

The Socio-cultural Dynamics in Smallholder Irrigation Schemes in Rural Zimbabwe: A Case Study of Rupike Irrigation Scheme in Masvingo South

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ABSTRACT This treatise argues that instead of being the panacea to food security quagmires bedeviling communities, irrigation at Rupike is marred with a plethora of challenges due to differential lifeworlds. This has resulted in an impasse, which can only be solved by considering irrigation as a social issue. The study examines socio-cultural dimension to irrigation and the politics of production, situating the sociological approach to irrigation. Although it interrogates the flaws associated with the technological and managerial approaches that are coalescing against the objectives of this programme, it does not advocate a paradigm shift to irrigation. Accordingly it values an interdisciplinary perspective that accommodates the perceptions and interests of all stakeholders. It opines that unless an interface analysis is adopted to bridge the impasse, the goal of sustainable development will remain elusive. The study was grounded in qualitative methodology and the Interface Analysis was utilized as the theoretical framework.

INTRODUCTION

The study dwells on the social dynamics of small scale irrigation schemes in rural Zimbabwe, with special focus on Rupike communal area in Masvingo, revealing the successes as well as challenges that confront the said irrigation scheme. It unpacks the politics surrounding the production processes including management, mechanization as well as other general farming relations and their implications on production and sustainability of the irrigation scheme in question as well as the much projected goals of enhancing rural livelihoods reducing poverty, employment creation, food insecurity and income generation. The study interrogates the traditional conceptualization of irrigation agriculture as a realm of managers and engineers that is the technical and managerial approach by privileging the sociological or anthropological approach to irrigation agriculture which takes irrigation agriculture as equally a social and political arena. Thereafter, it looks at the socio-economic and cultural dimensions of irrigation agri-

culture. The treatise however does not seek to abandon the orthodox approach to the said project but advocates a multi-sectoral approach that encompasses the technical, managerial and sociological approach to irrigation agriculture that would help to illuminate a complete picture of irrigation agriculture, simultaneously ensuring the much heralded goal of sustainable agriculture and sustainable rural development in general. While Chigwenya and Chazovachii (2013) attempted to take a social approach to irrigation agriculture, they nonetheless focused on challenges affecting women in irrigation neglecting other social and political dynamics haunting irrigation schemes which is the hallmark of this study.

What cannot be overlooked is the fact that agriculture is the backbone of economies of most African countries. In the same vein Rukuni et al. (2006) opines that agriculture has dominated the Zimbabwean economy contributing between 15% - 20% of the Gross National Product, at the same time providing the income for over 75% of the 12 million people. In this case in point, dry land farming, large scale commercial irrigation and small scale irrigation are complimentary to each other to the total national agricultural output. Consequently, irrigation has been appreciated the world over for increasing agricultural production all year round through the artificial supply of water to the crops. Upton (1996) ob-

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served that in the whole world about 40% of the total food crops produced is through irrigation undertaken on about 17% of the total agricultural land use. In the history of Zimbabwe, both the formal and the informal small scale irrigation schemes have started long ago from pre-colonial times. Studies by Magadlela and Hebinck (1995) show that irrigation schemes like Nyamapropa in Manicaland started in the early 1960s which is a pointer to the argument that local farmers as rational and calculative actors started alternative means to supplement the dry-land farming long time ago though their efforts were rather inconspicuous in general economic contribution. Regardless of irrigation's purported minimal contribution to the total agricultural produce, it can be noted that it remains valuable especially in naturally dry regions where rainfall patterns are erratic and unreliable making dry-land cultivation a precarious, volatile and potentially self destructive enterprise. Given this background one cannot gloss over the fact that small scale irrigation, if carefully supported provides the much needed alternatives in improving rural livelihoods perplexed with poverty, unemployment, food insecurity and minimized incomes due to the continuous recurrence of droughts and other social vices. The desire to embrace irrigation agriculture has been given further impetus by the calamitous threat posed by climate change particularly in Sub-Saharan Africa. Climate change, although its existence and effects are debatable, is inexorably coalescing against the livelihoods of farmers in rural Africa since dry land farming is no longer dependable owing to erratic rainfall totals. Thus it can be argued that irrigation both small scale and large scale schemes remain the seedbed of rural growth, improved livelihoods as well as contributing to the household and national food security.

