1. City/Local Government

City Name: Chengdu city, Sichuan province

Location: Sichuan province, China

Size: 12.000 square kilometers (as of 2009)

Population: 13 million plus (as of 2009)

GDP: 450.26 billion RMB (as of 2009)

2. Hazard Types: natural disasters, accidents and public health incidents

3. Name of Mayor: Ge Honglin

4. Which part of the city administration will be the focal point for the Campaign?

Chengdu Municipal People's Government

Contact details Focal Point

4.1. Name: Chengdu Municipal People's Government

4.2. Function: responsible for disaster prevention and reduction work city-wide

4.3. Address: No.19 XiHuaMen Street, Chengdu/No. 2 RenMinXi Road, Chengdu

4.4. Email Address: cdls_2009@126.com/wuweiwei661023@sina.com

4.5. Contact No.:86+28+86269510/86261454

4.6. Fax No.: 86+28+86637488/86642750

5. Which local institutions will be engaged in the Campaign? (in addition to the local government)

Schools, scientific research institutions and communities

6. Major Disaster Risks: earthquake (occurred), flood (occurred), mudslide (occurred) and fire (occurred)

7. Achievements and plans in relation to the ten essential areas:

1). Essential 1: Risk reducing organization and coordination in place

1.1). Progress and achievements

The city has set up a complete array of earthquake & disaster prevention and reduction organizations. After the magnitude-8 earthquake at Wenchuan County, the Chengdu City Earthquake Prevention and Disaster Reduction Bureau added 5 personnel to increase the total staff number to 27. Under it, a new institution- Chengdu City Earthquake Monitor Technology Center was established with a personnel of 5. Currently, specialized earthquake prevention and disaster

reduction organization are present in 11 districts (or secondary cities) across the city along with 189 staff at town level and 2,124 earthquake security associates at village and community level. 13 districts (or secondary cities) have their own town-level emergency rescue teams totaling 2,630 emergency rescuers.

The city has constituted the Chengdu City Disaster Prevention and Reduction Council comprised of government authorities in civil affairs, earthquake, land, construction and meteorology among other areas engaged as participating members. Moreover, the city of Chengdu has prepared disaster prevention and reduction contingency plans, implemented a wide and diverse array of community-based disaster reduction and prevention awareness raising and drilling campaigns that have further enhanced the general public's knowledge in this respect. The Binhe Community at Longquanyi District in particular was named National Pilot Community for Disaster Prevention and Reduction by the State Disaster Prevention and Reduction Council in 2009.

District (secondary city) and county governments are made the main players claiming disaster prevention responsibilities to manage the prevention and reduction work of various geographic disasters within their jurisdictions. District (secondary city) and county governments signed up responsibility letter for disaster prevention and reduction work with town (township) level governments who will nominate their champions, while villages (communities) carry out daily monitoring and implement the responsibilities all the way down to the families and residents.

A city health emergency office was set up in 2004 to manage health emergency work in particular. The office now has two full-time associates. Meanwhile, 5 districts (secondary cities) and counties and the city disease control center have established their full-time health emergency offices, while the remaining districts (secondary cities) and counties also boast full-time institutions and people committed to health emergency work. As of now, the city is home to a 120 (an equivalent of 911 in the US) Emergency Rescue Network & System centered on 120 Command Center with two levels of commands and three levels of rescue, featuring the 120 Command Center as the first level of command and coordination and the 10 suburban district (secondary city) and county platforms as second level of command and coordination, and the downtown area as the first level of rescue, districts (secondary cities) and counties as the second level of rescue and the towns as the third level. In addition, Chengdu City established special medical rescue squad complimented by secondary squads at the districts (secondary cities) and counties, as well as the second level of medical institutions, creating a complete set of emergency rescue teams.

At present, 20 districts (secondary cities) and counties across the city have erected their county-level flood prevention commands with permanent offices. The city Flood Prevention Command Office is responsible for daily work, as well as organizing, coordinating, supervising and commanding the flood prevention work in the whole city.

