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WATER SUPPLIES FOR RESETTLED POPULATIONS

by Dr B H KINSEY

INTRODUCTION

The recently published first volume of the Transitional National Development Plan (TNDF), covering the period 1982/83 to 1984/85, defines the national objective of transforming Zimbabwe into a dynamic, equitable society and spells out the strategies to be followed in effecting this transformation. Central to the theme of this conference are the plan's overall emphasis on rural development, in which resettlement, improved water supplies and preventative health are key strategic elements. This paper will examine the planned resettlement of large numbers of rural households in terms of its implications for and place in Government's overall water programme, which aims at providing all the people of Zimbabwe with safe water supplies for domestic and other uses by 1990. In this context, the programme to supply water to resettled areas will be reviewed, and accomplishments and difficulties to date will be outlined. Only limited attention, however, will be directed to what will over time become an increasingly important concern: water for use in small-scale irrigation, not only to promote continuing growth in agricultural output but also to permit limited land resources to absorb more settlers in such productive agriculture.

BACKGROUND

Water resources

Zimbabwe experiences a mean annual rainfall of some 675mm, but the distribution of water resources available for utilization varies significantly both spatially and temporally. Taking into account actual and potential stored surface water and extracted ground water, there is thought to be a maximum total of some 10,000 million cubic metres of water per annum available for use, some 15 per cent of which is currently utilized—mainly in agriculture. It is estimated that over the next 20 years the demand for water available from internal resources may increase to an annual utilization level of between 3,340 and 5,000 million cubic metres

(1, p. 61; 2, 24/1/83). In addition, Zimbabwe is entitled to a share of the waters of the Zambezi and Limpopo Rivers, however these sources have competing claims and are far from the major centres of population.

Because of the frequency and severity of droughts, the urban, agricultural and mining sectors are largely dependent on the storage of water in dams. Some 7,400 dams of varying sizes have been constructed, with a total storage capacity of some 4,700 million cubic metres. About 85 per cent of the total storage capacity is in the 100 largest dams, and sites have been identified for another 300 large dams (3, p. 9). The rural sector relies for its water supplies on comparatively low-yielding boreholes, shallow wells, small dams, seasonally flowing rivers and streams, pools and sandbeds in rivers, and springs and waterholes. The source used typically varies with the time of year and the intended use. These sources are generally unprotected and, with increasing population densities, surface supplies in particular have tended to become polluted.

The data base covering water supplies and use in the underprivileged rural sector is very weak, and estimates of the number of people who have access to water vary accordingly. The total rural population is some 5.6 million, of whom some 3.9 million reside scattered across the communal areas, 1.0 million in the commercial farming areas and another 0.7 million in small rural centres. One recent estimate suggests that only about 10 per cent of the rural population has an 'adequate' water supply (3, p. 5), while an earlier figure cited for the proportion of the population with 'adequate access to safe drinking water' was 20 per cent (2, 20/10/81). A third estimate—and the most recent located—indicates, however, that some 2.0 million rural people are served by boreholes, 0.2 million by piped water supplies in villages and 0.4 million by piped supplies in rural centres, while 2.0 million have no access to potable water supplies (2, 23/12/82). This last source implies that anything from 35 to 47 per cent of the rural population lack access to clean water.

National water policy

The Government is committed to ensuring that the entire population of Zimbabwe is supplied with clean water by the end of the International Drinking Water Supply and Sanitation Decade in 1990 (2, 16/1/83). Government intends to ensure the optimum utilization of water resources through the preparation of development plans for each of the major river systems and catchment areas. These area-based plans will constitute part of a national water master plan, which will also investigate the total demand for and supply of water and the most economical ways of providing it.

The rural areas are to receive particular attention. In order to remedy years of neglect in the communal areas, Government intends to provide the larger villages with storage reservoirs from which water can be reticulated to communal standpipes or individual connections for community facilities. In the more sparsely populated regions, supplies will be provided from boreholes or wells. Water supplies for agricultural purposes, such as stock-watering and irrigation, are to be developed as part of the programmes for integrated rural development (1, p. 62). Aid funds and technical assistance to facilitate water development are currently being provided from a number of countries and agencies.

