

IRRIGATION IS THE LEADING METHOD FOR DEVELOPING  
AGRICULTURAL PRODUCTION  
IN THE NORTH

- North Vietnam -

Following is a translation of an article by Ha Ke  
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Irrigation is the Most Important Aspect in the  
Construction of the Material and Technical  
Foundation for Agriculture

The conditions of the weather, season, the earth and planting in the north (lying in the tropics) provides advantages for the development of agricultural production. First, sources of water in our land are very copious. The yearly supply from rain is from 1,300 to 3,000 liters, and the average is 1,800 liters. In the North there are around 1,000 streams and rivers with a length of nearly 26,000 kilometers and more than 40,000 hectares of ponds, lakes, and marshes spread everywhere, creating a natural irrigation network advantageous for our development of irrigation in fields, for raising fish, for supplying electricity, and for developing navigable waterways. But because there are few irrigation projects, we therefore cannot yet make use of those water sources in agricultural development and for the standard of living; on the contrary, those water sources create many obstacles to production and life. The supply of rain is not evenly distributed, sometimes being heavy, sometimes light, and the topography between the areas of high and low water is very different, so there are droughts, floods and deluges. Every year is like that; during the dry season there are scorching droughts; in the rainy season there are disastrous floods. Flood and drought tables from recent years illustrate these points:

Year	Drought		Flood
	May season	October season	October season
1955	135,000 hectares	130,000 hectares	34,500 hectares
1956	145,300 "	141,100 "	174,630 "
1957	138,800 "	273,400 "	52,000 "
1958	163,200 "	170,100 "	84,300 "
1959	107,500 "	131,500 "	94,500 "
1960	107,700 "	167,900 "	105,100 "
1961	16,881 "	204,117 "	54,826 "
1962	137,638 "	64,140 "	81,791 "
1963	225,000 "	118,315 "	256,000 "

Mainly because of that, "it is necessary to prevent society from limiting natural supply, it is necessary to use that supply, to limit it, and to redistribute it on a standard equal to the manual projects of the people" (1) with the aim of "using" water not for "flooding" but, for "irrigating." To say it another way, how many irrigation problems in the north have not been positively solved, so that our agricultural production is still hampered by severe natural calamities and cannot be developed strongly and securely in every aspect.

As far as agricultural production is concerned, water is the life-blood of farming. With water, planting will be able to use many types of food in the soil in order to raise and grow crops prosperously, and to establish good results in high yields. In our country, only with a good solution to irrigation problems is it possible to start controlling water for growing rice, income crops, and industrial crops; only then is it possible to prevent floods and droughts and to limit acidity and erosion; only then is it possible to guarantee a longer season and increased output, making agricultural production in the mountains, the foothills and the delta stronger and more advantageously developed. The canals not only carry water for farming, but also supply for farming the minerals which the water picks up in the mountains and deposits in alluvial land. This amount of mineral is a very large and very important source. On the other hand, the development of irrigation in farming hamlets will possibly supply enough water for farming, for drinking, for bathing, and for the demands of animal husbandry (mainly in the mountains and newly opened lands); at the same time, it creates conditions for developing commercial fishing, opening roads and waterways, and contributes to the construction of new farm hamlets. In many places, along with the initiation of irrigation projects, we might use manpower to generate electricity to serve production and the lives of the farmers. The more irrigation is developed in farm hamlets in the north, the more it creates advantageous conditions for the mechanization and chemicalization of agriculture. Therefore, "irrigation

1) Marx, Das Capital, Vietnamese-language edition, Su That Publishing Co., Hanoi, 1960, Book I, Chapter II, p. 267.

is the most essential task of all; and more than every other process, it will rebuild and restore the earth, it will bury the past, it will be a solid step in the transition to socialism" (2) in our country.

At present, our agriculture is still backward, and moreover lacks the conditions for immediate mechanization; therefore irrigation has more and more become the most important area in the construction of the material and technical foundations for agriculture.

