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湖北省水利志丛书

长渠志

《长渠志》编纂委员会编

方志出版社

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概 述

位于鄂西北、襄樊市南部的长渠,始建于公元前 279 年。是我国古代兴建最早的伟大水利工程之一;是中华人民共和国建立后,湖北省修复的第一个大型灌溉工程。

长渠枢纽,位于湖北省南漳县武安镇谢家台。灌区横跨南漳、宜城两县(市),汉江下游最大的支流——蛮河流经灌区西部边缘,长渠引蛮河泾流纵贯灌区中部,整个灌区形似“橄榄状”。地貌呈丘陵、岗地、平原变势。地势自西北微向东南倾斜。2002 年,长渠灌区有南漳县武安镇和宜城市小河镇、鄢城办事处、郑集镇、雷河开发管理区、原种场和清河农场等 5 个镇(区)、2 个国营农场,共有 75 个村民委员会、590 个村民小组,总人口 31.43 万人。总面积 588.3 平方公里(87.845 万亩),其中耕地 43.72 万亩,林地 5.83 万亩,养殖水面 15.79 万亩,其他用地(村庄、集镇、道路)22.51 万亩。耕地面积中,水田 36.08 万亩,旱地 7.64 万亩。

这块古老的土地,汉、唐、宋、元时期,古人谓之“沮中”,称“天下膏腴”之地。2200 多年后的今天,长渠灌区仍是襄樊市乃至湖北省粮棉油重要产地、发展农业经济的重点区域之一。

长渠的兴建,对襄宜平原的开发,及其经济、政治和文化的发展,具有极其重要的作用。



长渠,又名“白起渠”,是源于创建它的人白起。战国晚期,在秦国发起的空前的统一战争中,秦昭王于公元前 279 年(秦昭王二十八年,楚顷襄王二十一年),遣白起攻楚鄢郢(一说为楚国都城)。白起率兵进逼鄢城后,遇楚国重兵把守,久攻不下之时,即利用鄢城及其周围地理面貌、地势条件,于距鄢城百里之遥的武安镇旁蛮河河段上垒石筑坝,开沟挖渠,“以水代兵”,引水破鄢。战事结束后,鄢入秦,秦以鄢为县(宜城古名鄢)。此后,历朝统治者中的有识之士,认识到此渠存在的价值,不断加以开发、治理,引水溉田。唐、宋、元时期曾数次修治,使之发挥了很好的

灌溉效益。北魏郦道元著《水经注》，称其时长渠“溉田三千顷”。北宋曾巩著《襄州宜城县长渠记》载：“郦道元之谓溉田三千余顷，至今千有余年”。宋郑獬著《襄州宜城县木渠记》说，汉南郡太守王宠复凿木渠与之（长渠）合，“溉田六千顷”。对长渠开掘的功勋及其存在的价值，唐代诗人胡曾赋诗云：“武安南伐勒齐兵，疏凿功将夏禹并，谁谓长渠千载后，蛮流犹人在宜城”。然而，到了明代长渠逐年湮塞，渐致完全湮废。到了清代，在人口剧增的压力下，修治长渠一事才被提到官府议事日程中。嘉庆十二年（1807）、咸丰九年（1809）、光绪三十一年（1905），宜城县令及士民曾几次请修，然因封建统治时期地域间的利害冲突，议不能决，而未果。民国二十八年（1939）爱国将领张自忠将军电请湖北省政府复修，宜南两县士民亦多次呼吁请求，湖北省府才于民国三十一年（1942）决定动土复修，是年 11 月动工后，历时 5 年，其间两次兴工，两度停工，因时局动乱，加上官吏贪污肥私，结果兴渠未成。

