

# 2010年

## 全国水利发展统计公报

2010 Statistic Bulletin on China Water Activities

中华人民共和国水利部 编

Ministry of Water Resources, People's Republic of China



中国水利水电出版社  
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图书在版编目（C I P）数据

2010年全国水利发展统计公报 / 中华人民共和国水利部编. -- 北京 : 中国水利水电出版社, 2011. 8  
ISBN 978-7-5084-8919-3

I. ①2… II. ①中… III. ①水利建设—经济发展—中国—2010 IV. ①F426. 9

中国版本图书馆CIP数据核字(2011)第168466号

书 名	2010年全国水利发展统计公报 2010 Statistic Bulletin on China Water Activities
作 者	中华人民共和国水利部 编 Ministry of Water Resources, People's Republic of China
出版发行	中国水利水电出版社 (北京市海淀区玉渊潭南路1号D座 100038) 网址: www.waterpub.com.cn E-mail: sales@waterpub.com.cn 电话: ( 010 ) 68367658 (营销中心)
经 售	北京科水图书销售中心 (零售) 电话: ( 010 ) 88383994、63202643 全国各地新华书店和相关出版物销售网点
排 版	中国水利水电出版社装帧出版部
印 刷	北京鑫丰华彩印有限公司
规 格	210mm×297mm 16开本 3.5印张 56千字
版 次	2011年8月第1版 2011年8月第1次印刷
印 数	0001—1000册
定 价	28.00 元

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2010年是“十一五”规划实施的最后一年、关键一年，各级水利部门深入贯彻落实科学发展观，积极践行可持续发展治水思路，大力发展民生水利，开拓进取，攻坚克难，扎实工作，圆满完成了“十一五”规划确定的目标任务，为实现“十二五”良好开局提供了坚实水利支撑，谱写了水利改革发展新篇章。



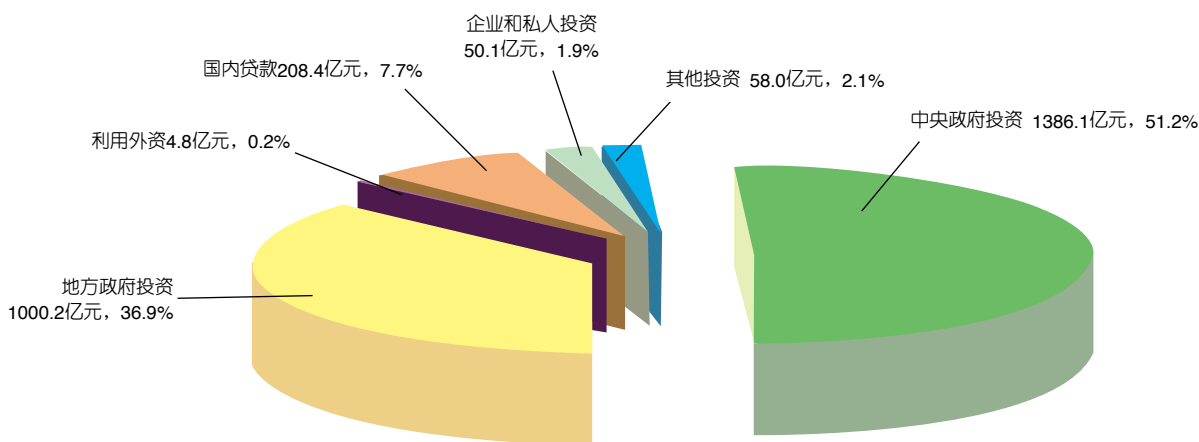


# 1

## 水利固定资产投资

2010年，全社会共落实水利固定资产投资计划2707.6亿元（含南水北调528.1亿元），较上年增加59.0%。分投资来源看：中央政府投资1386.1亿元，较上年增加110.9%；地方政府投资1000.2亿元，较上年增加27.3%；利用外资4.8亿元，较上年增加37.1%；国内贷款208.4亿元，较上年增加8.5%；企业和私人投资50.1亿元，较上年增加33.6%；其他投资58.0亿元，较上年增加114.0%。分投资方向看：防洪工程建设投资980.1亿元，较上年增加31.7%；水资源工程建设投资1170.1亿元，较上年增加59.7%；水土保持及生态环境保护投资115.3亿元，较上年增加73.6%；水电及专项工程投资442.1亿元，较上年增加177.2%。

全社会水利固定资产投资计划



全年共落实中央水利投资984.06亿元，较上年增加54%。其中：中央预算内拨款701.06亿元，较上年增加46%；水利建设基金15亿元，较上年增加25%；财政专项资金268亿元，较上年增加85%。

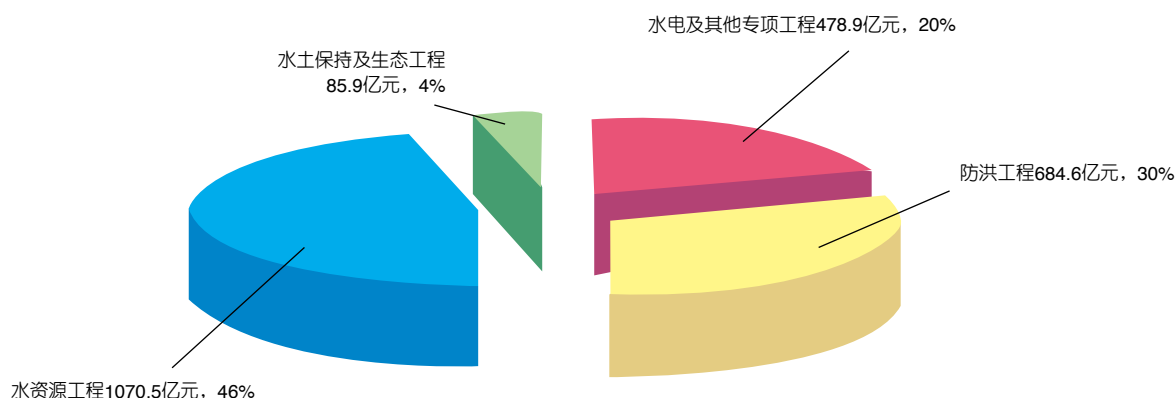
全年正式施工的水利建设项目10704个，在建项目投资总规模9966亿元，较上年增加27.4%。当年中央投资的水利建设项目5218个，较上年增加13.6%；在建投资规模5541.9亿元，较上年增加65.9%。当年新开工项目5811个，较上年减少3.0%；新增投资规模2426.3亿元，比上年增长18.4%。

全年水利建设完成投资2319.9亿元，较上年增加425.9亿元，增幅达22.5%。其中：建筑工程完成投资1524.9亿元，较上年增加17.6%；各类安装工程完成投资109.6亿元，较上年减少3.4%；机电设备及各类工器具购置完成投资124.5亿元，较上年减少0.4%；其他完成投资（包括移民征地补偿等）560.9亿元，较上年增加56.5%。

	2006年 (亿元)	2007年 (亿元)	2008年 (亿元)	2009年 (亿元)	2010年 (亿元)	增加比例 (%)
全年完成	793.8	944.9	1088.2	1894.0	2319.9	22.5
建筑工程	583.7	672.5	781.5	1297.2	1524.9	17.6
安装工程	31.9	46.5	67.4	113.4	109.6	-3.4
机电设备及各类工器具购置	38.4	56.8	60.0	125.0	124.5	-0.4
其他(包括移民征地补偿等)	139.8	169.0	179.3	358.4	560.9	56.5

在全部完成投资中，防洪工程建设完成投资684.6亿元，水资源工程建设完成投资1070.5亿元，水土保持及生态工程完成投资85.9亿元，水电、机构能力建设等专项工程完成投资478.9亿元；七大江河流域完成投资1959.8亿元，东南诸河、西北诸河以及西南诸河等其他流域完成投资360.1亿元；东部、东北、中部、西部地区完成投资分别为813.8亿元、116.6亿元、646.0亿元、743.5亿元，占全部完成投资的比例分别为35.1%、5.0%、27.8%和32.1%。

2010年分用途完成投资



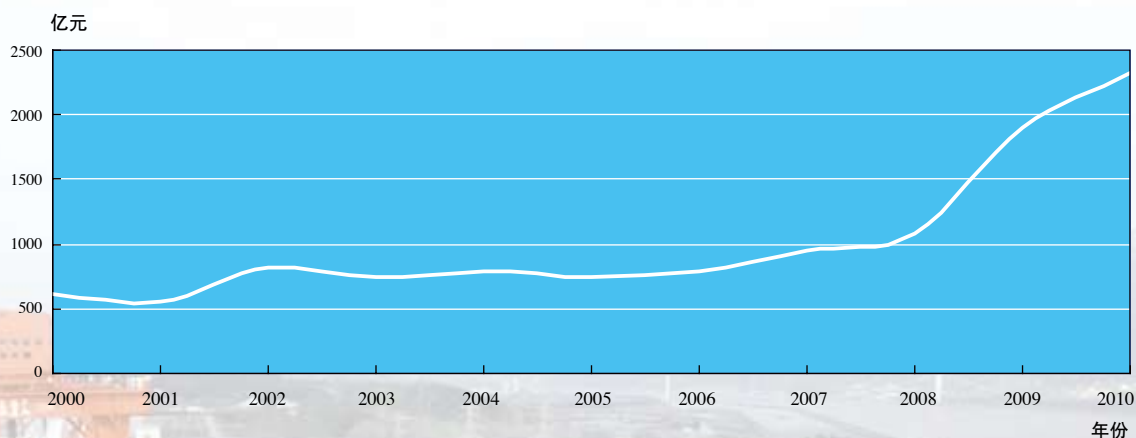
在全年完成投资中，中央项目完成投资442.8亿元，地方项目完成投资1877.1亿元；大中型项目完成投资687.9亿元，小型及其他项目完成投资1632.0亿元；各类新建工程完成投资1649.3亿元，扩建、改建等项目完成投资670.6亿元。



全年水利建设项目部分投产项目979个，全部投产项目6346个，共新增固定资产949.9亿元。全年完成投资新增固定资产1849.8亿元，固定资产形成率为79.7%。截至2010年底，在建项目累计完成投资5669.4亿元，投资完成率为56.9%，比上年下降2.2个百分点；在建项目累计新增固定资产3871.5亿元，固定资产形成率为68.3%，比上年增加0.6个百分点。

全年水利建设完成土方、石方和混凝土方分别为22.6亿立方米、3.1亿立方米、0.5亿立方米。至2010年底，在建项目计划实物工程量完成率分别为：土方54.5%、石方68.3%、混凝土方60.6%。

水利固定资产完成投资





# 2

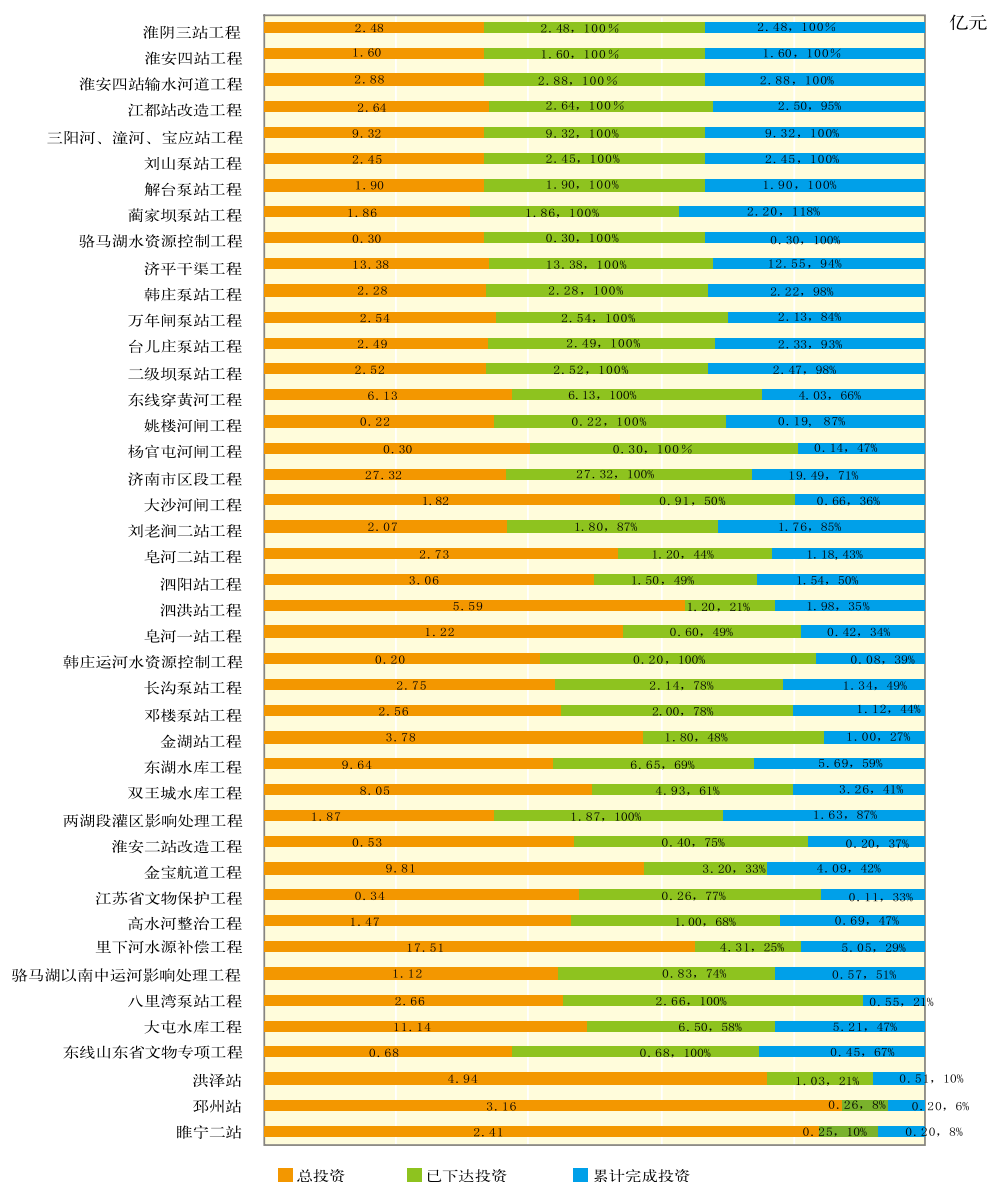
## 重点水利建设

**大江大河治理。**全年在建江河治理工程1628处，累计完成投资1068.9亿元，项目投资完成率60.7%。新增达标堤防长度4530公里，其中一、二级堤防新增达标长度1609公里。当年河道整治长度3210公里，完成2237公里。治淮骨干工程建设已累计完成投资98%，编制完成《进一步治理淮河近期工作指导意见》和《进一步治理淮河实施方案》。启动淮河流域重点平原洼地治理工程建设；湖南四水、江西五水、福建五江一溪、渭河等大江大河重要支流治理，洞庭湖、鄱阳湖治理进展顺利。