Notwithstanding the aforementioned virtues of irrigation agriculture, there is a heated debate amongst different scholars in development concerning the contributions of small scale irrigation schemes to food security as well as income generation for the smallholder farmers. Their contribution was rendered immaterial since much attention was put on commercial irrigation projects which are perceived to have large economies of scale, sustainable and tried and tested. Conversely, Southernner (1988) opines that there are a lot of positive gains which can be har-

nessed from small scale irrigation operations. He further argued that farmers in these projects have the chance to grow diverse crops of their choice that could offer them both nutrition and supplementary income from the sale of excess produce. Signaling the importance of irrigation agriculture, Carr (2013) observed that in recent years irrigation has become the solution in improving food demand triggered by high population increase in the world. In the context of Zimbabwe, Mudima (1999) observed that since independence in 1980, there has been tremendous progress in irrigation sector. He further noted that there were over 180 operational smallholder irrigation schemes covering over 12000 hectares serving over 15 000 farmers. On the same note, about 70% of the irrigation schemes rely much on surface irrigation while the remaining 30% use the sprinkler technologies. This reflects that the rural farmers could also create their own employment reducing issues like rural-urban migration. Ultimately, if these small scale irrigation projects are supported and encouraged by both the state and non-state actors they can be a vehicle for the long term agricultural and economic development in rural areas and the nation at large.

On the contrary to such positive potentials of small scale irrigation, researchers also assailed them on their significance to income generation, food security as well as the GNP because they lack the much needed technologies and expertise to maintain them compared to large scale irrigation projects. Such scholars tended to equate high productivity to the high mechanization of the irrigation projects as well as sound management systems. Hazelwood and Livingstone (1982), posit that people should believe that large irrigation schemes are by far more efficient if compared to small scale farms. Those that praise large scale irrigation projects argue that they are 'modern' and also supported with efficient mechanical methods. By comparison, small scale irrigation remains in the periphery of being productive because the farmers are considered to lack a sound resource base as well as adequate training and technical proficiency. More so, the schemes are criticized for being fragmented, small and also coupled with other problems like high rates of water and poor maintenance, poor transportation as well as the marketing of the produce. To buttressing their argument, Hazelwood and Livingstone (1982) noted

that Usungu small scale irrigation project in Tanzania dismally failed because continuous pumping of water has resulted in the creation of swamps. This has been largely attributed to the lack of machines and experts in such a smallholder irrigation scheme to regulate the flow of water as well as other impediments related to hydraulics. On the same note, Carruthers and Clark (191) argued that major challenge bedeviling small-scale irrigation schemes is that they lack the much needed expertise and technology to test important factors like water salinity among others. It has been observed that high concentration of salt in ground water if it exceeds the expected limits will cause the accumulation of harmful amounts of single iron such as sodium and boron which can damage both the soils and all the plants. Such arguments imply that small scale irrigation agriculture is a horrible exercise rather than the panacea to rural people's livelihoods. Moreso it has been observed that small scale irrigation schemes in most countries are less technologically advanced compared to commercial farms and this explains the dominance of the later in the realm of irrigation agriculture.

On the other platform, some scholars attributed the inefficiency of small scale farming to the lack of proper management and training. To reinforce the preceding sentiments, studies by Rukuni (1988) revealed that in Zimbabwe, small scale irrigation covers only 5% of total irrigated area and in 1984/1985 season and the output was estimated at 0.4% of the total national agricultural produce. Such statistical analysis depicts that the contributions of such projects was insignificant, making it impossible to praise or positively judge the small scale irrigation projects.