中华人民共和国建立后，在中国共产党和人民政府的重视和支持下，古长渠迎来了春天。1949 年 10 月下旬，新中国建立后的湖北省首次水利会议即决定修复长渠。湖北省水利局关于修复长渠的建议，于 1950 年 1 月经中央人民政府水利部批准，并将其列为贷款工程项目，予以支持。3 月，湖北省水利局派出 3 个工程队现场勘测。7 月，拟定修复初步意见书，同时进行工程设计。11 月上旬，湖北省水利局将长渠列为重点工程，令主持勘测设计的 3 个工程队汇同襄阳专署及宜、南两县府，组织成立“长渠工程处”。襄阳专署专员余益庵兼任处长。12 月初，工程处召开宜、南两县治渠人民代表大会，宣传动员，分配任务。1952 年 1 月，宜南两县投入 4 万劳力，云集长渠，破土动工。施工中，宜、南两县政府、区、乡各级主要领导亲自带队，襄阳专署主要领导驻工地现场指挥，湖北省水利局夏世厚局长多次亲临工地指导。宜、南两县 4 万民工以主人翁的姿态，克服各种困难，满怀高度的劳动热情，投入施工。开工两个月即完成渠首滚水坝清基及 4000 米长防洪堤的修筑任务。接着浇筑滚水坝，同时动工兴建渠系主要建筑物。渠道开挖，以乡为单位划段承包，男女老少齐动员，一条长 47.6 公里的干渠和 17 条支渠，仅两个多月的时间全线贯通。1953 年 4 月 15 日，渠首工程、渠道工程、渠系建筑物全部完工。5 月 1 日，湖北省水利局、长江中游工程局派出 12 名代表会同襄阳专署、南、宜两县代表在渠首隆重举行通水庆典。参加长渠施工的建设者们都出席庆典仪式，湖北省水利局局长夏世厚、襄阳专署专员李善民为通水庆典剪彩、开闸放水。干渠两旁人山人海。渠水流到哪里，那里就是一片掌声和欢呼声。

古长渠，千秋岁月，历尽沧桑，在人民当家作主的时代，才得以复兴！

二

中华人民共和国的成立,是长渠发展史上的里程碑。半个世纪的历程中,它由小到大,由弱变强,同其他任何一项科学一样,经历了发生—发展—创造—再创造的过程。

50年间,党和人民政府把水利作为农业的命脉,为逐步扩大长渠灌区,充分发挥效益,投入了大量人力、物力、财力,对长渠工程年年进行维修、整治。渠道引(进)水闸由初竣工时2孔增建为5孔;干渠由原全长47.6公里延伸到49.25公里;支渠由原17条发展到38条;干渠各类水工建筑物由126处扩展到267处;干渠最大引水流量由原设计10立方米/秒增加到43立方米/秒。工程技术和使用材料,也经历了一个由原始到现代的变化。古长渠创建之初的“以竹筱石,葺土为碣”的“笼石之法”等工程技术,已被现代的钢筋混凝土、电动闸门、各种水工建筑等新技术所代替,不规则的沟渠已被混凝土衬砌的渠道所取代。

为科学、合理地指导实施农田灌溉,湖北省水利局于1955年在长渠第二管理段(宜城雷河民主村八组)建立了长渠“灌溉试验站”。试验站开展观测试验过程中,先后整理汇编了《1955~1957年水稻试验成果总结报告》、《1955~1964年湖北省襄阳专区长渠灌溉试验资料分析》、《灌溉用水(1955~1977)资料汇编》及每个年度试验资料汇编。组织开展了“水稻喷灌、水稻模拟试验”和“水稻无水层灌溉”等省市科研课题试验项目。

灌溉方式上,长渠人在古“陂渠串连”的水利形式的基础上,发展创造了现代的“长藤结瓜”,蓄、引、提相结合的供水方式。灌区内,先后兴建中型水库1座,小(一)型水库3座,小(二)型水库6座,扩建堰塘2161口,沿干渠两岸建机电泵站66座。各项水利设施配套完善,非灌溉季节或雨季引水灌库、灌塘,灌溉季节干渠引水与水库、塘堰联合输水自流灌溉,机电泵站提水灌溉高地农田。灌溉面积随着灌溉方式的逐步改进而快速增长。1953年通水之初实灌4.95万亩,1957年实灌13.97万亩,1972年实灌22.24万亩,1984年为26.33万亩,2002年实灌30余万亩。1953年灌区粮食平均单产76.5公斤,总产39260吨。2001年粮食单产840公斤,总产1953610吨,分别比1953年增长11倍、49.7倍。农民人均纯收入由1953年的76元提高到2001年的2867元,增加38倍。长渠不仅为改变灌区农业生产条件发挥了巨大作用,而且为灌区工业生产也提供了极为有利的条件。1973