**水库枢纽工程。**全年在建枢纽工程382座，累计完成投资1014.0亿元，项目投资完成率52.8%。其中，水库枢纽工程211座，累计完成投资761.1亿元，项目投资完成率54.2%。新开工建设了黄河海勃湾、辽宁青山、浙江钦寸、广东乐昌峡、贵州黔中、西藏旁多、新疆生产建设兵团肯斯瓦特等一批骨干工程。当年在建病险水库除险加固工程3021座，累计完成投资535.5亿元，项目投资完成率80.7%；当年安排中央投资126.43亿元，用于大中型和重点小型水库除险加固任务，启动实施重点小型病险水库除险加固规划，当年基本完成除险加固任务1823座。

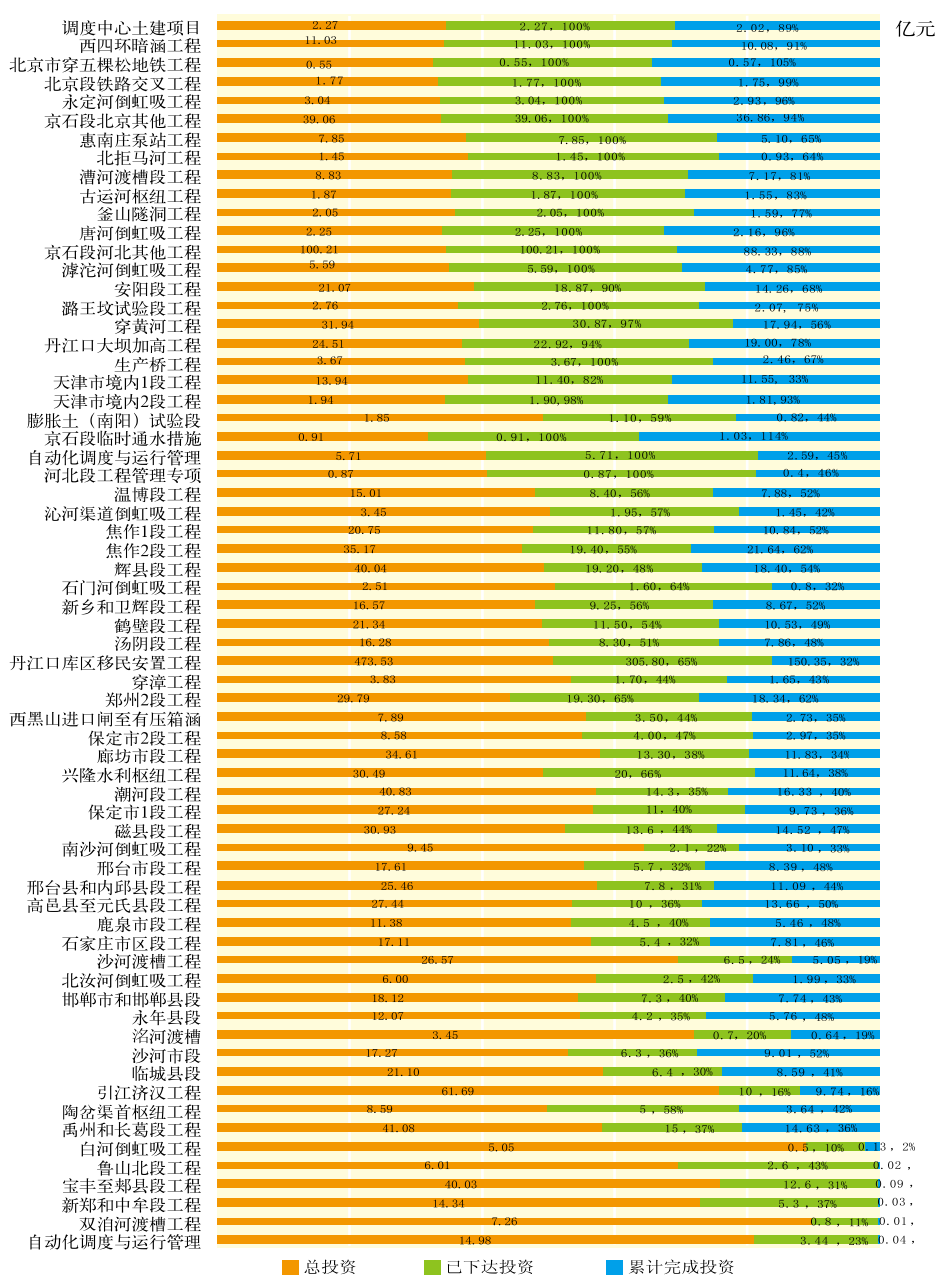
**水资源配置工程。**全年在建各类水资源工程投资规模1820.2亿元，累计完成投资968.0亿元，项目投资完成率53.2%。南水北调东、中线一期工程主体工程有20项单项工程的110个设计单元工程开工建设，在建规模1751.6亿元，累计完成投资798.4亿元，当年完成投资

南水北调东线一期工程各设计单元工程投资统计情况



408.4亿元，在建项目进展顺利。进一步加快了辽宁三湾、吉林哈达山、广西漓江补水、重庆玉滩、甘肃引洮、陕甘宁盐环定扬黄续建工程等枢纽水源工程建设。

南水北调中线一期工程各设计单元工程投资统计情况



**农村水利。**全年农村饮水安全工程在建投资规模592.5亿元，累计完成投资537.0亿元。当年解决6717万人的饮水安全问题。截至2010年底，农村饮水安全人口已达6.7亿人，农村自来水普及率达54.7%。中央安排71亿元用于大型灌区节水改造、节水灌溉示范项目及牧区水利试点为重点的农村水利设施建设，安排中央财政小型农田水利设施建设补助专项资金78亿元，在建规模1449.1亿元，累计完成投资617.8亿元，当年完成投资277.0亿元。新增有效灌溉面积1721.6千公顷，新增节水灌溉面积2311.6千公顷。实施长江流域水利血防项目96项。当年安排中央投资10亿元，继续对99处大型灌溉排水泵站进行更新改造。

**农村水电。**当年安排中央投资3亿元用于25个省（自治区、直辖市）和新疆生产建设兵团的373个水电农村电气化建设项目。当年安排中央投资3亿元用于18个省（自治区、直辖市）和新疆生产建设兵团的139个小水电代燃料建设项目。当年全国农村水电建设共完成投资230亿元，新增电站817座，投产发电设备容量379万千瓦。当年在建电站1963座，装机容量1370万千瓦。全国农村水电配套电网建设共完成投资60亿元，新增110千伏及以上变电站容量433万千伏安；新增35千伏变电站容量158万千伏安；配电变压器容量298万千伏安。新投产10千伏及以上高压线路3.4万公里，低压线路8.2万公里。当年解决32万无电人口用电问题。



**水土保持。**全年水土保持及生态工程在建规模达311.1亿元，累计完成163.0亿元。全国新增水土流失综合治理面积4.0万平方公里，其中小流域治理面积新增1.4万平方公里。当年新增封育保护面积2.4万平方公里。实施3516条小流域水土流失综合治理，新建黄土高原淤地坝268座。当年新修水平梯田401千公顷，新增沟坝淤地面积42千公顷，新栽种水保林面积1500千公顷，新增种草面积409千公顷。开展国家重点治理的项目县达600多个。正式启动坡耕地水土流失综合治理试点工程，涉及全国20个省、70个县。小流域、坡耕地、淤地坝和崩岗等水土保持重点工程稳步推进。

**行业能力建设。**全年水利行业能力建设完成投资23.7亿元。其中：防汛通信设施投资2.6亿元，水文设施投资6.3亿元，科研教育设施投资1.4亿元，水利前期投资8.3亿元，其他投资5.1亿元。

水利信息化建设进入全方位、多层次推进的新阶段。接入网络的各种类型PC机数量达到61806台，服务器设备2624套；建成连接水利部、七个流域机构的政务内网，流域机构对直属二级单位的政务外网覆盖率达到98.9%，省级水行政主管部门对地市级水行政主管部门的政务外网覆盖率达到76.7%。省级以上水利部门已配备的各类在线存储设备的存储能力达335884.6GB；各类水利信息采集点63336个，工



程视频监控点2928个；流域机构和省级水行政主管部门视频会议系统有25家实现了对下一级单位的全覆盖；各级网站公开的行政许可事项达768项以上，网上办理的行政许可事项达到了422项；省级以上水利部门正常运行的各类业务应用系统781套，涵盖了水利行政和业务的各个方面。

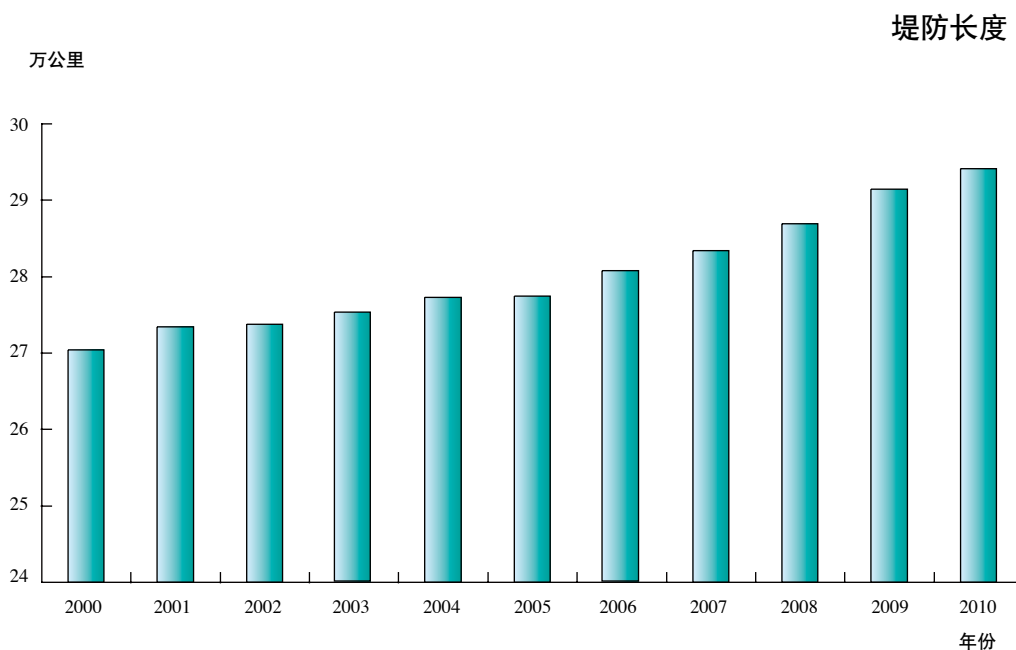
新一代水利卫星通信平台已建成并投入使用，新平台拥有27.2MHz卫星资源，适用于应急通信、“两小”治理、水文测报、数据广播、异地会商和视频监控等水利业务应用。





## 主要水利工程施工

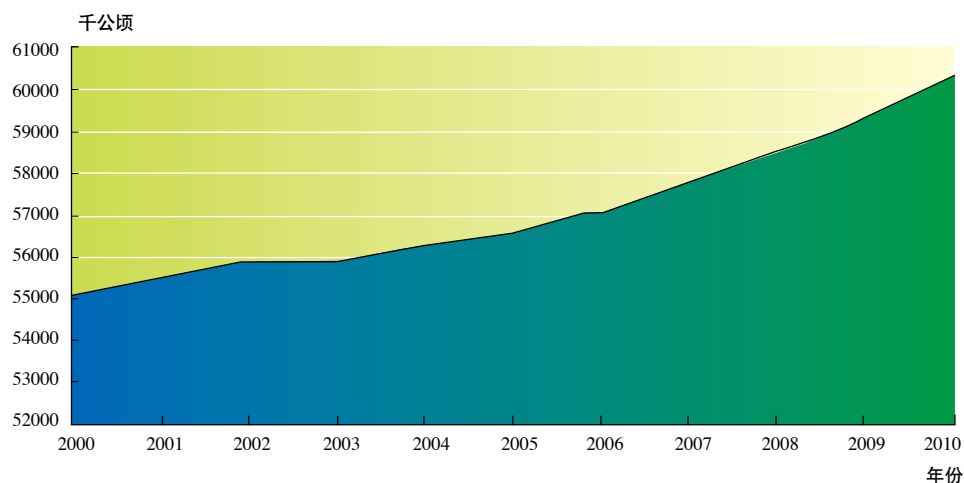
**堤防和水闸。**全国已建成江河堤防29.41万公里，累计达标堤防12.14万公里，堤防达标率为41.3%；其中一、二级达标堤防长度为2.79万公里，达标率为78.4%。全国已建成江河堤防保护人口6.0亿人，保护耕地4.7万千公顷。全国已建各类水闸43300座，其中大型水闸567座。在全部已建水闸中，分洪闸2797座，排涝闸14676座，挡潮闸4694座，引水闸8182座，节制闸12951座。