Magadlela and Hebink (1995) also argued that the failure of small scale irrigation schemes like the case of Nyamaropa in Zimbabwe cannot be solely attributed to lack of expertise and viable machinery to boost output but can also be attributed to problems like inept management. He opines that the heavy interventionist stance by the Irrigation Management Committees and other block committees has ripple effects on people's potential to produce in the farming activities. In the same vein, Manzungu and Zaag (1996) posit that the heavy presents of the government and other agents from Agritex as experts in controlling crops to be grown rather than the farmers to choose on their own has negatively affected production in a number of

irrigation schemes in Zimbabwe. It therefore means that participation in such projects will cease to be voluntary but becomes induced or cosmetic participation and exultantly, this dampens people's quest for participation in the farming projects and this has a knock-on effect of punching irrigation agriculture into an arena of conflict and struggles. Given this backdrop the paper therefore advocates a holistic approach that accepts the role of engineers and managers without denigrating the role of irrigators themselves as well as other strategic social actors whose impact on the success of irrigation agriculture may be far reaching. Using Long's Actor Oriented Approach, the researchers therefore propose a paradigm shift in irrigation agriculture to a position whereby the often diverging interests of different social actors are reconciled to salvage small scale irrigation agriculture particularly at Rupike from its vestiges and put it back on track.

This is primarily because the aforesaid approach to irrigation agriculture acknowledges that human beings are rational, calculative and capable actors who are also socially differentiated. It thus becomes imperative to note that, although certain important structural changes emanate from the impact of external forces, that is engineers, government agents, Non-Governmental Organizations, managers *inter alia*, it is theoretically and practically unsound to base analysis on the concept of external impulse. This is because all forms of external intervention necessarily enter the life-worlds of irrigators and this way they are mediated and transformed by the social actors in question (see Long 2001). This way the researchers are craving for an interface analysis that will present a comprehensive picture of small scale irrigation farming as a social field since it brings together the competing and overlapping interests of autochthonous irrigators, outsiders, government officials, politicians, local authority, men and women. The study is therefore premised on the following research questions, what are the social challenges confronting irrigators? What are the implications of these challenges on production? Who are the actors at Rupike irrigation and their interests? How can the challenges affecting the irrigators be solved?

Objectives

The study had two objectives, to examine social challenges confronting smallholder agri-

culture at Rupike irrigation scheme and to analyze the implications of these challenges on the production process.

METHODOLOGICAL ORIENTATION

Given the social background of this study, it was therefore grounded in qualitative methodology and adopted unstructured interviews, key informant interviews, transect walks and secondary sources of data as data soliciting techniques. The choice of qualitative methodology over quantitative methodology was again influenced by the nature of this study, which was explorative in nature and this also enabled the researchers to capture the voices, attitudes, perceptions and narratives of the people of Rupike's experiences of irrigation agriculture as an externally driven intervention programme. Purposive sampling or judgmental sampling was the technique used to select respondents for this study. In this case the researchers used their personal judgment to look for information rich cases. Through purposive sampling the researchers selected a total of thirty five respondents for interviewing who also included the headman for Rupike, two extension officers and the ward councillor who were interviewed as key informants. In tandem with modern social research principles the researchers adopted infield data analysis. Thereafter post-field data analysis was embraced and this process involved the reading and re-reading of the field data transcripts simultaneously relating them to the literature reviewed herein (Also see Gukurume et al. 2010). In line with qualitative research the researchers adopted the thematic approach in their analysis of data, which helped in the description and discussion of the phenomenon in question. Major themes which are similar were taken from the respondents and they were used as the analytical framework.