1.2). Plan

The plan is to further enhance and complete organization in disaster prevention and reduction spectrum, fully exert the roles of Disaster Prevention and Reduction Council, and proactively motivate the specific functions of various institutions in the efforts to implement the disaster prevention and reduction work up to the most practical. Also, important efforts will go to the

further promotion and publicity of disaster prevention and reduction knowledge, and extensive rollout of community-based campaigns in various forms to allow more of the general public to understand disaster prevention and reduction. Frequent disaster prevention exercises will be put on to improve people's escape skills and maximally reduce damages when disaster strikes.

In addition to the 5 district in downtown area and the High-tech District, Jintang County, Longquanyi District and Qingbaijiang District will set up their own institutions dedicated to earthquake prevention and disaster reduction.

Emergency health teams will be further equipped, with a plan to deliver personal protection, camping and self supplies for the special medical squad in 2011, and equipments for the emergency team at the City Disease Control Center and the emergency teams at district and county level in 2011 as well.

It is also planned to learn from the advanced medical rescue practices abroad, and strive to deliver medical supplies to the accident site in the shortest time and equip 50-100 people and tools in the four directions to raise medical emergency capacities.

2) Essential 2: Budget assigned

The city has implemented subsidies for rebuilding, maintenance and reinforcement work in full alignment with the national and provincial policies, and has sent out 4.84 billion RMB as subsidies to urban and rural residents with damaged houses, with 1.37 billion RMB of them for maintenance and reinforcement and 3.47 billion RMB for new buildings. The roles of credits and loans are fully leveraged too. Cities and counties have established guarantee companies for property mortgage in rural areas to actively coordinate with financial institutions to the effect that the rebuilding rural residents could use their rebuilding houses as mortgage at the guarantee companies to apply for a maximal loan of 60,000 RMB with 8 years of subsidized interests maximally. In this manner, 0.883 billion RMB has been distributed to 20,100 rebuilding households in loans. Bold attempts are made in the transfer/circulation of use rights for collective construction land pioneering a new model of development-oriented rebuilding which has attracted more than 5 billion RMB of private funds to finish development-oriented rebuilding and collection rebuilding for 16,000 households. Active efforts are also made to capitalize on resources, with Dujiangyan City and Pengzhou City raising 9.6 billion RMB of house rebuilding funds by mortgaging their state-owned development land. Aids and donations were well utilized, while government foundation and administrative charges are stopped and some operational service charges are reduced to greatly alleviate the burdens on companies and people in the quake-hit areas. Effective measures are put in place to boost the rehabilitation and growth in real estate, tourism and other industries as well.

3). Essential 3: Risk assessment prepared

3.1). Progress and achievements

Located at the middle section of the Chinese South-North Earthquake Belt, Chengdu City spans over three geographic structures: Mount Longmen, Chengdu Depression and Mount Longquan, and has four fault areas from west to east: Mont Longmen, Qionglai-Dayi-Zhuwa-Pengzhou, Pujiang-Xinjin-Deyang and Mount Longquan with most of the

earthquake activities lined up along them and the strongest ones along the Mount Longmen fault. Therefore, Chengdu is an area subject to strong influences of earthquake activities and has the potential for a magnitude 6 earthquake along the Mount Longmen fault in the future.

Chengdu Land & Resource Administration has worked with Institute of Mountain Hazards and Environment of CAS to come up with such reports as *Assessment on Resource and Environment Capacities in Chengdu, Assessment & Prediction of Secondary Geo-hazards at Mount Longmen Belt in Chengdu and Relative Regional Economic Development Strategy,* as well as the *Assessment on Geo-Environment Capacities at Mount Longquan of Chengdu and Geo-hazards Prevention and Control Plan* providing scientific backup for the regional development and planning of disaster prevention and reduction. Currently, the city has spread the geo-hazards assessment models to all the development projects in areas prone to geographic risks in the city.