Based on our country's practical conditions, the party is directing agriculture to build a foundation for industrial development. If agriculture is developed, then we can insure an increasing supply of foodstuffs and raw materials, we can have industrial and agricultural products for export, and at the same time we can create a large market for the consumption of industrial goods. But up to now, our agricultural production has not built a beneficial foundation for the development of industry. The main cause is because irrigation problems have not yet been completely solved. It is the same in every locality and in every cooperative: we all realize that irrigation is the most pressing problem and has the greatest influence on agricultural production. It is evident that in order to change our backward agriculture foundation into a modern one, and to have a high output and a large supply, we must step up irrigation, chemicalization, and mechanization of agriculture. But in order to realize sufficiently these three tasks, it is necessary to have pre-determined standards of development in economics, science and technology. At present our industry does not have the capacity to supply essential modern production materials for the chemicalization and mechanization of our country's agricultural foundation. On the other hand, the available capital for cooperatives is small; the scientific, technical and administrative levels of the villagers is still low; commerce and the use of those modern techniques in agricultural production is still very limited. Moreover, in the regular seasonal characteristics of the tropics there has been little emphasis on "water", so that it is difficult to achieve results in the chemicalization and mechanization of agriculture. Because of all the above reasons, in the immediate future we have only the possibility and the necessity of concentrating manpower on irrigation projects so that they will be strongly and speedily active in agricultural production. The practicality of developing cooperative administration is now progressing so that it is evident that in every cooperative that performs well in irrigation, production in that cooperative will immediately increase. That is a very simple yet very important conclusion concerning the problem of developing our agriculture.

(2) Lenin: Complete Works, Russian language edition, Political and cultural Publishing Co., Moscow, 1951, Book 32, page 297.

The production experience of thousands of our ancestors on this land also shows us that "water is first, fertilizer second, sticks third and plants fourth." We know that, but under the previous social system the farmers of Vietnam worked haphazardly alone under force and were plundered in a hundred ways, so that conditions were not right for the successful solution of the irrigation problem for agriculture. The situation at present usually demonstrates that, in a heavy rain the water runs high, the dikes break at random, there is serious flooding, production is seriously set back and life is exceedingly miserable; after the rains there are prolonged droughts and the farmers must powerlessly endure hunger and thirst.

All during the 80 years of colonial rule in our country, the French colonialist gang only built eleven agricultural canal systems in a few areas. The majority of those projects aimed at transporting ore and supplying water to the estates of the colonialists (such as the Cau river system); or they aimed at rubbing out the spirit of revolutionary struggle in our people (such as the South Nghe An pumping network). During the time of the resistance, those systems were destroyed by French bombs and rendered totally useless. Because of that, the use of these systems in agricultural production was severely limited up to now.

Growing out of the demands of the development of agricultural production and of raising the people's standard of living, from the time the north was completely liberated up to now, the party and our government have been very much interested in the problem of developing irrigation, recognizing that it is the main method of developing agriculture. In the past nine months, we have recovered and constructed 38 large irrigation systems. We have built thousands of medium-sized irrigation projects and have dug millions of cubic meters of earth for small irrigation projects. The country also suggested to the farmers about 3,000 pumps. Because of that the land area irrigated, drained, and reclaimed has neared 2,133,00 hectares, comprising about 71% of the arable land. Thanks to that, today's agricultural output and supply in the north has far exceeded the pre-war level (1939).

In spite of that, irrigation activities in the past few years have not been developed strongly and at the same rate in each place. In a few areas, because of lack of understanding of the party's doctrine in the development of agriculture or because of the haphazard and cut up utilization of the party's rules for developing irrigation, irrigation activities have been very slow, having not a good influence on production and the people's lives. On the contrary, there are many areas which, because they grasped the party's doctrine for developing irrigation and they know clearly the party's rules for working on irrigation, have mobilized many people to work on irrigation, limiting the effects of

water created calamities, and therefore greatly aiding the development of agricultural production and clearly improving the lives of the people. Hung-yen is one of the leading provinces in this respect. In only two or three years of concerted effort, the people of this province have constructed a vast irrigation network, including over 4,000 kilometers of canals, and changing many fields from one harvest to two harvests per year. Because of the increased season the average land under cultivation increased 5% yearly, and thanks to that, the food supply increased from 178,300 tons in 1960 to 226,386 tons in 1962. Commercial fishing also was aided; in 1962 alone the people of Hung Yen received 1,800,000 piasters for fish. The lives of the people have steadily improved, and so the cooperatives have been strengthened and developed. At present, half the farming population in Hung Yen have reached or surpassed the standard of living of the average country upper-class farmer.

In many other provinces, there are also many villages and cooperatives which, by working on irrigation, have developed production and steadily improved the lives of the people. In a few places in the mountains, the people know the benefits of irrigation projects which generate electricity and aid in the speedy development of the material and spiritual well-being of the mountain people.