A Brief Background of Rupike Smallholder Irrigation Scheme

The irrigation scheme in question is located in Nyajena communal land, which is approximately 75 kilometers south of the city of Masvingo. It was established in 1990 through the auspices of the Renco Gold miners as part of the company's corporate social responsibility philosophy since it was earmarked at helping the poor small

holder farmers in the area under its jurisdiction. This area falls under natural farming region four of Zimbabwe, where the annual rainfall total does not surpass 500mm. The climatic condition of this area is also extremely hot, characterized by sandy soils effectively making conventional farming a difficult enterprise. According to the New Farmer (2002), the irrigation project under discussion from the outset was a preserve of local farmers within one and half kilometers but in no time it blossomed to accommodate farmers within the 3 kilometer radius and by the time of research it had incorporated a significant number of farmers both within and without the Rupike communal area.

The irrigation scheme in question draws water from the Tubane dam, which was again constructed by Rio Tinto mining company for the benefit of the whole community. As time went on Rupike irrigation scheme became a self sustained project and the foundation withdrew from directly running the affairs of the irrigation scheme albeit it continued to receive technical support from the government and extension officers in conjunction with the Arex department. Being a drought prone region this intervention programme threw lifeline to the residents of Nyajena through an avalanche of benefits such as employment creation, infrastructural development as well as solving the incessant food security quagmires bedeviling the said area (see the New Farmer 2002).

RESULTS AND DISCUSSION

The Implications of the Technological and Managerial Approach on Rupike Irrigation Scheme

Of note is the view that successful and prosperous agriculture in Sub-Saharan Africa in general and Zimbabwe in particular is of paramount importance for solving the food security challenges, improving livelihoods, job creation and self reliance among the rural communities. As argued elsewhere in this paper, it ought to be noted from the outset that these virtues were the major facets that gave impetus to the establishment of Rupike irrigation scheme in rural Zimbabwe back in the 1990s. Notwithstanding the aforesaid benefits, the irrigation scheme is paradoxically tilting on the verge of total collapse and this is primarily because the government of

Zimbabwe through the Agricultural Research and Extension service department (AREX) as well as the rural district authority, the Zimbabwe National Water Authority (ZINWA) and other outside development agents have erroneously took a top down approach to irrigation agriculture to the extent that the locals have very little to say, if anything in the running of their irrigation project. The background to this problem is the overreliance on the technological and managerial approach to irrigation agriculture. Owing to the technological approach emphasis in Rupike irrigation scheme is on the techno-functions of irrigation, engineering, hydraulics, soil structure and the soil texture. The belief being that irrigation ought to be the domain of technocrats who have since been stationed at Rupike, with the goal of educating the poor local farmers who are presumed to be lacking with regards to the technical aspects of irrigation. The backdrop to such an approach can also be traced from the long standing and unpalatable assumption that the poor performance of small scale irrigation schemes emanates largely from unreliable and inadequate soil mechanics and water delivery thereby justifying investment in terms of the rehabilitation of the infrastructure as well as the maintenance of pipes and the water delivery system (see Pazvakambwa and Zaag 2000).

In as much as the aforesaid approach could be trendy from a technical vintage point and could have worked in other irrigation schemes, it remains polemical whether such an approach will yield desired results in Rupike. Findings in this study reveal that the local farmers as rational actors are resenting such an approach because in their view it privileges the position of the outsiders leading to the loss of control and ownership of the programme. These findings are in tandem with the observations made by Brabben and Pearce (1999) who argued that for the sustainability of small holder irrigation schemes farmers ought to be fully involved in planning and construction of their programmes since farmer managed programmes tend to do well due to the sense of self ownership compared to those that are managed by outsiders and technocrats. This therefore calls for the jettisoning of top-down approaches to rural development because contrary to the traditional approaches to rural development, farmers in Rupike are undoubtedly proving that they are not blank slats but they are historical, rational knowledge-

able, reflexive and calculative agents capable of defining and redefining their social situation until it is acceptable (see Giddens 1984). Findings also reveal that the local farmers have their own life-worlds which influence the way they perceive the whole irrigation enterprise and this can be juxtaposed with the way the interventionists perceive the same programme culminating in a huge standoff in terms of the world-views with regards to irrigation agriculture. As such, in as much as the local farmers in question appreciate the role played by these "Knowers" in rural development, what became apparent is that rather than being the architects of the programme they are ironically being marginalized from the once community driven developmental program. Given this backdrop it would be naïve on the part of the technocrats to assume that these local farmers would just sit and relax whilst they are being disempowered. Owing to this quandary Rupike irrigation scheme has consequently been plunked into a battlefield where deferential social actors contest to position themselves, with the goal of appropriating the benefits that come with such an interventionist programme.