Based on surveys of the geographic and time distributions of major climate disasters such as storms, floods, geographic events, high temperature and droughts, the city has designated hazardous areas for meteorological and derivative risks. Meteorological monitoring network is established to support early warning and immediate reporting of risks. Also, the city government has partnered with authorities in land resource, water resource and environmental protection among others in the areas of risk prevention and data sharing in the area of meteorological disasters.

Monthly analysis programs are put in place for emergency public health incidents. Starting from November 2006, the City Disease Control Center has been running routine epidemic and emergency event analysis meetings every month, organizing experts' teams on early warning and assessment to analyze the information collected, debate whether there is rise in epidemic outbreaks, study the reasons for anomalies, conduct prediction and warning, and propose countermeasures. Meanwhile, City Disease Control Center and the health authorities at district (city) and county levels have been engaged in monthly analysis of emergency public health events which is submitted to the municipal health authority in written forms.

An experts' team was founded to deal with environmental emergencies; and a highly sophisticated environmental monitoring system is established across the city, with air environment monitoring stations erected in various districts (secondary cities) and counties monitoring the air environment around the clock. Daily inspections, reviews and regular sampling are conducted over primary risk sources, drinking water source, chemical and petro companies located by rivers, high-pollution and high-consumption enterprises, and companies involved in heavy metals.

3.2). Plan

In order to further understand the subterranean rupture distribution and earthquake structures in Chengdu, the city is currently engaged in the Research in Detection of Active Earthquake Faults in Chengdu.

The plan is to further enhance the cooperation and joint prevention with various departments, and increase the number of staff at places prone to meteorological risks who will guide the urban plan and construction to evade from risks and oversee the construction of risk prevention projects. Also, infrastructures against meteorological hazards will be boosted, with developments of encrypted meteorological monitoring systems in areas highly prone to such risks, reporting

systems for various meteorological disasters, and early warning and assistant decision-making system for meteorological disasters. Meteorological feasibility review work will be rolled out for the proper development of resources to maximally prevent from various meteorological hazards under the backgrounds of climate change.

4). Essential 4: Investment in risk reducing infrastructure

4.1). Progress and achievements

After the magnitude 8 earthquake at Wenchuan County, the municipal fiscal department allocated 14,125,000 RMB to build 7 new earthquake monitoring platforms, 1 new strong earthquake monitoring network & system, as well as establish and improve the earthquake emergency command technology system.

By now, the city has shaped a considerably complete earthquake monitoring system that encompasses one digital remote earthquake monitoring network with 12 stations, one earthquake intensity and speed network with 65 stations, 7 subterranean fluids monitoring stations (wells, springs and niton), 1 electromagnetic network with 6 stations, one 8-bit electromagnetic wave station, the Yinchang Valley General Deformation Station (water pipes, shrinkage, extension and declension) and 8 under-well declension stations.

A comprehensive system monitoring disastrous weathers is primarily established as well. Currently, it includes 13 state meteorological monitoring stations, 231 regional weather monitoring stations, 1 atmospheric composition watching station, 1 interfacial layer detection station, 5 GPS/MET water and gas watching station, 1 lighting monitoring station, 5 atmospheric electric field monitoring stations, 5 visibility watching stations, 13 automatic soil moisture monitoring stations, 1 radar weather monitoring station, 1 mobile radar monitoring station, 2 wind profile radar monitoring stations, and 4 agricultural weather watching stations. City-wide general weather information management and report platform is built, along with operational systems in urban waterlog, geographic disaster, forest fire hazards, rural-town reports, thunder &lighting potential forecasting, immediate early warning and strong convective weather tracking and warning, with warning and reporting/forecasting system for atmospheric pollution still under development. Meanwhile, the city has built emergency weather command platform, and county-level weather information sharing platform which help realize instant notification and sharing of weather information. A working mechanism comprised of different means of publishing weather information such as television, radio, telephone, facsimile, electronic display screens, websites, cell phone messaging and urban service outlets is in play to extend weather data service to towns, villages and parks.