年起,为宜城市化肥厂日供水 2.34 万立方米,该厂年产化肥仅碳酸氢铵近 10 万吨。

三

长渠自 1953 年修复竣工之日起,即将加强管理作为工作重心和头等大事。投入运行当年,长渠灌区即建立“灌区管理委员会”,实行“灌区受益代表大会”制度,制定了《长渠灌区工程灌溉管理条例》。灌区内工程岁修、水费计收、规章制度修订等重大事宜,都由灌区受益代表大会决定,然后交长渠管理处贯彻执行。

工程管理,采取分段包干到受益乡(镇)的办法,每年进行一次岁修、清淤、建筑物维修、设备保养更新等。各管理段(所)点防汛公路的维修养护由所在乡(镇)负责;跨干渠建筑物维修,由长渠管理处筹备水泥、木材、钢材,建筑物所在受益乡(镇)负责投劳力维修;干渠建筑物改建或增设,受益乡(镇)书面申请,长渠管理处拟定设计方案,经主管部门审批后实施;支渠以下渠道岁修、清淤、建筑物改建或增建,在长渠管理处指导下,由所在受益单位自理。

灌溉管理,采取分片管理、责任到人的办法。灌区内每个乡(镇)主管农业的书记或乡(镇)长分管水利,配有一名专职灌溉助理,协调、配合各管理段、所灌溉管理工作;各村民委员会相应固定有 1~2 名专职管水主任,生产组配有一名灌溉员,实行“一把锹”管水,负责本村、本组灌溉用水管理。配水制度坚持“分时轮灌”和科学调度相结合的灌溉制度。

长渠坚持实行专管与群管相结合的民主管理方式,曾一度居全省领先水平。湖北省、襄樊市两级水利主管部门在全省范围内多次推广长渠灌溉管理工作经验。1964 年 7 月,全省灌溉管理工作会议在长渠召开。长渠管理处还多次被襄樊市水利局、三道河工管局授予先进单位。近些年来,积极学习摸索与实践依法治水、资源配置和市场运营等经营管理方式,在进一步完善“专管与群管”基础上,逐步掌握和运用“依法管理和经营管理”、“资产管理和产权管理”、“集中管理与社会化管理”等方式方法,力求建立与社会主义市场经济要求相适应的水利工程管理运行机制,逐步成为职能清晰、权责明确、管理科学、经营规范的水管单位。

四

50年来,长渠灌区广大干部群众同舟共济,辛勤努力,促使长渠工程为灌区国民经济发展、社会进步发挥了应有的作用,同时积累了“长藤结瓜、蓄引提结合供水、分时轮灌、合理配置、蓄节并重、民主管理、多元投资”建设灌区等许多值得传之后世的经验。但是,长渠人并不因此而停滞不前,在深入贯彻党的“十五大”精神过程中,长渠管理处党政一班人,牢牢把握建立社会主义市场经济体制的机遇,以改革为动力,以抓工程管理为基础,以搞好灌区农业经营服务为前提,以提高经济效益为核心,因水而立,依水而兴,明确思路,结合自身实际,进行机构改革,劳动人事制度改革,经济分配方式改革,财务管理制度改革,灌溉管理组织改革,供水方式改革,水费计收改革,经营管理机制改革。在逐步深化改革的过程中,立足解放思想,转变观念,逐步调整利益格局,破除平均主义和粗放经营管理格局;立足创新,完善经营管理机制,推行“三统四定五包”和目标量化责任管理机制,促使良性循环;立足依托市场资源优势,扭住龙头(农业水费),带好两翼(工业水费、多种经营),开发利用资源,盘活资产,挖掘“五荒”(荒山、荒水、荒坡、荒堤、荒田)潜力,大力发展种植业、养殖业、加工业等项目,寻求新的经济增长点;立足开发利用,管建并重,加快灌区续建配套与节水改造项目建设,进一步扩大灌溉面积,提高水利用系数和灌溉效益;立足善谋实干,大力弘扬“团结拼搏、求实奉献、敬业进取、科技兴水”的行业精神,管好班子,带好队伍,以法治水、科技兴水、规范管水、经营活水,与时俱进,争创一流。