In spite of the dissatisfaction exuded by the concerned farmers towards the said project it was observed that in most cases they do not overtly show the champions of this rural development programme and the government agents their discontentment but they oddly and covertly do so. These farmers are invariably embarking on what Scott (1985) terms the everyday forms of peasant resistance, where they are using weapons of the weak such as pilfering, fanned ignorance, foot dragging, sabotaging the program by destroying pipes and in extreme cases outright withdrawal. The position of the local farmers can be captured succinctly by the statement made by one of our respondents who had this to say, "The government and its extension officers are possibly joking, they cannot teach us what to do and how to do things at this age". The state of affairs has been aggravated by the problem of high staff turnover in the public service department in general, which means that the AREX department is largely manned by very young and inexperienced extension officers. Such a situation does not auger well with the Rupike community which is a gerontocratic community where it is unacceptable for the young ones to teach the elderly proper and ac-

ceptable ways of farming. What is at stake here are the contestations and competing epistemes in the irrigation enterprise. The elders on one hand are representing the Indigenous Knowledge Systems which they have harnessed overtime and the extension workers are the custodians of Modern Scientific Knowledge Systems, leading to a huge *impasse* which is inevitably impinging on agricultural production. The elders are therefore adhering to the traditional methods of production, which might not be the best practice and this partly explains the reduction in yield at Rupike irrigation scheme in recent years.

Another area that is threatening the sustainability of the project are the contestations and conflict over ownership and use of water in the irrigation scheme. It has been observed that in an attempt to enhance the viability of the project the management committee working in cahoots with the Zimbabwe National Water Authority (ZINWA) introduced user fees for each and every plot in the Rupike irrigation scheme. Once more from a technical approach this development is a dignified one but it has been erroneously interpreted by the local farmers who now perceive it to be an unfair and callous move. Consequently questions have been raised on how? Why? And to whom should they pay user fees? In their perspective water in the Tubane dam (the source of water for the irrigation scheme) does not have a real owner and at best belongs to God making it the community property. To buttress this position one farmer angrily said, "This is blatant theft, how is it possible to pay for water that belongs to God?" In the light of this an insignificant number of farmers have agreed to pay the user fees whilst the majority has refused to do so and this is inexorably having negative ramifications on the overall performance of the project in question.

In an attempt to implement the above mentioned regulation, a committee has accordingly been established to enforce the provisions of the constitution or by-laws governing the irrigation scheme which stipulates that water and electricity supply should be disconnected to the defaulters. The committee in question is however incapacitated to fully execute its mandate owing to a plethora of reasons, chief among them being that it is composed of local people who have strong ties with the farmers to the extent that they can be easily persuaded to reconnect water, thereby compromising the efforts to en-

hance the sustainability of the program. Over and above this, issues of witchcraft and witchcraft accusations have also come to the fore. The case in point is that one of the extension officer stationed at Rupike died under mysterious circumstances following a dispute over water and the payment of user fees. Sadly following this unfortunate development by the time of this study there was no extension officer who was interested in taking over the reins at Rupike and this from the technological and managerial approach has handicapped the concerned irrigation to operate at its full throttle. Thus in spite of the emphasis on the technical dimension to irrigation at Rupike, social issues are proving to be an indispensable component of irrigation and the management committee can overlook them at its own peril. Given such an uncouth development, the researchers therefore argue that unless and until this deadlock is resolved, the future of Rupike irrigation scheme remains precarious despite its earlier promises as a mechanism for catapulting these poor small holder farmers out of the vicious cycle of poverty.