Furthermore, the city of Chengdu has expedited implementation of evacuation and migration work concerning rural households challenged by geographic hazards, and has by now relocated more than 4,000 households, each household granted a subsidy of 13,000 RMB or 22,000 RMB. Some 0.4 billion RMB was invested in projects covered under specific reconstruction plans targeted at 98 major spots hit by the earthquake. Three levels of sophisticated medical, prevention and therapeutic networks are built, with 4,000 plus medical and health institutions providing 61,000 beds and a professional staff of 81,000 people.

Home to 20 third-level hospitals, the city has also built a new municipal epidemic hospital

with an investment of 0.13 billion RMB claiming a land of 60 mu (one mu being 0.667 hectare), a floor area of 31,600 square meters and 400 beds. 0.29 billion RMB was invested, in the mean time, in building a new third-level grade-A traditional Chinese medicine & western hospital claiming a land area of 89,100 square meters, a floor area of 67,161 square meters and 600 beds. In addition, the newly erected Chengdu Emergency Medical Rescue Center (total investment- 36.14 million RMB) has a land area of 13,200 square meters, 3,300 square meters of business room area, a parking lot of 2,000 square meters, a staff of 180 people and 31 vehicles (including 3 negative pressure trucks).

Warehouses for the storage of emergency environmental supplies are built as well; more than 3 million RMB has been invested in the procurement of emergency supplies for regular environmental pollutions such as oil sorbent mats, booms, active carbon and exposure suits from 2007 to the present, while more than 4 million RMB has been spent on the purchase of emergency environmental detection devices such as portable GC/MS, GC, spectrophotometer, infrared oil analyzer, bio-toxicity analyzer, heavy metal detector, instant water analyzer, three multi-function water analyzers, three instant gas analyzers and a set of single-unit networked visual image transmission device.

Anti-flooding infrastructure like river embankments was seriously damaged by the May 12 Earthquake in 2008. Over the last two years, the city has invested approximately 0.22 billion RMB to build and maintain 38.4 kilometers of dykes. In order to strengthen the prevention of geographic disasters like mountain flooding and mudslide, the city has devised the specific prevention plan for the whole area, with Dujiangyan City, Pengzhou City, Chongzhou City and Dayi County having already finished the main projects for mountain flooding prevention and warning developed with a total investment of 12.52 million RMB.

4.2). Plan

The plan is to build meteorological disaster warning and prevention command centers or a general serving platform combined of meteorological disaster forecasting and warning, meteorological data gathering and management, real-time publishing of meteorological service products, joint meteorological prevention and consultation, as well as emergency meteorological service command.

The existing meteorological data system is to be remodeled to improve the data gathering and managing capabilities and boost the inter-department information sharing ability.

It is also planned to build a by-area publishing system of meteorological information through mobile phone messaging; establish a disaster data network and database system tied to all the involved departments to create a shared platform for disaster prevention and reduction information; set up real-time meteorological information broadcasting system on high-definition TVs and visual gathering system for disaster information, and fully roll out the MMS and 3G mobile phone meteorological information services; enhance the emergency meteorological service platforms, and build emergency meteorological service and warning message publishing system for urgent and major incidents; and boost construction of meteorological information service stations at town and rural levels to complete the capacities.

Efforts will also go to the establishment of refined weather data forecasting system,

enhancement of immediate warning and forecasting business for disastrous weathers, and creation of immediate-term warning and forecasting system for natural disasters triggered by strong precipitation, thundering & lighting, hails and storm based on the new generation of weather radar, wind profile radar, and other detection means like GPS/MET. Also the city is to build system for forecasting traffic security, service system for tourism weather, remote application service system and system for the forecasting and warning of atmospheric pollutions.