**水库及枢纽。**全国已建成各类水库87873座，水库总库容7162亿立方米。其中：大型水库552座，总库容5594亿立方米，占全部总库容的78.1%；中型水库3269座，总库容930亿立方米，占全部总库容的13.0%。全国大中型水库大坝安全达标率为91.6%，比上年提高21.6%。

**农业灌溉。**全国有效灌溉面积万亩以上的灌区共5795处，农田有效灌溉面积29415千公顷。按有效灌溉面积达到万亩划分，其中：50万亩以上灌区131处，农田有效灌溉面积10918千公顷；30万~50万亩大型灌区218处，农田有效灌溉面积4740千公顷。截至2010年底，全国农田有效灌溉面积达到60348千公顷，占全国耕地面积的49.6%。全国工程节水灌溉面积达到27314千公顷，占全国农田有效灌溉面积的45.3%。在全部工程节水灌溉面积中，渠道防渗节灌面积11580千公顷，低压管灌面积6680千公顷，喷、微灌面积5141千公顷，其他工程节水灌溉面积3912千公顷。万亩以上灌区固定渠道防渗长度所占比例为24.1%，其中干支渠防渗长度所占比例为34.8%。

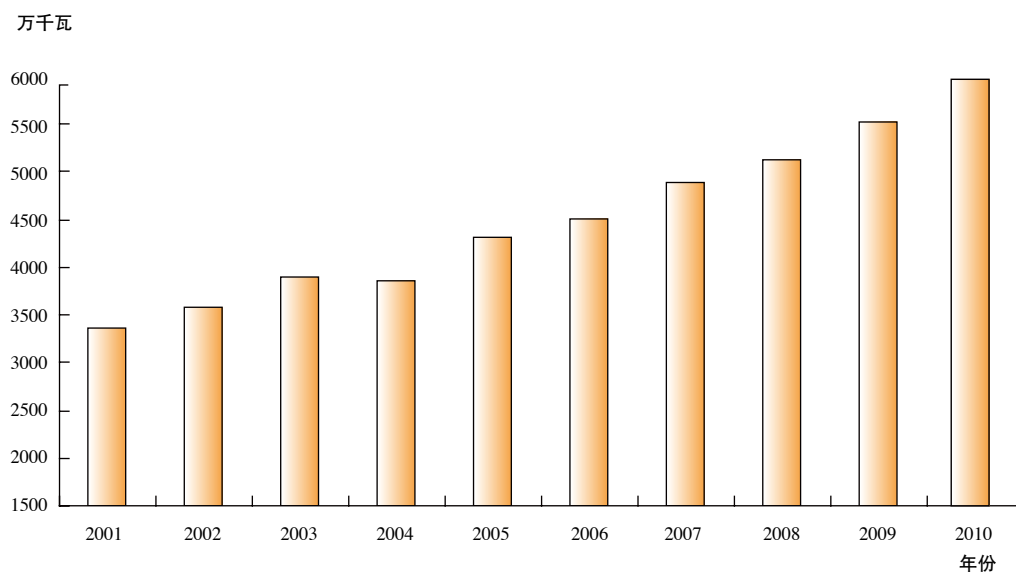
有效灌溉面积



**机电井和泵站。**全国已累计建成各类机电井533.7万眼，其中：安装机电提水设备可正常汲取地下水的配套机电井487.2万眼，装机容量5145万千瓦。全国已建成各类固定机电抽水泵站46.9万处，装机容量3784万千瓦。全国累计建成灌溉配套机电井501.2万眼，装机容量4321万千瓦，固定机电排灌站43.5万处，装机容量2331万千瓦，流动排灌和喷滴灌设施装机容量2068万千瓦。

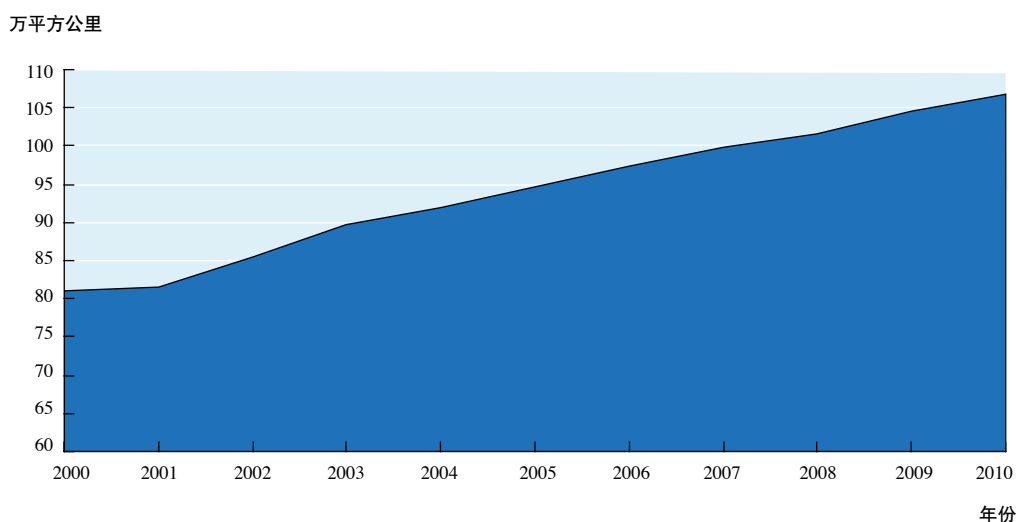
**农村水电。**2010年末，全国共建成农村水电站44815座，装机容量5924万千瓦，占全国水电装机容量的28%。全国农村水电年发电量达到2044亿千瓦时，占全国水电发电量的30%。

农村水电装机容量



**水土保持工程。**全国水土流失综合治理面积达到106.8万平方公里，其中：小流域治理面积41.6万平方公里，实施生态修复面积达72万平方公里，当年建成黄土高原淤地坝268座。基本完成全国水土保持监测网络和信息系统建设二期工程，建成738个水土保持监测点。

水土流失治理面积



**水文及信息化。**2010年末，全国共有各类水文测站42682处，其中：国家基本水文站3193处，水位站1467处，雨量站17245处，水质站6535处，地下水监测站12991处，蒸发站12处，实验站57处，墒情站1182处。全国共有12786处拍报水情测站，1005处水文预报测站。已建成水环境监测（分）中心241个，水质监测基本覆盖了全国主要江河湖库。



# 4

## 水资源利用与保护

据初步统计，2010年，全国水资源总量29658亿立方米，比常年值多7.0%，比上年增加22.7%；全国平均降水量679.9毫米，比常年值多5.8%，较上年增加15.0%。年末全国519座大型水库蓄水总量2929亿立方米，比年初增加350亿立方米。

2010年，全国总供水量5998亿立方米，其中地表水源占81.2%，地下水源占18.3%，其他水源占0.5%。全国总用水量5998亿立方米，比上年增加33亿立方米，其中：生活用水773亿立方米（其中城镇生活占60.4%），占总用水量的12.9%；工业用水1407亿立方米，占总用水量的23.4%；农业用水3707亿立方米，占总用水量的61.8%；生态环境补水111亿立方米，占总用水量的1.9%。与上年比较，生活用水增加25亿立方米，工业用水增加16亿立方米，农业用水减少16亿立方米，生态环境补水增加8亿立方米。全国人均用水量为448立方米。万元GDP用水量191立方米（2005年可比价），比上年减少8.8%；万元工业增加值用水量105立方米（2005年可比价），比上年减少9.8%。



根据对全国17.2万公里河流水质评价结果，水质符合和优于Ⅲ类水的河长占总评价河长的62.1%。

进一步推进水功能区监督管理。2010年5月7日国务院以国函〔2010〕39号文批复《太湖流域水功能区划（2010~2030年）》，水利部会同发改委、环保部联合印发了《太湖流域水功能区划》，要求太湖流域三省一市贯彻执行。在此基础上组织开展全国重要江河湖泊水功能区划复核工作，并征求了各省级人民政府和国家有关部委的意见，待协调完善后，会同发改委、环保部报国务院批复。组织开展全国重要河湖健康评估试点工作，完成21世纪前10年全国地表水功能区水资源质量变化调查评价，为落实水功能区限制纳污红线提供有力支撑。各流域水资源保护机构加强省界水质监测工作，定期向流域内有关省政府通报省界水质状况。加强饮用水水源地安全保障工作，组织核准第三批全国重要饮用水水源地名录，对前两批名录进行复核，并已印发各省级人民政府。水生态系统保护与修复工作稳步推进，新批复哈尔滨、合肥水生态系统保护与修复的试点，试点城市已增加到12个。



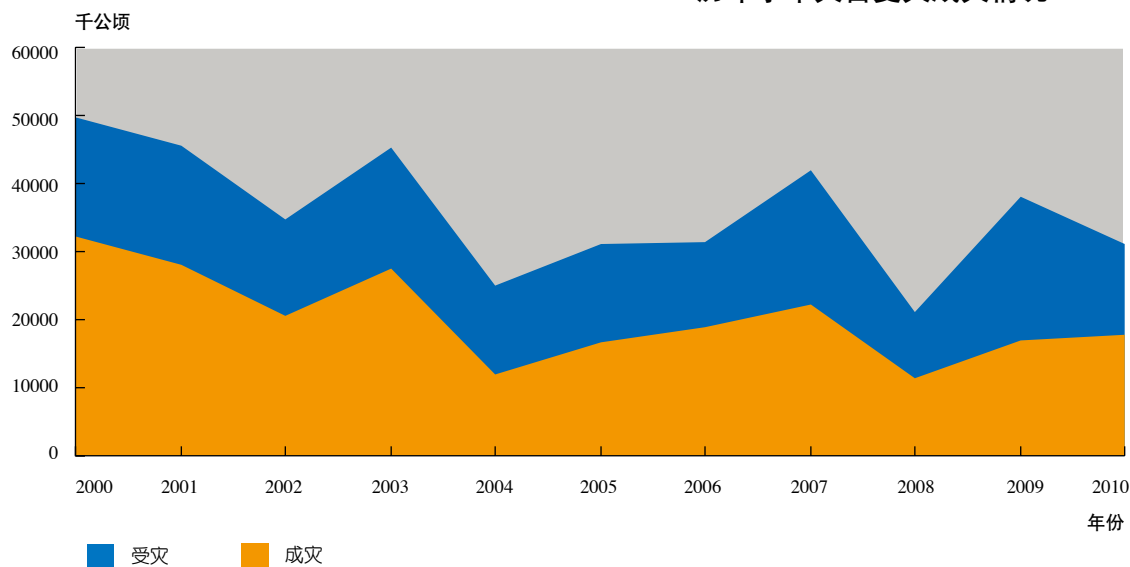


# 5

## 防洪抗旱

2010年，全国有30个省（自治区、直辖市）和新疆生产建设兵团发生了不同程度的洪涝灾害，属重灾年份。全国农作物受灾面积17866千公顷，成灾面积8727千公顷，受灾人口2.1亿人，因灾死亡3222人、失踪1003人，倒塌房屋227万间，县级以上城市受淹258个，直接经济损失3745亿元，其中水利设施直接经济损失691.68亿元。江西、福建、四川、湖南、湖北、吉林、辽宁、陕西、甘肃等省受灾较重。全国山洪灾害频发，西南地区尤为突出。

历年水旱灾害受灾成灾情况



2010年，全国旱灾为中等干旱水平。西南部分地区发生特大春旱，华北和西北东部发生了比较严重的夏伏旱。全国耕地累计受旱面积26553千公顷，农作物受灾面积13259千公顷、成灾面积8987千公顷、绝收面积2672千公顷，因旱造成粮食损失168亿公斤、经济作物损失388亿元，因旱直接经济总损失1509亿元。全年共有3335万人、2441万头大牲畜因旱发生饮水困难。

全年中央下拨用于防汛抗旱的水利建设基金和特大防汛抗旱经费29.84亿元，其中：应急度汛资金7.93亿元，特大防汛补助费17.11亿元，特大抗旱补助4.8亿元。

2010年，在党中央、国务院的坚强领导下，国家防总和地方各级防汛抗旱指挥部坚持以人为本，把保障人民生命财产安全放在首位，充分发挥水利防洪工程的作用，科学防控，科学决策，科学调度，有效地减轻了人员伤亡和财产损失。全年减少受灾人口4103万，避免城市进水受淹183座，避免人员伤亡2.2万起，减少粮食损失3831万吨，防洪减灾经济效益2479.34亿元。全年完成抗旱浇地面积18103千公顷，抗旱挽回粮食损失180亿公斤、经济作物损失257亿元；各地通过采取各种应急措施解决了2910万人和1739万头大牲畜的饮水困难。



# 6

## 水利改革与管理

**水利规划和前期工作。**全年共批复各类规划18项，其中国务院审批规划6项，水利部与其他部门联合批复规划7项，水利部单独批复和印发规划5项。国务院正式批复《全国水资源综合规划》，七大流域综合规划修编报告全部完成技术审查，基本编制完成《全国水利发展“十二五”规划》。2010年，共向国家发展和改革委员会报送40项重点水利项目，国家发展和改革委员会批复32项重点水利项目，其中：核定概算5项，可行性研究18项，项目建议书9项，涉及总投资670.36亿元。

**水利立法与水政管理。**《中华人民共和国水土保持法》修订通过。水利部颁布《水利部关于修改〈长江河道采砂管理条例实施办法〉的决定》（水利部令第39号）、《水利部关于修改〈水利工程建设监理单位资质管理办法〉的决定》（水利部令第40号）、《水利工程启闭机使用许可管理办法》（水利部令第41号）、《水利部关于废止宣布失效修改部分规章和规范性文件的规定》（水利部令第42号）等4件部规章，公布水利部现行有效规章和规范性文件目录。水利部共受理行政复议案件16件，办结15件。水利部共计准予（延续）水行政许可943件，其中：建设项目水资源论证机构资质认定52件，建设项目



