Engineering Disaster Reduction
20. Professional System for Prediction and Alarm of Earthquake
21. Monitoring and Track in the key Earthquake Monitoring and Defense Regions
22. Digital Earthquake Network, Information Network, Spatial Geotectonical Deformation Monitoring Network
23. Emergency Schemes taken before and during earthquake
24. Research on New Technology and Countermeasures for Reduction of Earthquake in China

25. Disaster Remote Sensing Monitoring and Evaluation
26. Technology for Preventing Earthquake of Engineering Structure and Used Energy Technology for Reduction of Earthquake
27. Construction of Monitoring,Prediction and Alarm system for Forest Diseases and Insect Disaster
28. Monitoring and Prediction for Forest Fire
29. China's Monitoring Center for Land Degradation
30. National Disaster Management System
31. Prediction and Alarm System for Marine Disaster
32. Professional Monitoring,Prediction and Alarm System of Marine Disaster
33. Construction of Medical Emergency Management System for Disasters

Appendix 2. Optional Projects of Disaster Reduction

1. Monitoring and Alarm System for Drought
2. Monitoring, Prediction, Service and Evaluation for Disastrons Weather
3.Controlling and Reducing Diseae and Insect Damages, and Supporting Plant Protection in the Old Liberated, Minority Nationality, Remote, and Poverty Regions
4. Plant Quarantine Center for Forest in South China
5. Research on Artificial Hail Prevention (Rain Increase)and Agricultural Insurance for Disaster Reduction
6. Earthquake Monitoring,Disaster Prerdicting and Emergency Measures in Chian and key Regions
7. China's Center of Natural Disaster Reduction
8. Storage,Transportation and Management of Rescue Material in China
9. Legislation and Implementation of Disaster Reduction in China
10. Edition of Natural Disaster Regionalization and Integrated Disaster Reduction Regionalization of China
11. Cost-Effect Analysis of Investment in Disaster Reduction and Prevention
12. Short-term-prediction and Evaluation for Major Meteorological Disasters and Their Application System
13. Research on Monitoring,Prediction and Reduction of Typhoon and Storm Disaster
14. Research and Manufacturing of Universal Computer Software for Disaster Information

15. Emergency Communication System for Disaster Reduction
16. Construction of Rescue System of pre Hospital Treatment
17. Establishment of Marine Disaster Evaluation System
18. Research on Division and Countermeasures of Natural Disaster Insurance in China
19. Disaster Reduction Dissemination of China
20. Construction of Education and Training Bases of Disaster Reduction of China
21. Emergency Broadcast and Television System for Disaster Reduction
22. National Command System of Flood Prevention and Drought Resistance
23. Construction of Monitoring and Predicting System and Disaster Evalvation System of Geoloqical Disaster
24. Demonstration of Integrated Disaster Reduction for Urbanization Areas in the Delta of the Yangtze River
25. Research on Integrated Disaster Reduction in the High Risk Regions of China
26. Research on the Cost-effect Assessment of the Water Conservancy Project and countermeasures of Disaster Reduction of the Huaihe River
27. Beijing's Disaster Reduction Plan,Integrated Information System and Database
28. Demonstration of Integrated Defense and Control of Landslide and Debris Flow in Yunnan Province
29. Disaster Reduction Information,Emergency Rescue and Training Center of Anhui Province
30. Marine Security,Disaster Prevention and Detection and Rescue Center of Shandong Province
31. Pre-Alarm and Emergency Rescue System of catastrophic floods in the Dongting Lake Area, Hunan Province
32. Emergency Center of Snow and Ice Freeze Injury of Tibet Autonomous Region
33. Construction of Integrated Disaster Reduction Demonstration Areas around the Bohai Sea
34. Construction of Integrated Disaster Reduction Demonstration Areas of Dezhou, Shandong Province
35. Construction of Integrated Disaster Reduction Demonstration Areas of Baoji City, Shanxi Province
36. Disaster Reduction Center of Guangyuan City, Sichuan Province