可以预料,在党的正确领导下,经过长渠人再努力,长渠工程必将为灌区经济社会可持续发展、提高人民生活水平、社会全面进步发挥更多更大的作用。

Survey

The long canal, lying in the southwest of Er (Hubei province), was built in 279BC. It was one of the greatest irrigation works in the past. It was also the first irrigation work built by Hubei province, after the founding of the People's Republic of China.

There is a hub of the canal in Xie jiatai, wu'yu Nanzhang county, Hubei province. The irrigation area runs through the two cities (Nan zheng and Yicheng). Man River, the greatest branch of Han River runs through the west of the irrigation area, which is like a fruit of oliver. The geomorphology is hilly lands, hillock and flat lands. The terrain of it slightly slopes from northwest to southeast. By the year 2002, the long canal irrigation area covers 5 districts (Nanzhang district Wu'an county, Xiaohu county, Yancheng district, Leihe development district), 2 stake farms (Yuanzhong farm and Qinghe River farm). The population of it is 31,4300, distributing in 75 villages. The total area is 588.3 square kilometers (878,450 mu), in which 437,200 mu is used for farming, 58,300 mu for forest, 157,900 mu, for aquiculture, the rest for village, roads etc.

This old area was considered as the richest place in Han, Tang, Song and Yuan periods 2200 years later, today it is still one of the important areas for planting cottons and other plants in Hubei Province.

The building of the long canal has a great effect on developing the economy, politics and culture of Xiang yi plain.

I

Long canal has another name "Bacqi canal" because it was Baiqi who built it. Late in Zhan kingdom period, there was a united war in Qin Kingdom. Qinzhaohao king ordered Baiqi to attack Yanling on city of Chu in 279BC. However, he couldn't break

through the city because the Chu troops were hard to attack. So Baiqi withdrew his troops to Wu'an one hundred meters from Yan city.

He began to build the dam and dug the canal to water Yan city. After the war, Yan city became one city of Qin. After that, many persons with lofty ideas in different periods knew the importance of this canal, they continued to develop it and made it useful for irrigation. In the Tang, Song and Yuan periods, the canal was well rebuilt and many people benefited from it. In "shui Jingzhu" written by Li Daoyuan in Beiwei period, the author said the canal could irrigate 300,000 mu. In "On the long canal in Yicheng Xiangzhou city", written by Zengkong in Bei Song period, it was said that "there was a 1000-year history that the canal could irrigate 300,00 mu". The author, Zhengxie in Song period once in his book "On the Mu canal of Yicheng county, Xiangzhou" said: "it can irrigate 600,00 mu". The poet of Tang period, Huzeng once made a poem about the value of the long canal. However, the long canal was badly damaged in Ming period. In Qing period, under the pressure of the increasing population, so people began to know to build the canal. In 1807, 1809 and 1905, people in Yicheng city asked the government to rebuild the canal, but for conflict of interests, the long canal couldn't be rebuilt. In 1939, Zhang Zizhong, a patriot telegraphed the government to rebuild the canal, and many people in this area pleaded to rebuild it, so the government decided to rebuild it in November, 1942. But for years of upheaval and corruption and degeneration of some officers, the rebuilding project was stopped twice in that five years, consequently the project couldn't be completed.