The Management Committee-A Salvation or Threat to the Sustainability of Rupike Irrigation Scheme?

In view of the aforementioned challenges bedeviling Rupike irrigation scheme, a management committee was established through the provision of the constitution to try and sever the *impasse* at the sometime finding a long lasting solution to the said problems. The committee has a management structure comprising of the Chairperson, the treasurer and the secretary. Its mandate is to collect irrigation user fees and the subsequent payment of electricity and water bills. It also looks into the issue of repairing broken down pipes and determining crops that should be grown by all irrigators at specific times. Through the constitution the committee is also empowered to disconnect water and electricity supply to farmers who fail to pay the user fees and this is the role that has sparked outrage with the majority of the farmers who feel that the committee is arm-twisting them. Consequently the legitimacy of the committee has vociferously been challenged by some farmers who as rational social actors are using a plethora of Machiavellian tactics to reinforce their position against the management committee. A militant

section of farmers is mobilizing support against the committee based on the argument that the committee is not properly constituted, undemocratic, despotic and that some members of the committee deploy social and political capital to retain power. To aggravate the already volatile situation the committee has since adopted a strict management regime where farmers are compelled to submit to the sometimes selfish interests of the committee. For instance farmers are supposed to enter the irrigation scheme at specific dates and time and they are also supposed to grow specific crops at a given time. This position has actually led to an enigma because it is contrary to the farmers' traditional knowledge and ways of doing things leading to the conflict of episteme in the whole irrigation venture. This position is in tandem with Foucault (1969) and his views on power and knowledge where he says there are what are hitherto consider subjugated knowledges, subjugated primarily because they are not supported by the centers of power. In this regard the center of power is the management committee which is overemphasizing on the use of modern knowledge which is scientifically proven unlike the indigenous knowledge which is also unfashionable in these technologically advanced societies.

In line with the above position is the observation that at Rupike prominence is given to monoculture whilst the local farmers fancy intercropping, which to them is a tried and tested farming method, saves the much needed space and encourages crop diversity culminating in improved household food security and diversity. Another bone of contention is that the management committee is so much engrained in the production of cash crops and this does not go down well with farmers since it compromises household food security, which ironically was once the building block of Rupike irrigation scheme on its inception. To prop up the position of the farmers, it emerged that the market for cash crops, especially wheat is dwindling, therefore it is of no merit for the concerned farmers to continuously grow the same product. What can be deduced from the situation at Rupike is that the management committee through its various activities is impertinently trying to create hegemony over the local farmers but the locals as authoritative actors are engaging on counter hegemonic struggles where they challenge the power of the committee in an attempt to reclaim

power in this community project (see Gukurume et al. 2010). Consequently the said farmers are clandestinely growing crops that are not recommended by the concerned committee and this has seriously compromised the power of the management committee. This development is a clear pointer to the argument that, far from being the panacea to the problems bedeviling Rupike irrigation scheme, the management approach has only succeed in worsening the already volatile state of affairs. It has become more conflictual and less appealing to the local farmers. Given this background instead of overemphasizing on this approach rural development interventionists ought to perceive irrigation agriculture as equally a social phenomenon, henceforth it should be treated accordingly, in order to achieve the goal of sustainable development in general and sustainable agriculture in particular.