水资源论证报告审批3件，水利水电建设项目环境影响报告书（表）预审21件，水利工程建设监理单位资质认定241件，开发建设项目水土保持方案审批278件，开发建设项目水土保持方案验收审批127件，水土保持生态环境监测资质认定44件，水利工程质量检测单位资质认定130件，启闭机使用许可证核发47件。长江中下游干流河道采砂规划划定33个可采区，2010年度审批采砂经营许可权1个，许可年度采砂总量75.5万吨，许可采砂船只数量3艘。全国共查处水事违法案件59385件，已结案53559件，结案率90.2%，挽回直接经济损失24570万元。全国共调处水事纠纷6800件，挽回直接经济损失10580万元。

**水务管理。**全国已组建水务局或由水利局承担水务管理职能的县级以上行政区共计1817个，占全国县级以上行政区总数的74.56%。在组建的1351个水务局中，省级水务局4个，副省级水务局7个，地级水务局207个，县级水务局1133个。水务系统共有自来水厂3584座，供水管道总长36.8万公里，自来水供水能力18327万立方米每日，年供水总量295.1亿立方米。污水处理厂1059座，排水管道总长18.2万公里，污水处理能力9441万立方米每日，年污水处理总量174.7亿立方米。水务系统共有水务企业2059家，年末固定资产总值1223.3亿元，年销售收入315.0亿元，年利润-1.7亿元。水务系统城市水务投资总额764.6亿元。全国城市（县城）水源地共6207个，水源年供水能力937.0亿立方米。全国城市（县城）年污水处理回用量28.3亿立方米，除城市污水处理回用外的其他非传统水资源利用量409.9亿立方米。实行水务管理地区水利工程水价0.009~6.0元每立方米，地表水征收水资源费0.01~2.0元每立方米，地下水征收水资源费0.01~4.71元每立方米。



**建设管理与改革。**全国水利工程管理体制改革基本完成并通过验收。11422个水利工程管理单位全部完成“两费”测算，99.6%的单位完成分类定性。“两项经费”共落实134.15亿元，落实率达89%。其中：落实人员经费80.96亿元，落实率为94%；落实维修养护经费53.19亿元，落实率为81%。实行管养分离（包括内部管养分离）的水管单位7197个，占水管单位总数的63.0%。全国共有水利水电工程施工总承包特级资质企业10家，水利水电工程施工总承包一级资质企业171家。取得一级注册建造师水利水电工程专业资格8437人。2010年批准取得水利工程施工监理专业甲级资质单位26个，乙级资质单位44个，丙级资质单位95个；取得水土保持工程施工监理专业甲级资质单位7个，乙级资质单位14个，丙级资质单位17个；取得机电及金属结构设备制造监理专业甲级资质单位4个，乙级资质单位7个；取得水利工程建设环境保护监理专业资质（不分级）单位27个。2010年批准取得岩土工程类质量检测甲级资质单位38个，取得混凝土工程类质量检测甲级资质单位52个，取得金属结构类质量检测甲级资质单位10个，取得机械电气类质量检测甲级资质单位6个，取得量测类质量检测甲级资质单位24个。

**农村水利改革。**全国成立的农民用水户协会累计达到5.2万多家，管理灌溉面积占全国有效灌溉面积的23%。积极推进小型农田水利工程管理体制改革，已有700多万处小型农田水利工程完成了产权制度改革。

**水土保持管理。**全国共审批开发建设项目水土保持方案2.3万个，



其中水利部审批国家大中型项目水土保持方案278个，涉及防治责任范围4626平方公里。全年完成127个大中型开发建设项目的水土保持设施验收。深入推进全国水土保持监督管理能力建设，第一批510个县监督管理机构履行职责能力进一步增强。大力加强水土保持科技示范园区建设，全国累计批准水土保持科技示范园区49个。印发了《黄土高原地区水土保持淤地坝工程建设管理暂行办法》和《国家水土保持重点工程验收办法》。

**水价改革。**2010年积极推进农业水价综合改革，探索水价形成新机制，两部制水价、超定额累进加价、终端水价不断推进。全国25个省（自治区、直辖市）出台了水价管理办法或实施细则。2010年36个大中城市工业用水平均价格3.68元每立方米、居民生活用水平均价格1.9元每立方米。

**水电改革和管理。**全国16个省（自治区、直辖市）开展了水能资源使用权有偿出让，10个省（自治区、直辖市）制定了出让实施办法。16个省（自治区、直辖市）出台了水能资源开发利用的规范性文件。12个省明确由水行政主管部门负责水能资源统一管理。水利部要求挂牌督办的3415座“四无”水电站全面完成了整改，同时，各地还陆续清查整改了其他各类违规水电站1785座，累计完成了对5200多座违规水电站的清查整改。

**水利安全监督。**水利行业共发生31起死亡事故，死亡42人。全年共派出87个稽察组，完成304个水利建设项目的稽察和复查，项目覆盖

28个省（自治区、直辖市），涉及工程总投资148亿元，累计提交稽察报告304份，下发稽察整改意见通知304份。

**水利移民。**全国在建水利工程当年安置移民人数8.1万人。其中在建部属重点水利枢纽工程（皂市、百色、尼尔基）征地移民共涉及6个省8个县28个乡镇）216个村（居委会）3.20万户12.09万人，截至2010年底，累计搬迁移民12.07万人，占规划搬迁人口的99.83%。

**水利科技。**全年共安排4.37亿元资金用于水利科技项目，其中：组织立项国家科技支撑计划、973计划1项，水利公益性行业科研专项80项，“948”计划、国家农业科技成果转化资金专项、水利部科技成果推广计划等各类科技计划项目140余项。水利科技项目成果获国家科技进步奖7项，其中一等奖一项。截至2010年底，水利系统共有国家级和部级重点实验室7个，工程技术研究中心12个。落实部属科研基建经费9461万元、中央级科学事业单位修缮购置专项资金7290万元。水利行业现行有效标准达632项，通过国家计量认证的水利质检机构93家。

**国际合作。**成功举办或参与多边国际交流活动15次，签署双边水利合作协议3份。组织召开双边政府固定交流机制会议6次。目前正在执行国际金融组织贷款项目2个，贷款总金额3亿美元。利用世行贷款2亿美元开展淮河流域重点平原洼地治理项目已通过世行最后评估。正在执行的赠款项目13个，赠款总金额0.81亿美元。

## 7

## 水利行业状况

**职工与工资。**全国水利系统从业人员106.63万人，比上年增加0.01%。其中：全国水利系统在岗职工103.69万人，比上年减少0.05%。在岗职工中，部直属单位在岗职工7.42万人，比上年增加3.12%；地方水利系统在岗职工96.26万人，比上年减少0.29%。全国水利系统在岗职工工资总额297.91亿元，比上年增加12.53%。全国水利系统在岗职工年平均工资28816元，比上年增加12.42%，其中，部直属单位在岗职工年平均工资59533元，比上年增加了9.78%；地方水利系统在岗职工年平均工资26447元，比上年增加12.60%。

职 工 与 工 资

	2000年	2001年	2002年	2003年	2004年	2005年	2006年	2007年	2008年	2009年	2010年
在岗职工人数（万人）	138.1	131.4	128.9	122.9	118.2	110.5	109.2	106.76	105.57	103.74	106.63
其中：部直属单位（万人）	6.8	6.6	6.4	6.4	6.4	6.6	6.8	7.15	7.22	7.20	7.42
地方水利系统（万人）	131.4	124.9	122.5	116.5	111.8	103.9	102.3	99.61	98.35	96.54	96.26
在岗职工工资（亿元）	115.5	129.3	136.3	140.6	157.1	159.8	184.3	211.28	234.37	264.74	297.91
年平均工资（元/人）	8430	9838	10652	11443	13054	13969	16776	19573	22143	25633	28816

**勘察设计。**2010年全国具有水利行业工程设计甲级资质的单位97家，拥有设计乙级资质的单位416余家，甲、乙级单位从业人员7万多人。据水利部直属勘察设计公司、流域机构直属（控股）勘察设计院和各省（自治区、直辖市）水利勘察设计院的40家甲级单位上报资料统计，2010年勘察设计项目收入中，水利主管部门下达的指令性项目占14%，市场经营性项目占63%，工程咨询、施工监理等项目占23%。40家勘察设计单位2010年共完成地质钻探77.52万标准米，平硐2.80万标准米，竖井2.23万标准米，坑槽54.96万标准立方米，工程测量3.57万标准平方公里，物探83.92万标准点。

**水利风景区。**累计批准国家级水利风景区423个，其中：水库型237个，自然河湖型79个，城市河湖型44个，湿地型28个，灌区型20个，水土保持型15个。

全国水利主要指标(2006—2010年)

指标名称	单位	2006年	2007年	2008年	2009年	2010年
1.灌溉面积	千公顷	62559	63413	64120	65165	66352
2.农田(有效)灌溉面积	千公顷	57078	57782	58472	59261	60348
其中：本年新增	千公顷	1343	1344	1318	1533	1722
3.机电井灌溉面积	千公顷	16799	16894	17163	17480	17807
4.机电排灌面积	千公顷	37563	38715	39277	40016	40751
其中：提灌面积	千公顷	33091	34265	34659	35581	36401
5.节水灌溉面积	千公顷	22426	23489	24436	25755	27314
6.万亩以上灌区	处	5894	5869	5851	5844	5795
其中：30万亩以上	处	285	294	325	335	349
万亩以上灌区农田(有效)灌溉面积	千公顷	28021	28341	29440	29562	29415
其中：30万亩以上	千公顷	14613	14667	15401	15575	15658
7.当年解决农村饮水安全人口	万人	2945	4468	5378	7295	6717
8.除涝面积	千公顷	21376	21419	21425	21584	21692
9.水土流失治理面积	万平方公里	97.5	99.9	101.6	104.3	106.8

续表

指标名称	单位	2006年	2007年	2008年	2009年	2010年
10.水库	座	85249	85412	86353	87151	87873
其中：大型水库	座	482	493	529	544	552
中型水库	座	3000	3110	3181	3259	3269
水库总库容	亿立方米	5841	6345	6924	7064	7162
其中：大型水库	亿立方米	4379	4836	5386	5506	5594
中型水库	亿立方米	852	883	910	921	930
11.全年水利工程总供水量	亿立方米	5795	5819	5910	5933	5998
12.堤防长度	万公里	28.1	28.4	28.7	29.1	29.4
保护耕地	千公顷	45486	45518	45712	46547	46831
堤防保护人口	万人	55403	56487	57289	58978	59853
13.水闸总计	座	41209	41110	41626	42523	43300
其中：大型水闸	座	426	438	504	565	567
14.已配套农田机电井眼数	万眼	437	439	444	451	458
装机容量	万千瓦	4072	4089	4151	4236	4321
15.年末全国水电装机容量	万千瓦	12847	14523	17090	19686	21157
全年发电量	亿千瓦时	4163	4870	5614	5055	6813
16.农村水电装机容量	万千瓦	4318	4739	5127	5512	5924
全年发电量	亿千瓦时	1361	1437	1628	1567	2044
17.当年完成水利建设投资	亿元	793.8	944.9	1088.2	1894.0	2319.9
按投资来源分：						
(1) 预算内拨款	亿元	193.2	270.0	390.4	929.9	918.1
(2) 预算内专项	亿元	184.7	195.7	160.5	128.8	94.8
(3) 水利建设基金	亿元	36.1	67.8	60.5	105.5	215.2
(4) 国内贷款	亿元	80.7	83.4	96.9	152.9	337.4
(5) 利用外资	亿元	14.3	9.5	10.5	7.6	1.3
(6) 自筹资金	亿元	212.3	219.9	235.4	333.9	316.2
(7) 其他投资	亿元	72.5	98.6	134.0	235.6	437.0
按投资用途分：						
(1) 防洪工程	亿元	288.1	318.5	370.1	674.8	684.6
(2) 水资源工程	亿元	317.7	405.1	467.8	866.0	1070.5
(3) 水土保持及生态建设	亿元	42.2	60.3	76.9	86.7	85.9
(4) 水电工程	亿元	57.3	66.5	77.4	72.0	105.4
(5) 行业能力建设	亿元	20.2	8.9	10.6	26.5	44.4
(6) 其他	亿元	68.3	85.6	85.4	167.9	329.1

说明 1. 本公报不包括香港特别行政区、澳门特别行政区以及台湾省的数据。  
 2. 部分供用水数据来源于《2010年中国水资源简报》。  
 3. 万亩以上灌区处数及灌溉面积按有效灌溉面积达到万亩进行统计。  
 4. 农村水电的统计口径为装机容量5万及5万千瓦以下水电。

## 2010 STATISTIC BULLETIN ON CHINA WATER ACTIVITIES

Ministry of Water Resources, People's Republic of China

2010 is the final year of the 11<sup>th</sup> Five-Year Plan and crucial period for the Ministry of Water Resources and water management agencies at all levels for the implementation of scientific outlook of development and strategy of sustainable water resources management, and promoting water development centered on people's livelihood. The targets defined in the 11<sup>th</sup> Five-Year period are completed that creates a good start for the implementation of 12<sup>th</sup> Five-year Plan. A new prospect was drawn in the respects of water development and reform.