While some 0.195 billion RMB has been invested in the reinforcement of 109 risky reservoirs (including quake damages) from 2007, for the year 2010, the city plans to reinforce 5 reservoirs: Jintang Jianshe Reservoir, Dayi Jinyang Reservoir, Pujiang Qinglong, Shizi, and Songdanian which are projected to finish in 2012.

5). Essential 5: Safe schools and health facilities

5.1). Progress and achievements

The city organized experts and professors from Academy of Disaster Reduction and Emergency Management at Beijing Normal University and Chengdu Education & Scientific Research Institution for the edition of the student instruction book- *Primary and Middle School Students Reading Manual for Disaster Prevention and Reduction* along with teachers manual in July 2007 which were used in some pilot schools in Dayi county and Dujiangyan city, and were well received by teachers, students and parents.

In October 2010, the monitoring center for the city's education system was established with more than 800 sky-net linked cameras installed in the gates of schools throughout the city to watch over the campuses and their vicinities. According to statistics, the city has devoted 53.52 million RMB of committed funding to install 8,592 surveillance devices and 1,096 sets of alarming devices, and, based on security features on campus and the directions of police departments, urged schools and kindergartens to add 3,427 and 1,546 security guards respectively and reinforce with 6,924 police clubs, 2,725 police forks, 906 shields, 3,180 pairs of mesh gloves, 3,155 sprays and 371 walkie-talkies. Meanwhile, the city set out on a full-covering check on schools and their vicinities, an effort that has identified 127 main suspects and 2,560 spots of security concerns, and has overseen schools to remove over 2,437 security concerns, with the remaining to be eliminated per schedule.

5.2). Plan

The plan is to establish a long-term disaster reduction mechanism, constantly enhance school books on disaster reduction, and increase publicity; boost trainings for school faculties and students, step up training influences and improve the faculty and students' abilities to respond to disasters; and finally to further strengthen the force of teachers devoted to disaster reduction education and improve their professional know-how and competence in that respect.

6). Essential 6: Risk compliant building regulation and land use applied

6.1). Progress and achievements

In its downtown area, the city of Chengdu has established 54 emergency shelters along with the many established by governments at the levels of districts (secondary cities) and counties.

Meanwhile, school campuses and parks are also identified as emergency shelter venues.

Based on the full digestion of advanced practices in foreign countries over recent years, and full considerations of practical circumstances in terms of state policies and the existing local resources, the city has established level structure and per capita quotas pertaining the emergency sheltering system, to create a comprehensive, sound and efficient system ensuring city and community safety. Downtown range: approximately 600 square kilometers. Plan terms: short term by 2013 and long term by 2020.

6.2). Plan

The emergency sheltering plan incorporates three major parts: emergency shelter venues (including open spaces), emergency transportation system and emergency command & service system. Their main functions are emergency risk sheltering, by-area safety assessment, dynamic city-wide evacuation, proper distribution of resources and prompt and effective command. Through them, the city could realize highly efficient, orderly, secure and controllable emergency evacuation and sheltering process to finally materialize the mission of secure city and secure communities. The plan aims to establish a full-covering system of emergency sheltering locations in both the downtown area (land area: around 600 square kilometers) and its surrounding areas. Plan terms: short term by 2013 and long term by 2020.

7). Essential 7: Education programs and training in place

7.1). Progress and achievements

The city has put up awareness raising workshops, TV and radio lectures, publicity exhibits and sent out publicity materials targeted at primary and middle schools where students were also put through earthquake escape exercises and trainings. Moreover, grassroots community personnel responsible for quake prevention and disaster reduction were trained, and town and rural emergency rescue teams were trained in organized drillings.

A 10,000 Villages Training Program aimed at spreading natural disaster prevention know-how was rolled out in 115 vulnerable towns, with over 15,000 people trained throughout the program. Newspapers, TVs, internet and mobile phone messages were resorted to in the enterprise to publicize natural disaster prevention and reduction knowledge on an extensive scale.