The Politics of Belonging and Its Implications on the Performance of the Irrigation Scheme

The insider-outsider dichotomy is furthermore proving to be a cancer negatively impinging on the efficient performance of Rupike irrigation scheme since it is inextricably linked to the payment of user fees. There is a group of farmers who claim to be the *bonafide* owners of the irrigation scheme in question. They are claiming that upon the establishment of the project, the Rio Tinto foundation working in cahoots with ministry of Rural Development took their ancestral land and turned it into irrigation plots but in no time the program expanded to accommodate outsiders from surrounding and far away areas. Given this background the concerned farmers strongly feel that it will be insensitive for them to pay rent (user fees) in their ancestral land. In their view the outsiders should pay the user fees and this has culminated in a serious standoff. This position can be supported by the statement made by one of the respondents in this study who said, "The committee is not serious, it is not possible for us to pay rent in our ancestral land." To buttress the foregoing argument these farmers are mobilizing support from the local politicians such as the local Member of Parliament against the management committee. The conundrum is that if the Member of Parliament is to support the management committee against these local farmers he will ultimately loose

political capital thereby forcing him to give into the whims and caprices of the local farmers. This mantra is undoubtedly having a ripple effect on the efficient operation of the irrigation scheme, as evidenced by broken down pipes, electricity failure and the overall decline of production in the said programme in recent years.

CONCLUSION

In spite of the much publicized virtues of irrigation agriculture particularly at Rupike as a mechanism for catapulting the rural poor out of the incessant vicious cycle of poverty, simultaneously leading to job creation, food security and improved household income, the forgoing study has revealed the opposite of that. It has been observed that the irrigation scheme in question has paradoxically failed to achieve its intended objectives owing to a plethora of reasons. The main obstacle however is that the proponents of rural development working in cahoots with the state erroneously took a top down (things to the people) approach to development, henceforth eminence has been given to the technical and managerial approach to irrigation agriculture. Such a stance is however divorced from the social needs and aspirations of the beneficiaries of development or more appropriately, the socio-cultural context of the community, culminating in an *impasse* in development. This standoff as argued in this paper is having a knock-on effect on the production, performance and sustainability of the said program as evidenced by broken down pipes, low production level, household food security quagmire, low household income levels and the general neglect of the irrigation scheme. Through this top-down approach the facilitators of this enterprise glossed over the different and conflicting lifeworlds at Rupike as the community does not constitute a homogeneous entity culminating in serious conflict between stakeholders, which is impinging on production. To recoup the said project out of its doldrums and restore it to its good old days, the researchers advocated an interdisciplinary approach that will simultaneously harness the sociological and anthropological approaches, with the ultimate goal of enhancing sustainable development in general and sustainable agriculture in particular. This is because inasmuch as this approach acknowledges the technical and managerial approaches

to irrigation, it gives prominence to the social dimension of irrigation. Thus irrigation agriculture is equally a social and cultural issue.

RECOMMENDATIONS

To break the *impasse* pertaining to the contradictions at Rupike irrigation scheme and put it back on track, it therefore becomes imperative to adopt the sociological or anthropological approach to irrigation agriculture. As has been observed in this study, such an approach relentlessly acknowledges that irrigation is a phenomenon that takes place within the socio-cultural and political milieu, hence it is replete with conflict and contradiction due to differential lifeworlds between social actors. Accordingly the Actor Oriented Approach or more specifically, the Interface Analysis becomes indispensable. An interface occurs at points where different and often conflicting and competing life-worlds of actors in Rupike irrigation scheme meet. In the light of this scenario the interests of engineers, the management committee, irrigators themselves, extension officers, local authorities and politicians will be acknowledged and accommodated to illuminate a complete picture of irrigation agriculture at Rupike and Zimbabwe in general.

The foregoing standpoint also helps to counterpoise the abovementioned voices, grievances, concerns, experiences and perceptions of all relevant social actors involved in the irrigation project at Rupike. Notwithstanding the virtues of the sociological and anthropological approach to irrigation agriculture, the position is not to totally throw overboard the managerial and technological approach to the said programme. Henceforth the researchers advocate a multi-sectoral approach which will without doubt assist to accommodate the diverging interests of all stakeholders in the irrigation enterprise. Given the situation obtaining at Rupike, it can be argued that, unless and until prominence is given to such an approach the goal of sustainable development will remain elusive.

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