Even at its most economical, meeting the growing national demand for water and improving distribution of supplies will not come cheaply. By way of illustration, it has been estimated that the policy of providing pumped and reticulated supplies to the population of the communal lands alone would cost in total some Z\$650 to 1,000 million, figures which suggest a per capita cost of some Z\$150 (3; 4). Expenditure on water supplies can therefore be expected to increase substantially. From 1981/82 to 1982/83, for example, the expenditure estimates for the Ministry of Water Resources and Development (MWRD) increased by some 128 per cent--from Z\$18 to Z\$42 million (£1 = Z\$1.48 in January 1983). Well over 93 per cent of this increased expenditure was allocated to the construction of water supplies, water conservation works and rural water supplies (5, pp. 130-32).

The resettlement programme

In September 1980, the Government embarked upon a programme of agricultural resettlement which 'will occupy a central place in the social, political and economic life of the country' during and beyond the 3-year period covered by TNDP (1, p. 66).

This programme, ambitious not only in its wide scope but also in the capacity of a new administration to implement it, is a key element in the Government's pledge to restructure rural society and economy and to improve rural welfare. The target rates of resettlement designed into the original programme were subsequently multiplied some ninefold by the addition of a second, parallel programme, which makes resettlement now and into the foreseeable future the major rural development activity in Zimbabwe; indeed, it is currently the major public sector programme with the potential to affect fairly immediately and significantly the economic welfare of large numbers of rural dwellers.

The consequences of a basically inequitable distribution of land per se before independence have been exacerbated by underlying differences in land quality. Agricultural land is classified into five agro-ecological zones, known as natural regions. More than half the large-scale, commercial farming land is in the more favourable areas: natural regions I, II and III, which by definition enjoy more greater and more reliable rainfall. In contrast, three-quarters of the communal area land is in natural regions IV and V, which are considered marginal or unsuited for cropping. It should be noted, however, that natural regions I and II--those best-watered and suited for intensive farming--comprise only 17 per cent of the entire country. There is thus an absolute shortage of good, naturally watered farming land which does not reflect the relative shortages caused by colonial land distribution patterns. Land in the communal areas is under serious to severe population pressure, and in 1981 these areas were estimated to be accommodating some 219,000 households in excess of their carrying capacity (6, p. 147).

SCALE OF THE RESETTLEMENT WATER PROBLEM

The number of people to be resettled under Government's programmes is not known with precision but is estimated at 170,000 families, the great majority of whom Government hopes to settle by mid-1985 (7, p. 10). Assuming a family size of five, resettlement must therefore supply the water requirements of some 850,000 persons. Settlers are moving onto land that was formerly commercial farms, where water supplies usually exist but where they were installed to support the pre-existing pattern of family or corporate farming with its relatively small and clustered residential labour force. Moreover, many of these water supplies were badly damaged and rendered useless during the war.

Settlers are to be grouped into villages which are to be supplied with water at a service level of one borehole, fitted with a handpump, to about 25 farm families. The budgeted cost is Z\$5,000, or about Z\$30-40 per capita. In cases where surface water is not available for stock-watering, a borehole equipped with a windmill, storage tank and trough will be provided at a budgeted cost of Z\$20,000. The administrative centre which houses resettlement and other Government personnel is to be supplied by an engine-driven pump mounted on a borehole if possible; otherwise supplies will come from surface water via a small treatment plant (2, Appendix E). Costs are budgeted at Z\$25,000 per installation. Since these administrative headquarters are expected to grow into rural service centres, supplies will be reticulated.

Resettlement on the scale indicated above implies a need for some 2,000 boreholes or other water sources a year (not all of which would be new) which in turn implies the need for 120-130 drilling rigs. In mid-1982, there were only 65 rigs in Zimbabwe, 16 of which were government-owned. The capital cost of a single new percussion drilling rig is estimated at Z\$45,000 while running costs are Z\$4,500 per month, or some Z\$52,000 a year, but a number of aid donors are providing increments to the national stock of drilling equipment. The shortage of rigs is not the only problem however. The geophysical surveys needed to select drilling sites are also being impeded because of a shortage of engineers and inadequate knowledge of ground water resources.