These facts show that, in the conditions of a tropical agricultural nation, things are poor regarding the material basis and backward in the technical foundation as in the case herein the north; if we act strongly and immediately in the irrigation area we will get clear and rapid results. This is one task which we could do now in order to develop agriculture and raise the people's standard of living. It is possible to assert that "having water is having everything", and "irrigation has benefits in many ways." With irrigation, we can then control water according to the plan, and on that basis develop all branches of agriculture advantageously and surely. Also, only with irrigation will we realize the benefits of chemicalization and mechanization of agriculture. Those are the pressing steps of our Northern agricultural foundation as we go on the road toward a modern, up-to-date agricultural footing, building a solid basis for national socialist industrialization.

#### Combining Irrigation with the Cooperative Movement is an Important Method of Developing Our Agriculture Now

This problem, in reality, is the solid union of rebuilding the administration of production and constructing the material and technical foundations of agriculture, aiming at the strengthening the cooperative movement in farm villages and at stimulating the development of agricultural production. The problem is very much

related to the current social and economic situation in the North.

A Majority of farmers in the North have gone into agricultural production cooperatives. Although our agricultural cooperatives have not yet developed their own spirit of winning, because the material and technical foundations are poor and backward, we must still rely on cooperatives for the construction and development of a socialist agricultural basis. In order to do that, we must steadily strengthen the new production administrations in farm hamlets, at the same time paying special attention to raising the technical and material foundations for cooperatives; those are two official reasons pushing the strong, secure development of agricultural production in the North. It is evident that our economic situation and our current technical and scientific level have not allowed us to be able to prepare adequately a modern technical and material basis for cooperatives. But at least we must solve rapidly the problem of too much or too little water, for this is the problem which is creating great obstacles to production in cooperatives and is impeding the development of agriculture. With the help of the nation and the strength of the cooperatives, we have good condition for working on irrigation activities -- an important aspect of the construction of the technical and material foundations of agriculture at present -- in order to break through those hindrances to cooperatives, to strengthen even more the new production administrations in farm hamlets, and to create conditions for leading the agricultural basis in the North up to new levels.

In reality, compared with the small farm economic basis, agricultural production cooperatives have many great advantages for working on irrigation activities. Because of the concentration of land, equipment, labor, and the force to get things done (in a few high-ranking cooperatives, all of the essential production materials are under central ownership), cooperatives can reserve some land for irrigation, solving many difficulties with equipment, manpower, money, etc. in order to stimulate irrigation activities. The past few years showed that agricultural cooperatives were the important power behind pushing the irrigation movement. In recent years, there have been many large floods in our country, and at least 30 to 40 this year; if we do not get the strength of the cooperatives to continuously "turn the water from the fields back into the river", then these heavy floods will destroy unknown amounts of our fertile rice fields. As is also the case with droughts lasting for six or seven months, if we do not have the centralized strength of cooperatives to overcome the difficulty of "squeezing water from the earth and making it rain" in order to aid rice, to aid income crops, and to guarantee a harvest on all the land, then our agricultural supply will surely suffer innumerable serious consequences.

Going into local areas, we can see the successes achieved by irrigation activities in solidifying the agricultural cooperative movement. Mainly relying on the strength of the cooperatives which gathered more than 90% of the farm population, Hung Yen province has successfully solved the difficulties regarding manpower, capital, and land in the construction of a widespread irrigation network, and in insuring a good solution to the problem of water for agriculture. Hai Duong is one of the many provinces having much experience organizing irrigation units. In practice, these places show us that: only with new cooperatives will conditions exist for the formation of units to work on irrigation in order to steadily develop equipment to modernize creative technology with the aim of increasing the efficiency of labor, and to insure the rapid, systematic, and successful completion of irrigation projects, supervised by the nation which form the framework for stimulating the movement to build irrigation projects in local areas.

On the other hand, irrigation activities being strengthened are important factors insuring the advantageous development of cooperatives' production, strengthening and developing the villagers' lives, and giving the farmers more conviction on the road toward collectivization. Because of that, cooperatives are being steadily strengthened and developed.