After the founding of the People's Republic of China, the long canal came to its spring with the support of China party and government. In late October 1949, on the first water conservancy meeting, they decided to rebuild the canal immediately. In January 1950, China water conservancy department agreed to rebuild the canal and decided to give help. In March, Hubei water conservancy department sent 3 project teams to inspect on spot. In July, they decided to design the canal. In early November, Hubei water conservancy department placed the canal project the key project and appointed Xu Yi'an, Xiangyan director, project section chief. In early December, the project department held a meeting to call on people to take part in it and assign the assignments. In January, 1952, about 4,000 people participated in the rebuilding project. During the rebuilding process, leaders in this two counties, chief in Xiangyang water department

and Hubei water department leader Xia shihou went to the spot to direct the project. People were very enthusiastic for the work, and they overcame all kinds of difficulties. So two months later, they completed the base of water conservancy overflow dam and 4000 meters flood control embarkment. Then they started to build the overflow dam and the main buildings of long canal. They finished the 47.6 – kilometer – long main canal and 17 branches, within the two months. On April 15th, 1953, the whole project was finished. On May first, many people and Xia shihou took part in the opening ceremony. People were very glad when they saw the water, so they clapped their hands and laughed.

After many years, it is in this period that the long canal can be rebuilt.

II

The establishing of the People's Republic of China is the milestone of the long canal development on the history. During the half century's process, it has changed from being small to being big, from weakness to strongness, just like any other science, experiencing the occurrence – development – creating – recreating.

During 50 years, the party and people government extend the agricultural life vein in conduct and actions in water conservancy, for gradual irrigation district of the long canal and developing the performance well, throw in a large quantity of manpower, material resources, financial power to proceed to maintain the long canal's engineering year by year. The outlet ushers in the floodgate have been finished by 2 holes increasing to 5 holes; the main canal extends from original and all long 47.6 kilometres to 49.25 kilometres; the branch canal from 17 items to 38 items; all kinds of water work buildings of the main canal from 126 places to 267 places; the biggest leading water current measures of the main canal from 10 cubic metres per second to 43 cubic metres per second. The engineering technique and the material in use, also experienced from primitive to modern. The ancient long canal set up early on "with zhu xiao stone, the soil of using" and "cage stone" etc by engineering techniques. Now it was in place of new techniques, such as modern reinforced concrete, electric shock and various water work buildings and soon. The irregular ditch is replaced by channels made by concrete.

In order to lead the farmland irrigation into practice scientifically and reasonably, the provincial conservancy bureau of Hubei built “irrigation experiment station” of the long canal in the second management segment (the 8th group of lei he min zhu village in Yi cheng) in 1955. The experiment station successively sorted out to edit 《the summary report of the paddy rices experiment from 1955 to 1957》, 《the data analysis of irrigation experiment on the long canal, Xiang Yang special zone, Hu Bei from 1955 to 1964》, 《the collected data materials of irrigation water from 1955 to 1977》 and annual experiment resources. It organized to open “the spraying irrigation of the paddy rice, the imitation trial of the paddy rice”. etc. the research and experiment item of province and city.

In the way of irrigation, based on the water conservancy form “connecting slopes with canals”, the people of the long canal created modern “having melons on the long cane”, the method of supplying water that combined retaining, leading with lifting. In the area of irrigation, they built orderly one medium – sized reservoir, three small (a) type reservoirs, six small (two) type reservoirs, and extended 2161 weir pond and established 66 machine electricity pump stations along the main canal. Various water conservancy facilities network was perfect which could lead the water to fill reservoir or pond during no irrigating seasons or raining seasons. During irrigating seasons, the main canal would lead the water to irrigate with reservoirs and weir ponds while machine electricity pump station lifted the water to irrigate the highland farmland. The irrigating area increased quickly with the improvement of irrigation methods. In 1953 it irrigated 4.95 ten thousand acre fields, 13.96, 26.33 ten thousand acre in 1984, over 30 ten thousand acre in 2002. In 1953 per mu yielded 76.5 kilograms in the irrigation area while the gross production was 39260 ton, per mu 840 kilograms, the gross 1953610 ton in 2001, which increased respectively by 11 times and 49.7 times. per capita pure income of the farmers increased from 76 yuan in 1953 to 2867 yuan in 2001, by 38 times. The long canal not only developed large functions for changing the agricultural production situations in irrigating area, but also provided the extremely beneficial conditions for industrial production in this area. From 1973, it provided 2.34 ten thousand cubic meters water per day for chemical fertilizer factory in Yi cheng city. The factory produced chemical fertilizer, as for carbonic acid hydrogen ammonia almost 100 thousand ton per year.