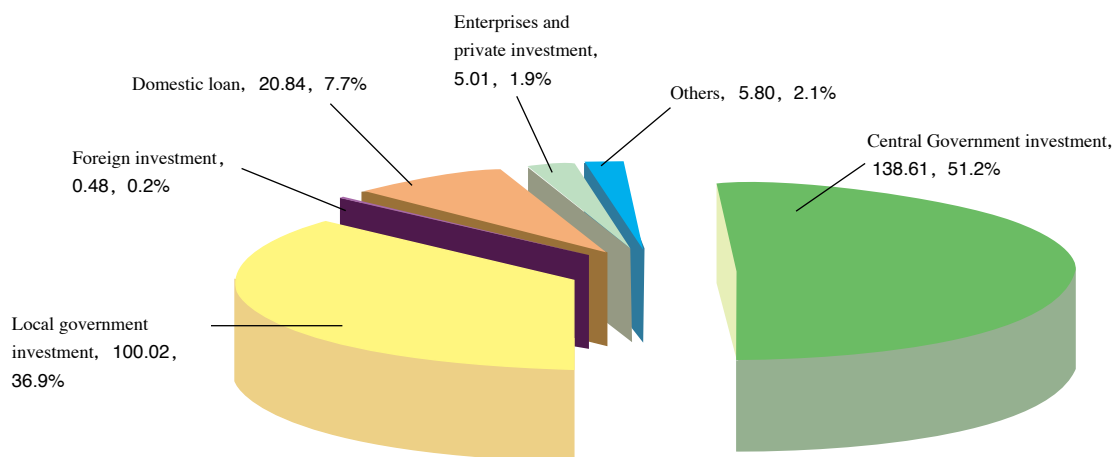
### I. Investment in Fixed Assets

The total investment in fixed assets from the water sector was up to 270.76 billion Yuan in 2010 (including 52.81 billion Yuan for South-North Water Diversion Project), a 59.0% increase comparing to the year of 2009. Divided by sources, 138.61 billion Yuan was financed by the Central Government, a 110.9% increase; 100.02 billion Yuan financed by local governments, a 27.3% increase; 480 million Yuan of foreign investment, a 37.1% increase; 20.84 billion Yuan of domestic loans, a 8.5% increase; 5.01 billion Yuan from enterprises and private sector, a 33.6% increase; and 5.8 billion Yuan from other financial sources, a 114.0% increase. Regarding to the purpose of usage, 98.01 billion Yuan was allocated to flood control, a 31.7% increase comparing to that in 2009; 117.01 billion Yuan allocated to water resources projects that rose 59.7%; 11.53 billion Yuan for soil and water conservation and ecological projects that increased 73.6%, and 44.21 billion Yuan for hydropower and other special projects that rose 177.2%.



## Total fixed assets investment plan of water sector

unit: billion Yuan



A total of 98.406 billion Yuan was allocated from Central Government Investment Plan in 2010, with an increase of 54%. Among which 70.106 billion Yuan from the Central Government budget, with an increase of 46% comparing to that in 2009; 1.50 billion Yuan from water construction funds with an increase of 25%; and 26.80 billion Yuan from Special Funding of Central Government budget with an increase of 85%.

Water projects under construction in 2010 were 10,704, with a total investment of 996.6 billion Yuan, with a 27.4% increase comparing to that of the year before. The projects with Central Government finance were 5,218 with a 13.6% increase comparing to the year before. The total funds used by the projects under construction reached 554.19 billion Yuan and increased 65.9% comparing to the year before. There were 5,811 newly-constructed projects in 2010 with a 3.0% decrease, and newly-added investment was 242.63 billion Yuan with a 18.4% increase.

The completed investment in water project in 2010 was 231.99 billion Yuan, with an increase of 42.59 billion Yuan or a 22.5% increase comparing to that of the year before. In which, 152.49 billion Yuan was invested in construction project with a 17.6% increase; 10.96 billion Yuan for installation with a 3.4% decrease; 12.45 billion Yuan for purchase of machinery, electric equipment and instruments with a 0.4% decrease; and 56.09 billion Yuan for other purposes (including compensation of resettlement and land acquisition) with a 56.5% increase.

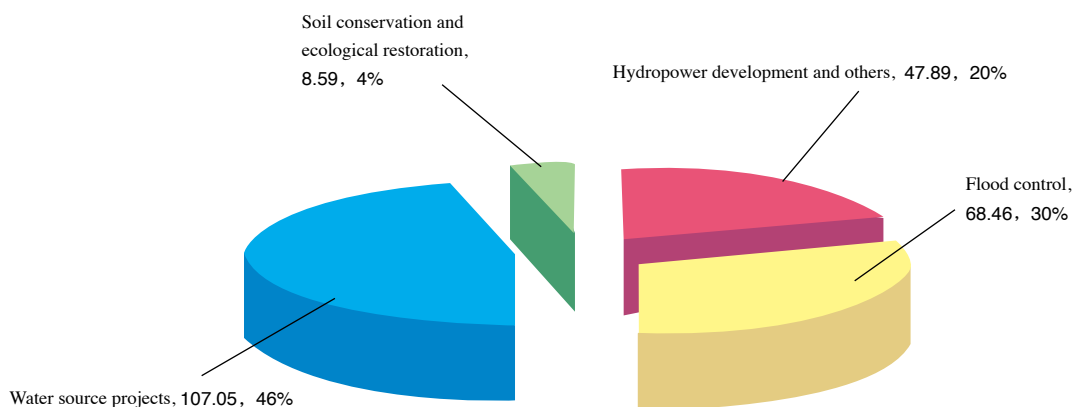
	2006 (billion Yuan)	2007 (billion Yuan)	2008 (billion Yuan)	2009 (billion Yuan)	2010 (billion Yuan)	increase (%)
Yearly completed	79.38	94.49	108.82	189.40	231.99	22.5
Construction Projects	58.37	67.25	78.15	129.72	152.49	17.6
Erection Projects	3.19	4.65	6.74	11.34	10.96	-3.4
Equipment and tools	3.84	5.68	6.00	12.50	12.45	-0.4
Others (including compensation for resettlement and land expropriation)	13.98	16.90	17.93	35.84	56.09	56.5

In the total completed investment, 68.46 billion Yuan was allocated to the construction of flood control projects, 107.05 billion Yuan for the construction of water resources projects, 8.59 billion Yuan for soil and water conservation and ecological restoration, and 47.89 billion Yuan for some special purposes such as hydropower development and capacity building. The completed investment for seven major river basins reached 195.98 billion Yuan, of which 36.01 billion Yuan was invested in river basins in the southeast, southwest and northwest of China. Moreover, the completed investments of eastern, northeast, middle and western regions were 81.38 billion Yuan, 11.66 billion Yuan, 64.60 billion Yuan and 74.35 billion Yuan respectively, accounting 35.1%, 5.0%, 27.8%, and 32.1% of the total.

Of this total competed investment, the Central Government contributed 44.28 billion Yuan, and local governments contributed 187.71 billion Yuan. The investment in large-and medium-sized projects was 68.79 billion Yuan, and 163.20 billion Yuan for small-sized and other projects, 164.93 billion Yuan for newly

## Completed investment of projects in 2010

unit: billion Yuan

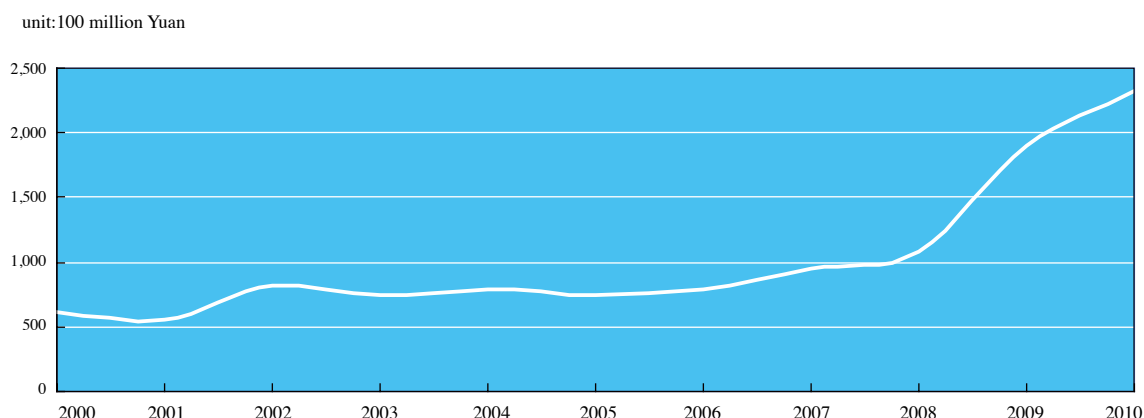


construction projects, and 67.06 billion Yuan for reconstruction and expansion projects or others.

The projects that has partially put into operation were 979. The projects put into full operation were 6,346 with a newly increased fixed asset of 94.99 billion Yuan. The newly-added fixed assets was totaled 184.98 billion Yuan in 2010, and the rate of investment transferred into fixed assets was 79.7%. By the end of 2010, the accumulated investment in projects under construction was 566.94 billion Yuan, and the completion rate was 56.9%, a 2.2% decrease over 2009. The newly increased fixed assets of projects under-construction were worth 387.15 billion Yuan, and the rate of investment transferred into fixed assets was 68.3%, an increase of 0.6% comparing to 2009.

The civil works completed of earth, stone and concrete structures in 2010 were 2.26 billion m<sup>3</sup>, 310 million m<sup>3</sup>, and 50 million m<sup>3</sup> respectively. By the end of 2010, the ratio of complete quantity of earthwork, stonework, concrete of the under-construction projects were 54.5%, 68.3%, and 60.6% respectively.

## Completed of Fixed Assets Investment



## II. Key Water Projects

**Harness of large rivers and lakes.** There were 1,628 river harness projects under construction that had spent 106.89 billion Yuan, accounting for 60.7% of the total completed investment. The length of reinforced embankment was 4,530 km, of which the newly added up to class-I and class-II standard embankment was 1,609 km long. There were 3,210 km of river channels were trained in 2010, and 2,237 km of which were completed. The accumulated investment in the Huaihe River harness project completed 98%. *Guidelines for Recent Activities of Furthering Huaihe River Harness* and *Implementation Plan for Furthering Huaihe River Harness* were completed. Improvement of lowland in major plain was initiated in the Huaihe River Basin. Training of main tributaries of major rivers such as four rivers in Hunan, five rivers in Jiangxi, five rivers and one stream, Weihe River and restoration of Dongting Lake and Poyang Lake are undertaken.

**Reservoir projects.** There were 382 water complexes under construction in 2010, with an accumulative investment of 101.40 billion Yuan, accounting for 52.8% of the total completed investment. Of those, 221 are reservoir projects with an accumulated investment of 76.11 billion Yuan, accounting for 54.2% of the total completed investment. The projects of Haibowan in Huanghe, Qingshan in

Liaoning, Qincun in Zhejiang, Lechangxia in Guangdong, Qianzhong in Guizhou, Pangduo in Tibet and Kensiwater in Xinjiang Production Construction Corps were initiated for construction. There were 3,021 hazard reservoirs completing repair or reinforcement, with an accumulated investment of 53.55 billion Yuan, accounting for 80.7% of the total completed investment. The Central Government investment spending on reinforcement of large and medium reservoirs as well as some small reservoirs of great significance reached to 12.643 billion Yuan. The completed reinforced reservoirs were 1,823.

**Water allocation projects.** The yearly investment for water allocation projects reached to 182.02 billion Yuan. The completed investment in these projects had accumulated to 96.8 billion Yuan, accounting for 53.2% of the total completed investment. There were 110 designed units out of 20 individual schemes of phase-I of eastern and middle routes of South-to-North Water Diversion Project initiated, with a total of 175.16 billion Yuan put into construction. The completed investment of this project accumulated to 79.84 billion Yuan, of which the completed investment in 2010 was 40.84 billion Yuan, and the project was undergoing smoothly. The construction of water source projects namely Sanwan in Liaoning, Hadashan in Jilin, Water Recharge to Lijiang in Guangxi, Yutan in Chongqing, Water Diversion from Tao River in Gansu, continuation of water diversion works from Yellow River to four counties in Shaanxi, Gansu and Ningxia has been accelerated.

**Irrigation, drainage and rural water supply.** A yearly investment of 59.25 billion Yuan was allocated to the under-construction projects for providing safe drinking water, with an accumulated investment of 53.7 billion Yuan. In 2010, there were 67.17 million people accessed to safe drinking water. By the end of 2010, the rural population with safe drinking water increased to 670 million. The rural population that have tap water amounted to 54.7%. The Central Government allocated 7.1 billion Yuan to the key water infrastructures construction in rural areas such as rehabilitation of large irrigation districts for water conservation purpose, demonstration project of water-saving irrigations and pilot projects in pastureland. A special subsidy funding of 7.8 billion Yuan from Central Government