Currently, all our agricultural production cooperatives have not implemented electrification, chemicalization and mechanization, therefore the output and harvest of the cooperatives are not very copious, and the lives of the villagers are not well supplied in every area. But why do the farmers still follow the party's path of collectivization? To say that our farmers have always believed in the party and therefore have followed the party in the cooperative movement, is partially correct. But our farmers are very practical people. If cooperatives are truly not superlative, mainly by not having more basic items than by going it alone, then the majority of farmers in the North probably would not have belonged to cooperatives for these many years. We all know that after the land reforms the average farmer only has three sao of land (about one tenth of a hectare). With things that poor, production technology was very backward; therefore every time there was a crop deficit (mainly because of drought or flood, and these things were usually serious) the farmers could not avoid being struck by poverty. If they lost two or three seasons in a row, they were ruined. After the reorganization, their lives were partly more secure. Although cooperatives are still poor, the collective strength of a cooperative can accomplish irrigation functions better than persons working alone, and therefore they have limited and overcome the destruction of natural calamities, protected pro-

duction, and preserved the lives of the villagers. Mainly these points have strengthened the villagers lives even though they are not yet well supplied, and because of that they have pulled many farmers into cooperatives.

In the village of Xuan Khe (Ly Nhan, Ha Nam), successfully completed irrigation activities have contributed an important part of the harvest of the rapidly progressing cooperatives. From a food deficit, Xuan Khe moved up to an ample supply, and moreover has some excess to sell to the Nation. The villagers' lives have improved greatly compared with before. The floods, the dust, and the poverty are in the past, allowing the citizens of Xuan Khe to see deeper into the endless power of collective strength; and because of that, more than 91% of the farmers here have joined the cooperative. In Dong Chuong cooperative (Diem He, Lang Son) a few years ago, because the people did not know how to take irrigation activities, production became more difficult daily and the villagers' living standard was going lower, 16 out of 23 cooperativemembers asked to leave the cooperative. From 1962 on, because of good irrigation, the cooperative changed all the land from one season to two certain seasons; besides, they had three hectares for fish and they raised thousands of ducks. The stockpile, the harvest, and the lives of the villagers progressed rapidly. Because of that, all those who asked to leave the cooperative now asked for readmission. All of these situations demonstrate clearly that irrigation activities have a very important influence on the strengthening and developing of a cooperative.

In summary, everywhere in the North, from the mountains to the foothills and the delta, every place has a statute on mobilization and the mutual stimulation between irrigation and the cooperative movement. That reality shows that the cooperative movement in the farm hamlets of our country is getting stronger and creating more conditions for putting irrigation to work in the unceasing development of agriculture; in reverse, a stronger irrigation movement will strengthen the development of cooperatives' production and steadily improve the lives of the villagers; because of that, the new production administrations in farm hamlets are being positively strengthened. Therefore the development of irrigation activities, and the congruency of those activities with the cooperative movement in farm hamlets, is a completely correct proposition, in accordance with the special points and demands of current agricultural development in the North.

It is Necessary to Perform Irrigation Activities  
Well in 1964 and 1965

Irrigation must go forward if we are to insure the

the success of the policy to increase output in agriculture, making our agriculture produce much foodstuffs and other agricultural products in the service of socialist industrialization and the development of the people's standard of living. In the past few years, irrigation activities have progressed greatly compared with before, but they still fall far short of the demands of agricultural production. The first five-year plan for agricultural development has stated that up to 1965, we "must protect water sources for about 50% of the land, enough water to irrigate 80% of the rice fields, enough irrigation water for the area growing mainly industrial crops, and we must open more irrigation for income crops." (3) Because of that, in the next two years we must complete many small irrigation projects within and outside of the farm irrigation system; we must rapidly construct all types of medium and large projects; we must develop and improve to reach the highest level of use in all old projects and in newly constructed projects; in places lacking irrigation, we must dig ponds and canals to carry water to the fields; we must open new areas for irrigating and use water rationally in order to increase the harvest; we must attend to solving the drainage problem in flooded fields; at the same time we must search for methods to store moisture for income crops on all the unirrigated fields.

In realizing the serious duties above, it is natural that we will encounter many difficulties but on the other hand, we will also achieve many victories. The cooperative movement in farm hamlets has become strong; most cooperatives have little experience with irrigation; the positive results brought about by irrigation in the past few years has had a decisive influence on the villagers. With the supplies of the cooperative and the positive help of the nation, and without waiting for many machines, we can still build many more irrigation projects. If we wait for a lot of machinery before working on irrigation activities, it will be too long and will have an adverse effect on agricultural production, harming also the tasks of socialist construction and of raising our people's standard of living.