The city conducted public lectures on climate changes, disaster prevention and reduction at the city's library for the general public, and partnered with the land and resource authorities to promptly announce forecasting and warning of natural disasters, especially during the remarkably strong mudslide on August 13th, 2010. Also, cooperation from forest, agriculture and health authorities was recruited in the publicity of disaster prevention, reduction and meteorological knowledge in the areas of forest fires, agricultural diseases and pests, health and epidemic prevention.

Meteorological information teams staffed with more than 2,700 people are established in towns and villages, and through them, disaster prevention, reduction and meteorological information are spread across to schools, communities, towns and villages. World Meteorological Day and legal day are utilized to publicize with a theme every year, and resorted to so as to further strengthen the cooperative mechanism with radio and TV networks among other media to issue

meteorological warning information. Radio programs are broadcasted to answer the citizens' concerns in popular meteorological disaster prevention and reduction issues, while provincial and municipal newspapers and TV programs are used to raise awareness.

The city of Chengdu is home to the nation's first-rate professional health schools that crank out large numbers of health professionals for the communities each year. On-the-job training and education are constant and wide-spread as well, with disaster health training platform and pre-hospital emergency training platform established for the annual trainings of working health occupants in the area of new epidemic outbreaks and major diseases, with very benefiting results.

People are organized each year for the state and provincial-level trainings in emergency environmental contamination incidents, and no less than 2 learning and training sessions are organized by the city's environmental protection authority. Two sessions in emergency rescue of reservoirs covering 120 trainees have been done already, while training sessions in reservoir management, emergency rescue and flooding prevention are planned every year, with each session covering 50 people.

7.2). Plan

The city is committed to constantly enhancing the meteorological information staff' know-how and skills in disaster prevention and reduction, boost their capabilities in promoting meteorological information and through their publicizing and educational roles to spreading the disaster prevention and reduction programs to the vast urban and rural residents. Modern public infrastructure facilities are to be fully leveraged to constantly improve the modern publicity platforms. Meteorological, disaster prevention and reduction features will be enriched in newspapers and TV programs. Theme programs on World Meteorological Day and World Legal Day will be continued for public promotion and education. Meteorological disaster prevention and reduction center and public education center will be established in downtown area, as well as in various levels of schools, villages and communities to popularize meteorological disaster prevention, reduction and general meteorological know-how.

Meanwhile, the city will strengthen partnership with the red cross for the trainings of citizens in self and mutual rescuing, and will implement trainings for special personnel (in firefighting, traffic police and tourism) at the 120 Command Center.

8). Essential 8:Ecosystems and natural buffers protected

8.1) Progress and achievements

Natural reserves are established, and surveys and publicities for the protection of forests and wild animal resources are implemented. Four natural reserves protecting forests and wild animals have been built in the city, which are Sichuan Longxi-Hongkou State-level Natural Reserve (located in Dujiangyan City), Sichuan Baishui River State-level Natural Reserve (located in Pengzhou City), Sichuan Anzi River Natural Reserve (located in Chongzhou City) and Sichuan Dayi Heishui River Provincial Natural Reserve (located in Dayi County) that together amount to 1,014.11 square kilometers in land area accounting for 8.18% of the whole city area. As such, those reserves make Chengdu the city with the largest area of virgin forest and state-level natural reserves in the country, and a capital city located in the closest distance to virgin forest (merely 70

kilometers) and inhabited by the most diverse wild plant and animal species. Infrastructure facilities have been reconstructed after the earthquake and ecosystems have recovered.

Through interactions in panda technologies and genome between the natural reserve and panda breeding center, development of human-bred giant pandas has been enhanced, and as such, the number of panda species has been steadily increasing over the years. A wild animal rescue center has been built using zoo technology, and has rescued 150 wild animals in 36 species over the past two years. Over 5,000 mu of land in the wild has been newly made platforms for growing bamboos for giant pandas ensuring their food supplies. Panda center, zoos and natural reserves has joint together to extend the coverage of public education and awareness raising for wild animals. Platform for wild breeding of giant pandas has also been covered in plan to enhance balance between local protection and migration protection.