INSTITUTIONAL FRAMEWORK

With the exception of water supplies, all infrastructure in settlement schemes is the responsibility of the Chief Development Officer, under the Director of Rural Development in the Ministry of Lands, Resettlement and Rural Development (MLRRD). Teams working under the Chief Development Officer construct internal roads, cattle dips, health clinics and staff housing (through supervised contracts), install fencing, coordinate school construction and demarcate land and arrange for initial ploughing. Responsibility for water supplies in the settlement schemes lies with the Ministry of Water Resources and Development through its Division of Water Development (DWD), which acts as a service agency to MLRRD.

IMPLEMENTATION OF THE RESETTLEMENT WATER PROGRAMME

Resettlement is currently being implemented as a tactical exercise, with great pressures being placed on the institutions and personnel involved to speed up the programme because of its political, economic and social importance. The problem of water supplies is the major constraint currently affecting both the pace of resettlement itself and the follow-up to settlement, and a solution to the problem is currently MLRRD's number one priority. Until recently, relocation of settlers had been proceeding whether or not boreholes or wells existed at the settlement site on the assumption that settlers could use alternative sources of supply. This assumption proved valid during the earliest stages of resettlement. For example, in 1981/82, MLRRD received only 30 per cent of anticipated installations from DWD but managed to get away with nearly a full resettlement programme because of the previous good rains. Two consecutive seasons of drought, however, have had severely adverse effects on resettlement planned for those areas where reliable water supplies do not exist. Moreover, where resettlement has already taken place, there can be no consolidation or secondary development until water supplies are provided. Housing for extension, health and educational staff, for example, cannot be constructed until water points have been sited. Even before water supplies for drought relief became the major preoccupation, however, resettlement was only the third priority for DWD after the reconstruction and school-building programmes.

Even without the expansion of its activities to include resettlement, however, MWRD was already fully stretched by its nationwide programme of repairing war damage to boreholes, wells, dams and pumping equipment. Moreover, the ministry is being required to expand its activities in communal areas, and the continuing drought has necessitated the deferral of some water projects while MWRD concentrates on drought relief to the hardest-hit areas, mostly in the southern half of the country. The water programme has been further impeded by the resignation of 65 per cent of the ministry's water engineers (2, 18/1/83).

Because of these problems, the Development Branch of MLRRD, which already handles other physical infrastructure, is attempting to establish a well-digging unit in order both to overcome the shortage of drilling rigs and to reduce the time and costs involved in the drilling programme.

As a consequence of the difficulties outlined above, the major infrastructural problem facing the resettlement programme relates to the limited ability to install water supplies fast enough. The delays in installing water supplies severely constrain the implementation of other components of infrastructure, such as the construction of dips, clinics and staff houses and offices, and these aspects are slipping well behind the present pace of resettling families.

In addition to affecting the subsequent ability to construct facilities needed by both settlers and administrative staff, other consequences also arise from the delays in providing water supplies. The delays are a bottleneck to resettlement itself in that settlers are expected to take up permanent residence in new villages without any--or only inadequate--water for domestic use, for constructing their own houses or such facilities as cooperative schools, or for agricultural use such as watering stock or mixing crop sprays. In the worst drought-affected areas, resettlement schemes have at present only seven per cent of the total number of settlers they can accommodate, and in other areas settlers have temporarily had to abandon the schemes due to insufficient water (2, 24/1/83).

CONCLUSIONS

Bad luck, in the form of two successive years of drought, has diverted resources from planned programmes of water supply to emergency relief measures. The adequate provision of water supplies is clearly one of the major constraints to the speedy and successful implementation of Government's efforts to resettle large numbers of families from the communal areas into former commercial farming areas. In addition, the currently limited capacity to provide new supplies impedes the national objective of ensuring clean water to the entire rural population by 1990. The international community has responded generously with equipment and technical assistance, and solutions are also being sought which will utilize local knowledge and institutions. Perhaps most encouraging for the future is the recognition that rural people should be actively involved, through village water communities, in planning and implementing water supply projects. Such an approach not only can reduce the rising costs of providing water but also can harness Zimbabwe's most potent force for development: her people.

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