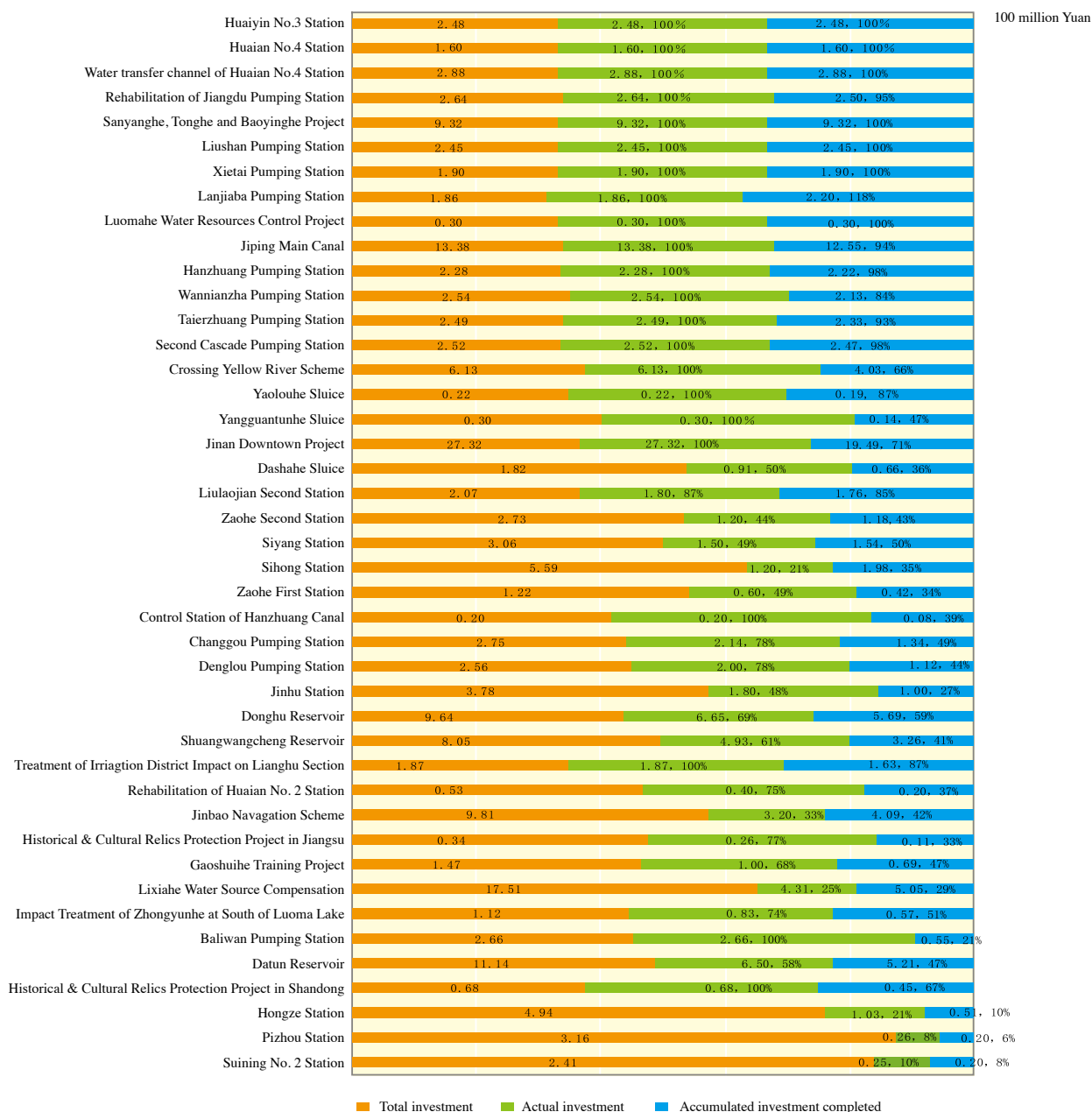
budget for small on-farm water facility construction. A total of 144.91 billion Yuan were invested in projects under construction, with an accumulated investment of 61.78 billion Yuan. The completed investment in 2010 was 27.70 billion Yuan. The expanded effective irrigated area was 1,721,600 ha, and new-increased water-saving irrigated area reached to 2,311,600 ha. In the Yangtze River Basin, 96 schistosome prevention projects were conducted. The Central Government investment for the rehabilitation and modernization of 99 large pumping stations was 1.0 billion Yuan.

**Rural hydropower and electrification.** There were 300 million Yuan of Central Government investment allocated to 373 rural hydropower and electrification projects in 25 provinces (autonomous regions, municipalities). There were 300 million Yuan of Central Government allocated to 139 hydropower for fuel projects in 18 provinces (autonomous regions, municipalities) and Xinjiang Production Construction Corps. The completed investment to rural hydropower station construction was 23.0 billion Yuan in 2010; the newly increased hydropower stations were 817, with 3.79 million kW installed capacity putting into production. Hydropower stations under construction were 1,963, with an installed capacity of 13.70 million kW. The completed investment for rural electricity network in the whole country was 6.0 billion Yuan; the newly increased capacity of 110 kV substation or above was 4.33 million kVA; the newly increased capacity of 35 kV substation was 1.58 million kVA; the capacity of distribution transformer was 2.98 million kVA. The newly increased 10 kV high voltage transmission line was 34,000 km and low voltage line was 82,000 km. There was 0.32 million people being able to access electricity.

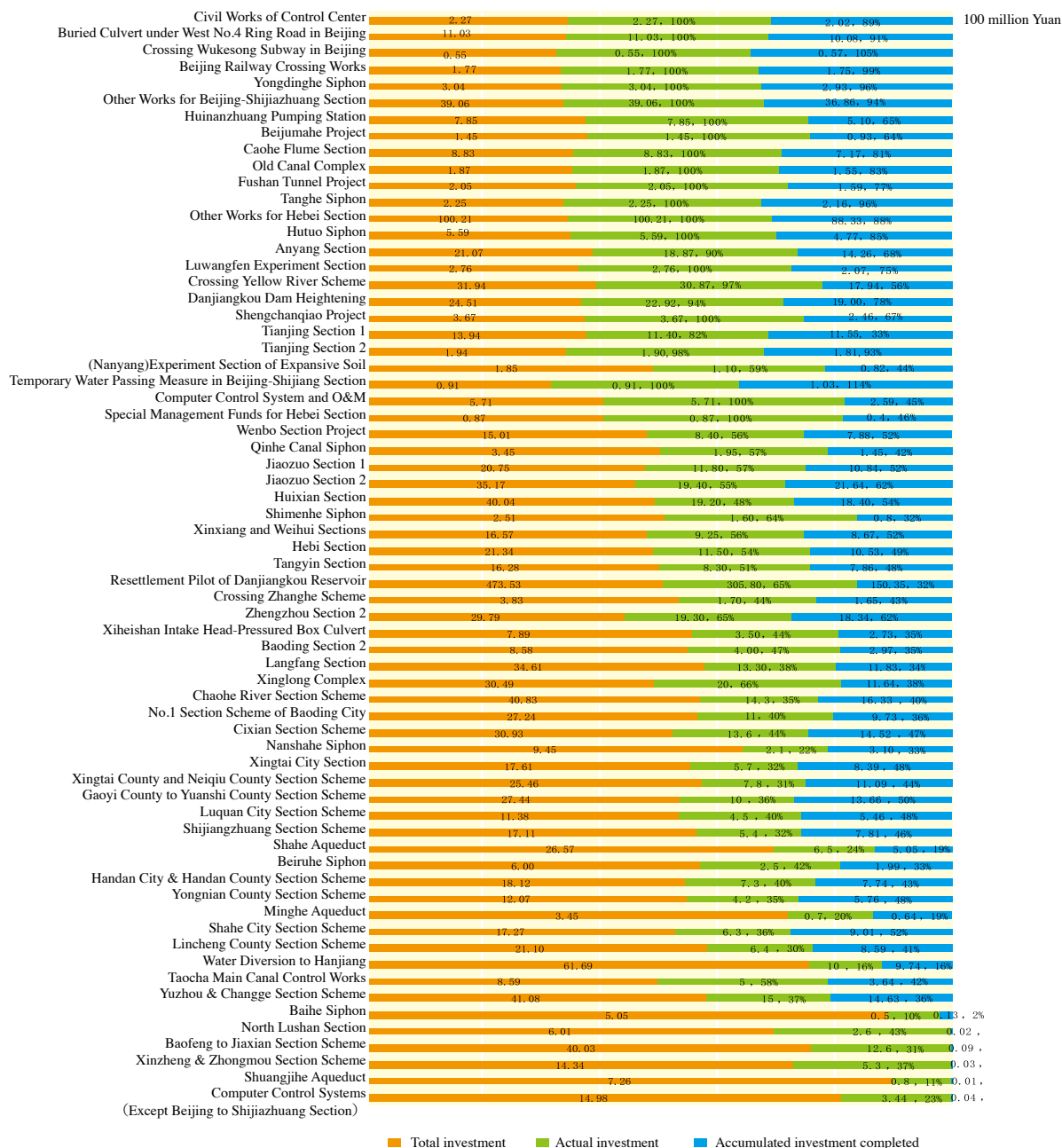
**Soil and water conservation and ecological restoration.** A yearly investment of 31.11 billion Yuan was allocated to soil and water conservation and ecological restoration projects, with a completed investment of 16.30 billion Yuan. The land with soil conservation measures increased to 40,000 km<sup>2</sup>, of which the area with small watershed approach reached to 14,000 km<sup>2</sup>. The newly increased protected area was 24,000 km<sup>2</sup> in 2010. Small watershed with comprehensive measures of soil and water conservation was 3,516. The newly built silt retention dams on the Loose Plateau were 268. Newly built terraces were 401,000 ha and silted land of



## Investment schedule of schemes of SWIM East Route Phase-I



### Investment schedule of schemes of SWIM Middle Route Prase-I



check dams was 42,000 ha. Newly-created forestland reached 1,500,000 ha and grassland 409,000 ha. There are more than 600 counties listed as project areas for soil and water conservation. The pilot project formally initiated for erosion control on slope farmland covers 20 provinces and 70 counties. Key project with soil and water conservation measures such as small watershed, improvement of slope farmland, silt retention dam and landslide control are undertaking.

**Capacity building.** The completed investment for capacity building was 2.37 billion Yuan in 2010, of which 260 million Yuan was spent on procurement of communication equipment, 630 million Yuan for hydrological facilities, 140 million Yuan for scientific research and education, 830 million Yuan for early-stage work, and 510 million Yuan for others.

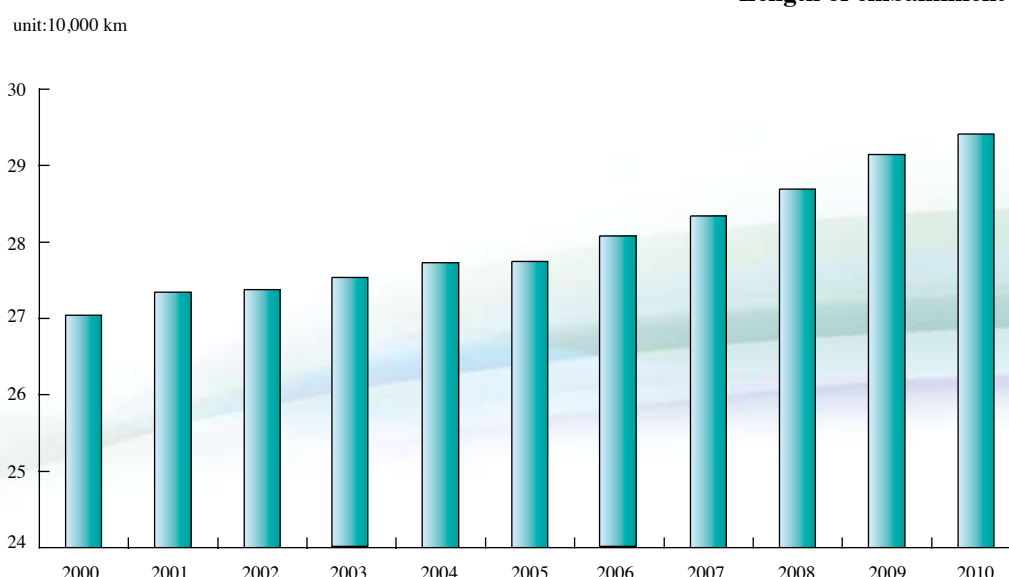
New progress has been made in the construction of information system. There were 61,806 personal computers and 2,624 servers connected to internet. Inner network of E-government websites were built by the Ministry of Water Resources and seven river basin commissions. The E-government websites of river basin commissions covered 98.9% of the outside network of organizations directly under their jurisdiction. The E-government websites of provincial water administrative department covered 76.7% of the outside network of municipal water administrative departments. The storage capacity of all kinds of on-line storage devices equipped by water departments at and above provincial levels reached 335,884.6 GB. The collecting points of all kinds of water information were 63,336 and watchers of project video system reached 2,928. Video conference systems in river basin commission and provincial water departments reached 25 that cover all institutions under their jurisdiction. The licensing systems publicized on the websites of all levels reached 768, among which 422 administrative permits are preceded through internets. The administrative system operated by water departments at provincial level or above in a total of 781 covered all aspects of water administration.

The new satellite communication platform was completed and put into operation. The new platform, installed with 27.2 MHz satellite resources, is suitable for emergency usage, and applied to small river and reservoir improvement, hydrological forecasting, data broadcasting, video consultation and monitoring.

### III. Key Water Structures

**Embankments and water gates.** The length of river embankments constructed in the whole country reached to 294,100 km. Of which, 121,400 km of embankment met the standard, and the rate of up-to-standard accounts to 41.3%. The length of embankment met the standard of Grade-I and Grade-II was 27,900 km, accounting for 78.4% of the total Grade-I and Grade-II embankment. These embankments are able to protect 600 million people and 47 million ha of cultivated land. Water gates of all kinds constructed all over the country was 43,300, of which 567 were large water gates. The water gates includes 2,797 flood diversion sluices, 14,676 drainage sluices, 4,694 tidal barrage, 8,182 water diversion intakes and 12,951 controlling gates.

Length of embankment



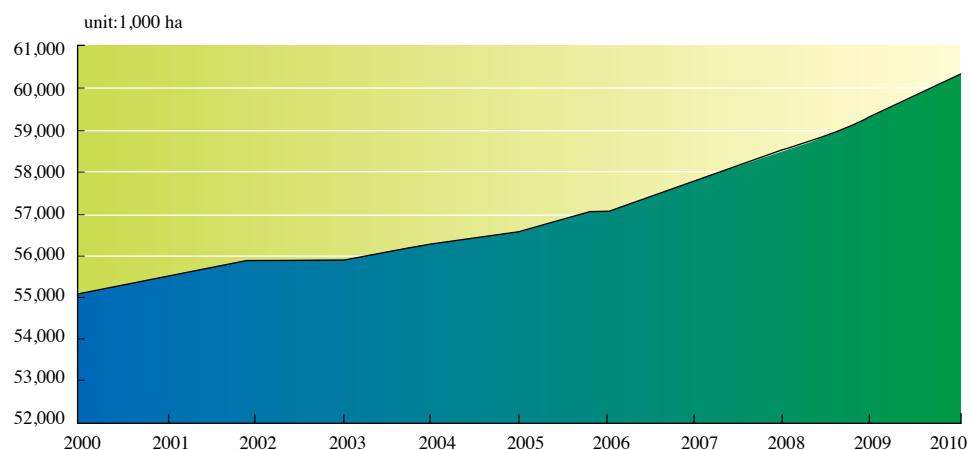
**Reservoirs and water complexes.** The total number of reservoir all over the country was 87,873, with a storage capacity of 716.2 billion m<sup>3</sup>, of which 552 were large reservoirs with a total capacity of 559.4 billion m<sup>3</sup>, accounting 78.1% of the total; 3,269 medium-sized reservoirs with a total capacity of 93.0 billion m<sup>3</sup>, accounting 13.0% of the total. The percentage of large and medium reservoirs up to the safety standard was 91.6% that 21.6% higher than that of the year before.