III

People has taken the enhancing management as the work center and the first – class important event since the long canal was finished repairing in 1953. When it was put into circulation, “the committee of irrigation management” and “beneficial congress of irrigating area” appeared immediately. It also regulated《the irrigation management items of the long canal’s irrigation engineering》. In irrigation area, annual repairing engineering, fee for using water and rules and regulations etc. important things were up to the beneficial congress of irrigating area, then handed to the long canal management office to carry out.

As for engineering management, beneficial county (town) should be responsible for its segment, proceeding one repairing each year, cleaning silts, maintaining equipments etc. Each management segment’s (office’s) highway of flood control was in the charge of the county (town) where they lay. The long canal’s management office prepared cement, timber, steel material and the beneficial county (town) was responsible to throw physical labors to maintain the buildings across the main canal. The beneficial county (town) applied in paper and the management office of the long canal drafted the design project to reconstruct or extend the buildings of the main canal after department responsible for the work examined and approved. As for the rest ditches along with the branch canal, it was handled by beneficial units.

Irrigation management adopted the way that divided a slice of the management and duty arrived to the right person. Every county’s (town’s) agricultural secretary in supervisor inside the irrigation area managed respectively water conservancy with a full – time irrigation assistant to moderate ,match with each management segment to deal with work; each village people committee has 1~2 full – time directors to supervise pipe lines with 1 irrigation member in the production group, practising “a spade” to control water and being responsible for irrigation management on their village and group. Water system stucked to “irrigating in turn by time” and scientific adjustment.

The long canal insisted specialized control and cluster control’s democracy management, once leading the advanced standard in whole province.

Hu Bei province's and Xiang Fan city's ranks spreaded the irrigation management work experience to the whole province through water conservancy department. In July 1964, the irrigation management work meeting of the whole province was held in the long canal. The administrative office of the long canal was conferred the advanced unit many times by the conservancy bureau of Xiang Fan and three stream work tube bureau. In the last years, the positive study groped for practice to cure the water by law, resources installing to carries with market camp etc management method, based on "specialized control and cluster control", gradually mastered and used the way of "management by law and running", "property management and right of production management", "collecting management and social management". We try to establish marine hydraulic engineering management circulating mechanism adapted to socialism market economy, gradually being a unit controlling water with clear property right, distinct power and responsibility, scientific management and normal running.

IV

In the last 50 years, the large cadres and the masses of the long canal's irrigation district, pulled together in times of trouble to spur the long canal engineering for suitable function with national economy and society development. At the same time we accumulated many worthy experiences "producing melon on the long cane, supplying water with retaining and ushering, irrigating in turn by time, deploying reasonably, combining storage with saving, democratical management, diverse investment". But the long canal people didn't bog down for it, the leading people of the party and government on the long canal's management office carried out deeply the spirits of "the 15th national congress". They grasped tightly the chance of building socialism market economy, regarding reforming as the motive, grasping the engineering management as the foundation. making farm management service for premise, increasing economic performance for core. They performed all kinds of reforms, such as institution reform, the labor personnel system reform, economy allotment method reform, management mechanism reform and so on. During the process of gradual reform, we had a foothold of relieving the thoughts, changing ideas, adjusting the benefits structure and getting rid of