As a result, a wild animal protection system covering both the urban and rural areas has been established, with which tracks of rare animals such as giant pandas, small bears, moon bears, muntjac deer and macaques have been frequently spotted in the natural reserves recently, a sign that the ecosystems in the city are steadily recovering.

8.2). Plan

The city plans to develop infrastructures for the third phase of Longxi Hongkou, and Baishui River Reserves, and the second phase of Anzi River and Heishui River Reserves, along with the infrastructures for seven pilot protection stations for these natural reserves at Zhongba Village of Pengzhou City, Longchi Town of Dujiangyan City, Xieyuan Town of Dayi County and Shaoyao Valley of Chongzhou City among other spots. An administration system combined of patrol, monitoring, public education, rescue and protection functions will be further improved. Recovery work for the ecological vegetation at the giant panda habitats will be further continued. First and second phases construction of infrastructure project (covering 2,000 mu of land) for wild breeding platform for giant pandas will be finished. The Qianjiang State Wetland Park at Pengzhou City and Yangma Wetland Park at Chongzhou City will be developed as well.

In addition, the city will further tap into the potentials in forest resources by developing ecological tourism featuring flowers, leaves, birds, butterflies appreciation, fruit picking, tea tasting, summer resort and scientific research mainly, developed in line with the Chengdu City Green Ecological Tourism Plan, and exploit diverse tourism formats such as ecological sight-seeing, special agricultures, special orchards, cultural research and rustic resort, enhancing the developments in the popular forest and ecological tourism forms. Another focus will be on the development and use of infrastructure at ecological tourism spots in Chongzhou City, Dayi County, Jintang County and Pengzhou City.

Meanwhile, efforts will go to the protection from epidemics in wild animals (birds) and the establishment of a sophisticated Direct Reporting System of Wild Animals Epidemic Disease Detection Information Network.

9). Essential 9: Early warning systems installed

9.1). Progress and achievements

Mid and long-term trend forecasting for earthquake activities in Chengdu and its

surrounding areas has been maintained, striving for earthquake predicting and warning with practical mitigation effects, though the current earthquake forecasting work is still at a pioneering stage.

Significant progress is achieved in the forecasting capabilities of storms, high temperatures, drought, lighting, strong winds, hails, and strong fog, with an 80% plus accuracy rate. Natural disaster and meteorological warning release system is established, urban waterlog monitoring and warning, as well as air pollution warning services have been implemented to create functional warning and serving capabilities in response to meteorological and derivative disasters.

Apart from similar working mechanisms for forecasting natural disasters enforced in the districts, secondary cities and counties, the Chengdu City Natural Disaster Reporting Regulations is drafted in order to improve the accuracy of meteorological disaster forecasting and increase information release channels so that forecast information could reach out most immediately allowing for prompt and effective adoption of prevention measures. From 2009 onward, the city has issued 12 warnings for natural disasters, with 6 in 2010. In response of the warnings, due areas have all taken countermeasures and areas receiving higher levels of warning have made prompt decisions evacuating threatened population to safe zones. As of 2010, the total number of evacuated people amounted to over 20,000.

Chengdu City Disease Prevention and Control Center established and put in practices multiple monitoring systems in the areas of epidemic disease, fever and diarrhea symptoms, health hazard elements, emergency public health incidents, and has gradually realized information management through direct network reporting. With long-term, constant monitoring, the city has established statistics and analysis quotas in hazardous health elements involving drinking water, food, atmosphere, environment, vector life forms, pathogens evolution, people susceptibility, general acute respiratory and irritable bowel syndromes and aggregative infectious diseases, enabling immediate assessments on influences of changes in the quotas and thus issuance of warnings accordingly.

Early warning devices such as gongs, drums, alarms and loudspeakers have been sent out to small-scale reservoirs across the city.