**Irrigation.** The irrigation district with an area equal or above 10,000 mu were 5,795, with a total effective irrigated area of 29.415 million ha. Of which large irrigation districts equal or above 500,000 mu were 131, with a total effective irrigation area of 10.918 million ha; large irrigation districts covering an area of 300,000-500,000 mu were 218, with a total effective irrigation area of 4.740 million ha. By the end of 2010, the total effective irrigated area reached to 60.348 million ha that accounted to 49.6% of the total cultivated area. Water-saving irrigated area reached to 27.314 million ha that accounted for 45.3% of the total effective irrigated area. In the area applied with water-saving irrigation technologies, 11.580 million ha of land had lined canals, 6.680 million ha were equipped with low-pressure pipes, 5.141 million ha were equipped with sprinkler or drip or infiltration irrigation, 3.912 million ha were equipped with other water-saving methods. The percentage of lined canals in the irrigation districts equal or above 10,000 mu accounted 24.1% of the total, of which the length of lined main and branch canals accounts to 34.8%.

**Tube wells and pumping stations.** There were 5.337 million tube wells of all kinds in the country, of which 4.872 million was installed electricity-lifting equipment for groundwater abstraction. Their installed capacity was 51.45 GW. By the end of 2010, the fixed electro-mechanical pumping stations reached to 469,000, with an installed capacity of 37.84 GW. The tube wells for irrigation purposes were 5.012 million, with an installed capacity of 43.21 GW. The fixed pumping stations were 435,000 with an installed capacity of 23.31 GW. The installed capacity of movable equipment of irrigation and drainage or drip amounted to 20.68 GW.

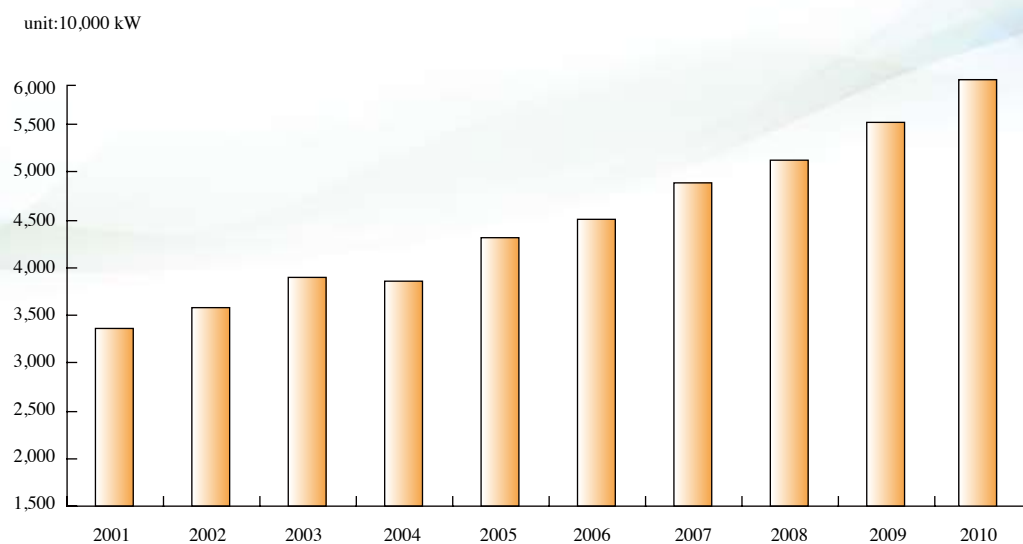
**Rural hydropower and electrification.** By the end of 2010, the total hydropower

Effective irrigation area



stations built in rural areas were 44,815, with an installed capacity of 59.24 GW, accounting for 28% of the total. The annual power generation by these hydropower stations reached to 204.4 billion kW · h, accounting for 30% of the total power generation of the whole country.

Rural installed capacity



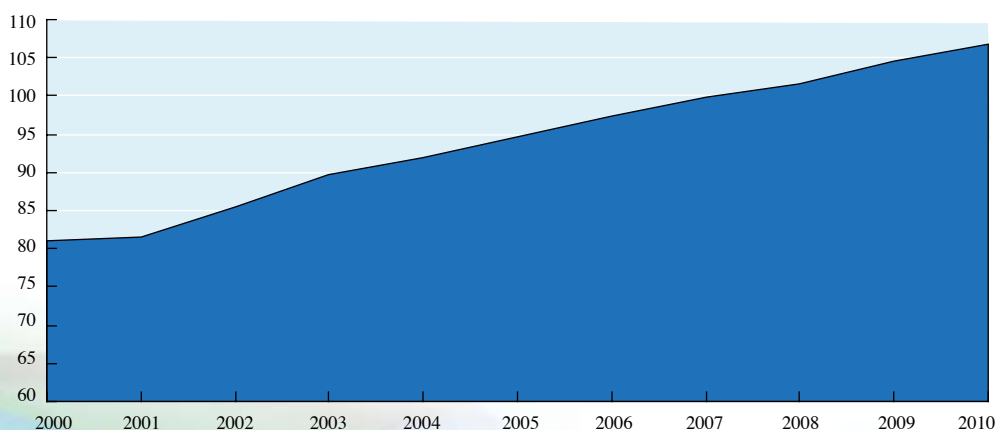


**Soil and water conservation.** The improved eroded area reached to 1.068 million km<sup>2</sup> in 2010, of which small watershed amounted to 416,000 km<sup>2</sup>. Ecological restoration areas accumulated to 720,000 km<sup>2</sup>. There were 268 silt-retention dams constructed on the Loess Plateau Region in 2010. Phase-II of Soil and Water Conservation Network and Information System was completed with 738 monitoring sites.

**Hydrology and informationization.** By the end of 2010, there were 42,682 hydrological stations of all kinds in the whole country, including 3,193 national hydrologic stations, 1,467 gauging stations, 17,245 precipitation stations, 6,535 water quality stations, 12,991 groundwater monitoring stations, 12 evaporation stations and 57 experimental stations, and 1,182 soil moisture monitoring stations. There were 12,786 telegram reporting stations and 1,005 hydrologic forecast stations. The completed water environment monitoring centers (sub-center) were 241, which cover nearly all major rivers, lakes and reservoirs in China.

Improved eroded areas

unit: 10,000 km<sup>2</sup>



#### IV. Utilization and Protection of Water Resources

According to preliminary statistics, total quantity of water resources in 2010 was 2,965.8 billion  $\text{m}^3$ , 7.0% more than normal years and a 22.7% increase comparing to that of the year before. The mean annual precipitation was 679.9 mm, 5.8% more than normal years and 15.0% more than the year before. By the end of 2010, total water storage of 519 large reservoirs was 292.9 billion  $\text{m}^3$ , increase 35.0 billion  $\text{m}^3$  compared with that of the year before.

In 2010, the total water supplied by waterworks was 599.8 billion  $\text{m}^3$ , while 81.2% of which was abstraction of surface water, 18.3% was groundwater and 0.5% other water sources. The total water consumption was 599.8 billion  $\text{m}^3$ , an increase of 3.3 billion  $\text{m}^3$  compared with the year before, of which domestic use was 77.3 billion  $\text{m}^3$  (in which urban domestic water use takes 60.4%) or 12.9% of the total; industrial use 140.7 billion  $\text{m}^3$  or 23.4% of the total; agricultural water use 370.7 billion  $\text{m}^3$  or 61.8% of the total and environmental flow of 11.1 billion  $\text{m}^3$  or 1.9% of the total. Comparing to that of the year before, domestic water use increased by 2.5 billion  $\text{m}^3$ , industrial use increased by 1.6 billion  $\text{m}^3$ , agricultural water use increased by 1.6 billion  $\text{m}^3$  and environmental flow increased by 0.8 billion  $\text{m}^3$ . The average water consumption per capita in 2010 was 448  $\text{m}^3$ . Comparing with that in 2009, water use of 10,000 Yuan GDP (at comparable price of 2005) was 191  $\text{m}^3$ , a 8.8% decrease. Water use of industrial production value added per 10,000 Yuan (at comparable price of 2005) was 105.0  $\text{m}^3$ , a 9.8% decrease comparing to that of the year before.

According to the result of water quality assessment on river sections of more than 172,000 km, rivers with better water quality that comply with or supper than class-III standard accounted for 62.1% of the total.

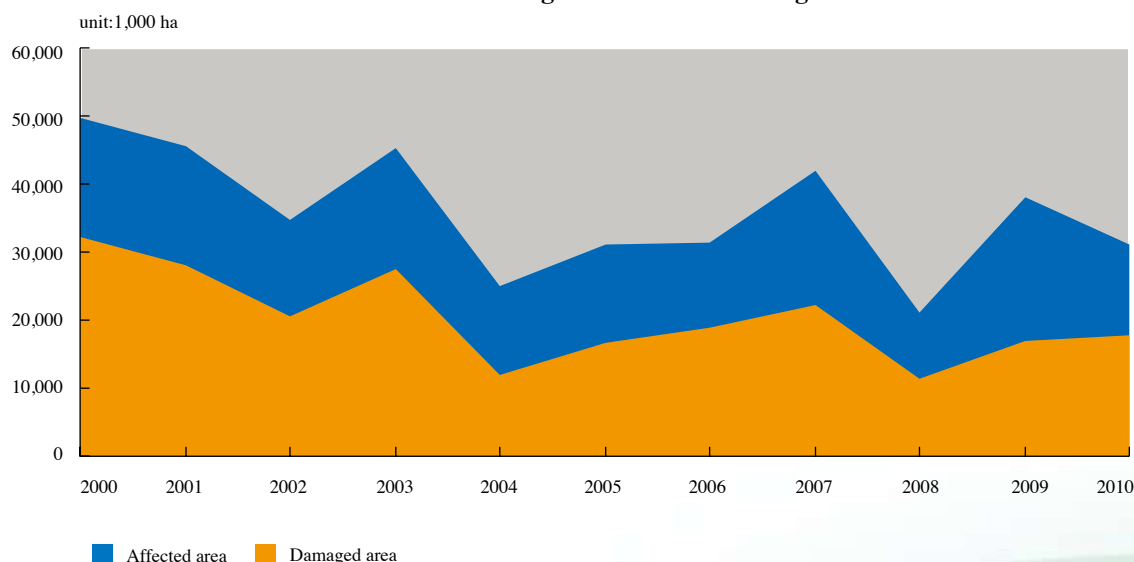
Supervision and management of water function zones were further strengthened. On May 7, 2010, the State Council approved the proposal of Water Function

Zoning of Taihu Basin (2010-2030), which was issued by the Ministry of Water Resources and the Ministry of Environment Protection, for the implementation of two provinces and one municipality within the basin. Reassessment of water function zones of major rivers and lakes was conducted based on the above. Comments from provincial people's government and central government departments have been seek for further consultation, before reporting to the State Council for approval, together with National Development and Reform Commission and Ministry of Environment Protection. The survey on the changes of surface water quality in function zones over the past ten years has completed, in order to provide a base for determine the redline of pollution carrying capacity of water function zone. Water resources protection departments of river basin commissions placed more emphasis on monitoring of water quality of boundary rivers and made regular notification to the water administrative department within the basin. Safety management of drinking water sources has been highlighted by conducting inspection on major water sources. The third name-list of National Major Drinking Water Sources has approved and the first and second name-lists were rechecked and issued to each provincial government. Protection and restoration of aquatic ecosystem has achieved some result. The pilot project of Harbin and Hefei ecosystem protection and restoration has approved that increases the total number of pilot projects to 12.

## V. Flood Control and Drought Relief

2010 is regarded as disaster year as flood and waterlogging disasters of varied degree occurred in 30 provinces (autonomous regions, municipalities) and Xinjiang Production and Construction Corps. The affected cultivated land by flood was 17,866,000 ha, among which 8,727,000 ha were disaster-stricken areas. The affected population was 210 million. There were 3,222 people died and 1,003 missing. The collapsed houses were 2.27 million. The counties suffered from inundation reached 258. The disasters resulted in 374.5 billion Yuan of direct economic losses, among which the loss with water infrastructures was 69.168 billion yuan. The provinces of Jiangxi, Fujian, Sichuan, Hunan, Hubei, Jilin,

**Flood or drought affected and damaged areas in 2000-2010**



Liaoning, Shaanxi and Gansu suffered heavily from disasters. Mountain flood happened frequently, especially in the southwest of China.

The year of 2010 is regarded as medium level drought. Severe spring drought occurred in the southwest region; summer drought occurred in the northeast and eastern part of northwest. The farmland affected by droughts were 26,553,000 ha, of which 13,259,000 ha were affected, 8,987,000 ha damaged and 2,672,000 ha had no harvest, resulting in grain loss of 16.8 billion kg and crop economic loss of 38.8 billion Yuan. The direct economic losses caused by drought disaster reached to 150.9 billion Yuan. There were 33.35 million urban and rural population and 24.41 million man-feed big animals and livestock suffered from temporary drinking water difficulties due to these droughts.

The Central Government allocated 2.984 billion Yuan through funds for water infrastructure construction and funds for extraordinary flood and drought relief, of which 793 million Yuan for emergency flood control, 1.711 billion Yuan for extraordinary floods, and 480 million Yuan for extraordinary droughts.