For a long time, irrigation activities there were many possible jobs to be done, but we have not yet done them. Currently in the North there are 38 farm irrigation systems. According to the public works already planned, these systems could guarantee irrigation water for nearly all of the May rice fields in the North. Aside from the 28 systems opened long ago, there is also enough to irrigate 60,000 hectares; but because the jobs of cleaning ditches and canals and of making outlets are not yet completed, they are only irrigating

(3) Resolution of the VIIIth Central Assembly on the first five year plan for national economic development (1961-1965), Su That Publishing Co., Hanoi, 1963, pages 39-40

50,000 hectares. In all cooperatives, irrigating and the rational use of water for crops are not difficult tasks; it is only necessary that the farmers know enough to have a real interest in the benefits for the cooperative, and they will do these tasks; and because of that, the crop yield may easily increase from around 10% to 20%. In the areas outside the irrigation systems, we do not have to exhaust every method to solve the irrigation problem. In many huge fertile fields, it is necessary to dig down only from one to three meters to reach running water, but there are many cooperatives which have still not dug wells to fight drought. There are some cooperatives which, although they know that the rice yield is low because of drought, still do not bear the struggle to overcome difficulties in bringing water for the rice, even though there are canals nearby. Reality demonstrates that, in areas with flooded fields, if the cooperative positively fought floods all around the area, then in just six months it would also be possible to change the drought situation, and then production would increase; but there are a few cooperatives that do not positively seek every method of flood prevention and just sit and wait for the nation and their "long term plan" to act, and because of that, up to now they have not solved the flood problem. We must combat the fears and difficulties and energetically correct those deficiencies in order to successfully carry out irrigation activities, and primarily to complete the irrigation operations in 1964-1965 which were decided upon by the government assembly.

In order to successfully carry out irrigation operations in these two years, it is first necessary to establish the directing rule of "a combination of water with irrigation water and drained water, and a combination of the small projects worked on by the citizens with the medium and large projects worked on mainly by the country or jointly by the nation and the people." It is necessary to embrace this directive in every aspect, without going awry on any point.

In a recent period, there were a few comrades who took lightly the role of the people in irrigation operations. They relied on the nation, asking the government to supply much capital for construction of projects in local areas, or asking them to supply machinery for irrigation; they did not attend to starting the people to work on small irrigation projects in order to gain the use of the terminal projects, or when those projects had finished being built they did not attend to good administration or development; they only lightly considered the repairs and cleaning of the canals and ditches, and therefore are not utilizing the full potential of the projects. These twisted inclinations severely limit the utility of irrigation in regard to production and life in farm hamlets.

In the next two years (1964-1965), the country will reserve a lot of capital for the development of irrigation. But the nation will concentrate on large projects. But the greatest and fastest results achieved in two years' work on irrigation will not be because of those projects constructed by the nation, but mainly will be brought about by irrigation projects built by cooperatives in farm hamlets. For a long time, when speaking of irrigation, we only thought about how many cubic meters of earth could be dug, how many kilometers of ditches, canals, etc. That is only one aspect of irrigation. The most important area in irrigation operations is in the areas it aids a high output in industry, and this point is completely subordinated in the irrigation activities of the cooperatives in farm hamlets. Therefore we must seek every means to aid and direct every cooperative to perform well in irrigation operations in these two years. Initiating a major two year irrigation movement such as this one, we naturally cannot avoid having some deficiencies. But it is not because we are born shy; on the contrary, we must boldly activate every cooperative to turn out and work positively on irrigation.

In order to successfully realize irrigation operations for these two years, we must avoid the condition of considering only method, as was usually taken as correct before. Irrigation activities leadership committees on all levels must show a practical program and positive methods for observation and examination, keeping a close watch on: realizing the construction of the irrigation program and mainly the plans of villages and cooperatives, in accordance with new production phases in farm hamlets; mobilizing and organizing all the resources of a cooperative, taking an irrigation specialist unit to build a framework for utilization of positive aid from the nation; the widespread utilization of modern equipment (including tools for digging, sprinkling, and draining and the truly efficient use of the machines now available for working on equipment; increasing the administrative activities of every farm irrigation system in order to increase the use of public works; increasing the examination of planning and administering construction in order to guarantee materials for projects. Having that, we need only complete the responsibilities of irrigation activities in the next two years, thereby serving well the first five-year plan regarding agricultural development.

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