Apart from the emergency management leadership team established to deal with emergency environmental pollution incidents, the city's environmental protection authority has set up office in its industry department and upgraded the “12369” call network for reporting of environmental issues. In response to different pollutants, the city also established and improved respective contingency environmental plans and set up emergency management teams headed by monitoring centers and inspection squads, while different districts, secondary cities and counties have also formed their respective emergency response teams.

9.2). Plan

As the Chinese early earthquake warning system is currently in R&D phase, the city authority aims to roll out respective work when the research reaches its maturity.

The plan is to develop precision forecasting systems to realize prompt, location-precise and quantitative capacities forecasting various hazardous weather risks, targeting at a 5% increase in

accuracy rate. Partnership among different government agencies will be enhanced to further advance the work in research, early warning, responses and assessments over meteorological and derivative disasters.

The city is also going to establish a city-wide risk projection network covering atmospheric, water and ecological environments. Private forces will be enlisted to develop corporate environment emergency rescue squads so as to extend the network to the whole spectrum. Funding will be boosted to materialize different levels of emergency supply warehouses and supplies.

10. Essential 10: Needs-based (survivors) reconstruction

10.1). Progress and achievements

The ultra strong Wenchuan Earthquake wrecked grave impacts over people's life and properties in 2008. Confronted by such an unprecedented nation-shattering catastrophe, the city mobilized all the forces to rescue the victims, steadily promote the settlements of survivors and reduce the damages to the minimum. On the city level, the tasks for reinforcements of 315,000 houses had been finished by 100% while 136,516 or 99.91% of the total 136,644 houses to be newly built had been finished by September 19th, 2010. As a result, 136,101 households or 99.91% of the total had available housing, and 121,469 households or 88.89% of the total had already moved in. And, on the town and rural level, totally 141,5000 houses or 100% of the total had been maintained and reinforced, 42,420 houses or 98.75% of the total to be newly built had been completed, and 23,911 households or 55.66% of the total had already moved in by September 19th, 2010. The rebuilt communities are now home to sophisticated infrastructure facilities. Among them are a number of small charming towns with unique features and classic communities such as Tianma Xiangrong (Sky Horse for Prosperity literally), Luming Hepan (Deer at Lotus Lake), Fengming Xinju (Phoenix New Home), Hudu Jiayuan (Shanghai Home), Tai'an Guzhen (Ancient Peace Town) and Dayi Huashuiwan (Dayi Flora Bay). 16 rebuilt towns (including two state-level towns) boasting prime layout, complete facilities and charming features are not only providing settlements for the millions of survivors, but have also significantly improved their working and living conditions in a completely new environment. 1,720 kilometers of rural highways have been reconstructed, while roads and buildings construction at the settlement sites has proceeded in alignment, with 665 kilometers of roadbeds already completed. Water supplies have been installed for over 500,000 survivors at rebuilding sites in 4 of the most seriously damaged counties, 515 sewage treatment facilities in the concentrated settlement sites have commenced and two main pipeline networks for natural gas supply have been completed. By the end of 2008, maintenance and reinforcement for 61 schools had been finished in advance, whereas reconstruction for totally 169 schools in the city was finished by September 1st, 2009. Rebuilding for 197 health facilities on various levels was wrapped up. And construction for infrastructure in water, electricity, natural gas, road and communications is pushing ahead in line with house rebuilding programs.

10.2) Plan

For the next step, the city aims to further improve rescue and support system to establish a more functional and effective mechanism through three approaches. First, the city invests 0.16 billion RMB in the developments (already ongoing) of rescue shelters involving 35 public

facilities which will provide emergency sheltering room for 900,000 people guaranteeing the prompt settlement of disaster victims. Second, the city invests 58 million RMB to develop (already ongoing) general emergency command systems for disaster reduction and rescue covering 19 districts (secondary cities) and counties which will further enhance the city's rescue tools and capabilities from natural disasters, ensuring appropriate, efficient and accurate rescuing. Third, along with the improvements of people's life, the city will constantly increase the levels of supports for the victims/survivors.