In 2010, State Flood Control and Drought Relief Headquarters together with flood control headquarters at all levels, under the guidance of the Central Party Committee and State Council, took effective measures for minimizing the loss from flood and drought disasters, by insisting on putting people at the center and giving priority to people's life and property, making full use of flood control facilities, by means of scientific management, regulation and decision making. In 2010, the protected population was 41.03 million; protected cities 183; the avoided potential death was 22,000; reduction of grain loss was 38.31 million ton; the economic benefit of flood control was 247.934 billion Yuan. A total of 18,103,000 ha of drought affected farmland were irrigated, which prevented a grain loss of 18 billion kg and economic loss of crop damage of 25.7 billion Yuan. By effective measures and emergency response, drinking water was provided to 29.1 million people and 17.39 million big animals and livestock.

## VI. Water Management and Reform

**Water resources planning and early-stage work.** The approved plans of varied kinds were 18 in 2010, among which 6 master plans were approved by the State Council; 7 plans were approved by Ministry of Water Resources (MWR) and other Ministries jointly; 5 plans were approved and issued by the Ministry of Water Resources. The Master Plan for National Water Resources was formally approved by the State Council. Technical approval was completed for the revised master plans of seven major river basins. The National 12<sup>th</sup> Five-Year Plan for Water Development has been worked out. There were 40 projects were reported to NDRC for approval and 32 of which was approved, with a total investment of 67.036 billion Yuan, among which 5 were cost estimation, 18 were feasibility study reports, 9 were project proposals.

**Water legislation and administrative enforcement.** The revised Law on Soil and Water Conservation of the People's Republic of China came into effect. The Ministry of Water Resources promulgated four regulations, namely *Decision on*

*Amendment of Managerial Regulations for Sand Excavation in Yangtze River Course* (MWR Order No. 39), *Decision on Amendment of Management Method of Qualification for Supervision in Water Project Construction* (MWR Order No. 40), *Management Method of Licensing for Use of Operating Hoist in Water Project Construction* (MWR Order No. 41), *Decisions on Abandon and Revision of Some Rules and Regulations* (MWR Order No. 42). The list of effective rules and regulations issued by the Ministry of Water Resources was published. The ministry handled 16 cases for administrative disputes and 15 cases were settled. The ministry approved to extend 943 administrative water permits: 52 qualification identifications for water resources assessment organizations; 3 water resources assessment reports of construction project; 21 pre-evaluation report for environment impact analysis of hydropower development projects; 241 qualification certificates of supervisors for water and hydropower project construction; 278 soil and water conservation plans of water development and construction projects; 127 check and acceptance of soil and water conservation plan of construction project; 44 qualification of supervisors for water and soil conservation and ecological environment; 130 qualification certificates of quality inspection for water and hydropower project construction; 47 headstock gear utilization licenses. The planned sand excavation zones in the middle and lower reaches of the Yangtze River are 33, with an annual excavation permission of 755 million kg. In 2010, one license was issued and three ships got the licenses. The investigated illegal cases were 59,385 and 53,559 of them were resolved that accounts for 90.2% of the total. The retrieved economic loss was 245.7 million Yuan. There were 6,800 water disputes resolved, and 105.8 million Yuan were retrieved.

**Water affairs management.** There were 1,817 water affairs bureaus or water resources bureaus established at or above county level and assigned the responsibilities of water affairs management, which accounted for 74.56% of the total cities and counties. Among 1,351 bureaus, 4 are at provincial level, 7 are at sub-provincial level, 207 at prefecture or city level, and 1,133 at county level. The utilities managed by water affairs bureaus were 3,584 water plants, 368,000 km of water supply pipes, with a daily water supply of 183.27 million m<sup>3</sup> and annual water supply of 29.51 billion m<sup>3</sup>. There were 1,059 sewage treatment plants, with a total pipeline of 182,000 km long and daily treatment capacity of 94.41 million



m<sup>3</sup>/d. The annual sewage treatment reached to 17.47 billion m<sup>3</sup> in total. There were 2,059 water enterprises or companies under these water affair bureaus, with fixed assets worth 122.33 billion Yuan, annual income of 31.5 billion Yuan and a loss of 170 million Yuan. The total investment to the urban water industry was 76.46 billion Yuan. There were 6,207 water sources for cities and counties in the country with an annual water supply of 93.7 billion m<sup>3</sup>. The annual use of recycled water after wastewater treatment in cities (counties) in the whole country 2.83 billion m<sup>3</sup>. Water supplied by un-conventional sources despite of recycling of sewage water was 40.99 billion m<sup>3</sup>. Water tariff of these water supply schemes was ranged from 0.009 to 6.0 Yuan/m<sup>3</sup>, among which water resources fees of surface water were ranged from 0.01 to 2.0 Yuan/m<sup>3</sup> and water resources fees of groundwater resources were ranged from 0.01 to 4.71 Yuan/m<sup>3</sup>.

**Reform in project construction and management.** The reform of national water project management system has been completed and passed check and acceptance. Estimation of total managerial staff and operation and maintenance cost for all 11,422 water project management units was completed and 99.6% of these organizations completed division of its type of operation, i.e. either totally self managed business or operated with government subsidy. The two estimation costs of 13.415 billion Yuan had been covered, with a rate of 89%, among which managerial staff at 8.096 billion Yuan, accounting 94% of the total; O&M cost at 5.319 billion Yuan, accounting 81% of the total. More than 7,197 organizations completed reorganization by separating functions of management and maintenance of water utilities (include separation of managerial and maintenance functions within the organization), accounted for 63% of the total. The total number of water and hydropower construction companies awarded AAA Qualification of General Construction Contracting were 10; Class-A Professional Contracting companies were 171. There were 8,437 people received Class-I Registered Certificate of Constructor in specialty of water and hydropower project. In 2010, there were 26 enterprises awarded the Class-A qualification of supervisors for water and hydropower project construction, 44 awarded the Class-B qualification and 95 awarded the Class-C qualification. There were 7 enterprises awarded the Class-A qualification of supervisors for water and soil conservation project construction, 14 awarded the Class-B qualification, and 17 awarded the Class-C



qualification. There were 4 enterprises awarded the Class-A qualification of supervisors for electromechanical and metal equipment manufacture and 7 awarded Class-B qualification. There were 27 enterprises awarded the qualification (no grading is defined) of supervisors for environment protection of water project construction. In 2010, there were 38 Class-A quality inspection organizations for geotechnical engineering approved; 52 Class-A quality inspection organizations for concrete structures; 10 Class-A quality inspection organizations for metal structures; 6 Class-A quality inspection organizations for mechanical and electronic equipment; and 24 Class-A quality inspection organizations for measuring and gauging tools.

**Reform of rural water resources management.** The total number of Water User Associations (WUAs) established in the whole country reached more than 52,000, The irrigated area under administration amounts for 23% of the total effected irrigated area in the country. Reform of property right has been applied to more than 7 million small on-farm water structures along with the promotion of reform of small on-farm water structures management system.

**Soil and water conservation.** There were 23,000 Soil and Water Conservation Plans in water development projects examined and approved, of which 278 are large-scale construction projects developed by MWR and cover an area of 4,626 km<sup>2</sup>. There were 127 large and medium soil and water conservation projects completed check and acceptance. Capacity building for soil and water conservation supervision and management has been reinforced and first lot of 510 counties had further strengthened its functions of supervision and management. A total of 49 science and technology demonstration zones were approved in the whole country along with promotion of construction of pilot project construction. Two regulations, namely *Temporary Management Provisions on Silt Retention Dam Construction and Operation in Loess Plateau Region* and *Norms on Check and Acceptance of National Key Soil and water Conservation Project*.

**Water pricing reform.** In 2010, reform of irrigation water pricing had been promoted. New water pricing mechanism such as two parts water tariff and added charging for accumulated usage, had been initiated. The tap water charge had been enhanced. Methods and implementation provisions for water pricing management came into effect in 25 provinces (autonomous regions, municipalities). In 2010, the average water charge for industries of 36 large and medium cities was 3.68 Yuan/m<sup>3</sup>. The average charge for tap water was 1.9 Yuan/m<sup>3</sup>.

**Reform and management of hydropower.** Transformation of water use right on parable basis has been implemented in 16 provinces (autonomous regions, municipalities). Relevant implementation regulations were worked out by 10 provinces (autonomous regions, municipalities). Administrative rules and regulations for water-power resource development and utilization were promulgated by 16 provinces (autonomous regions, municipalities). There were 12 provinces clearly defines that water administrative departments are responsible for integrating management of water energy resources. Correction was made by all 3,415 hydropower stations that have no permits according to order of the Ministry of Water Resources. At the same time, another 1,785 hydropower stations that violating the relevant rules and regulations were cleared out for correction. More than 5,200 hydropower stations that were not satisfactory to relevant rules and regulations had completed correction.

**Water safety supervision.** There were 31 accidents with 42 people dead. There were 87 inspection teams that completed inspection of 304 construction projects. The inspected projects covers 28 provinces (autonomous regions, municipalities), and involved a total investment of 14.8 billion Yuan. The completed inspection report reached to 304. There were 304 notification were released for the correction of violating activities of work safety laws and regulations.

**Reservoir resettlement.** In 2010, the resettlements were 81,000 people. Land acquisition and resettlement of national under-construction dam projects, namely Zaoshi, Baise, Ni'erji, have involved resettlement of 120,900 people of 32,000 household in 216 villages of 28 townships in 8 counties of 6 provinces, with an

accumulated number of 120,700 people relocated by the end of 2010, accounting 99.83% of the total planned population.

**Water science and technology.** There was 437 million Yuan allocated to science and technology projects, among which the approved National Key Technology R&D Program was 1, public-interest scientific research projects of the water sector were 82, and the approved “948 Plans”, National Agricultural Science and Technology Achievements Transformation Fund Programs and MWR Key Technological Achievements Extension Plans etc. were more than 140. There were 7 water technological achievements won the National Sci-Tech Advance Award, among which, I was the first. By the end of 2010, seven national level or ministerial level labs were formed. Twelve technical research centers were established. The total allocated scientific and research funds of basic construction was 94.61 million Yuan. Special funds for capacity building or procurement of equipment for national scientific institutions were 72.9 million Yuan. There were 632 technical norms and standards still effective. There were 93 institutions of quality supervision and inspection passed the national metrology authentication.

**International cooperation.** There were about 15 multilateral international exchange activities that successfully organized or participated. There were 3 bilateral agreements signed with other countries for cooperation. Six bilateral meetings were held between MWR and governmental agencies of other countries. Two projects with loans from international financial organizations were under the implementation with a total loan of 300 million US dollars. Key plain and low-lying land harness project in Huaihe River Basin was completed by the World Bank with a loan of 200 million US dollars from the World Bank. The implemented grant projects were 13, with a total grant of 81 million US dollars.

## VII. Current Status of Water Sector

**Employees and salaries.** The employees of water sector were totaled 1.0663 million, a 0.01% increase comparing to that of last year. Of which, the employees

with long-term post amounted to 1.0369 million, a 0.05% decrease. In the employees with long-term post, the staff working in the agencies directly under the Ministry of Water Resources was 74,200, a 3.12% increase over last year; the staff working in local agencies was 0.9626 million, a 0.29% decrease. The total salary for the employees with long-term post in the whole country was 29.791 billion Yuan in 2010, a 12.53% increase comparing to that of 2009. The average salary per employee with long-term post was 28,816 Yuan, a 12.42% increase over 2009. Of which the per capita salary of agencies directly under MWR was 59,553 Yuan, a 9.78% increase, and the average salary per employee with long-term post of local agencies was 26,447 Yuan, a 12.6% increase.

#### Employees and Salaries

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
number of in-service staff(10 <sup>4</sup> persons)	138.1	131.4	128.9	122.9	118.2	110.5	109.2	106.76	105.57	103.74	106.63
of which, staff of MWR and agencies under MWR(10 <sup>4</sup> persons)	6.8	6.6	6.4	6.4	6.4	6.6	6.8	7.15	7.22	7.20	7.42
local agencies(10 <sup>4</sup> persons)	131.4	124.9	122.5	116.5	111.8	103.9	102.3	99.61	98.35	96.54	96.26
salary of in-service staff (10 <sup>8</sup> Yuan)	115.5	129.3	136.3	140.6	157.1	159.8	184.3	211.28	234.37	264.74	297.91
average salary (Yuan/person)	8,430	9,838	10,652	11,443	13,054	13,969	16,776	19,573	22,143	25,633	28,816

**Reconnaissance and design.** There were 97 reconnaissance's and design institutions awarded the Class-A qualification, and 416 institutions awarded class-B qualification, with a total staff of more than 70,000. According to statistics and data collected from 40 Class-A reconnaissance and design institutes directly under the Ministry of Water Resources, river basin commission (share controlling) and provinces (autonomous regions, municipalities), in the income of reconnaissance and design in 2010, 14% came from projects entrusted by the water administrative department, 63% came from the market and 23% from consultation or supervision services. The work completed by these institutes included 775,200 standard m of drilling, 28,000 standard m of audits, 22,300 standard m of shafts, 549,600 standard m<sup>3</sup> of pits, 35,700 standard km<sup>2</sup> of engineering survey, and 839,200 standard points of geophysical prospecting.



**Water scenic spots.** There were 423 water scenic spots were approved at national level, among which 237 were reservoir recreation areas, 79 were natural rivers and lakes, 44 were urban rivers and lakes, 28 were wetlands, 20 were irrigation districts, and 15 were water and soil conservation areas.

**Notes:**

1. The data in this bulletin do not include those of Hong Kong, Macao and Taiwan.
2. Parts data of water supply and utilization are sourced from 2010 China Water Resources Bulletin.
3. Effective irrigated area is based on the number of irrigation districts at 10,000 mu and above and its irrigated area.
4. Statistics of rural hydropower is an installed capacity of 50,000 kW and < 50,000 kW.





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