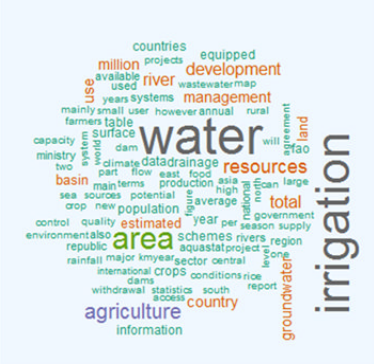

Irrigation Systems Inventory

Inception Report: Part 5/5 – The Business Plan

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Contents

Executive summary

This report is the last of five in the inception phase of the development of an Irrigation Systems Inventory (ISI) of smallholder irrigation schemes in Zimbabwe. It focuses on the business plan which has been developed to provide potential investors with an estimate of the costs and revenues over a five year period. Two electronic documents should accompany this report - a Microsoft® PowerPoint presentation presented on the business plan and a Microsoft® Excel spreadsheet on the financial statements.

The greatest Capex cost is for development of the database and data capture, followed by motor vehicles. Most of the Capex expenditure is required in the first year and equates to $493 000. This is 75% of the 5 year Capex estimate of $655 000.

Recurrent costs are relatively evenly spread over the 5-year period, averaging $118 000 per year. The main cost is human resources; however occupancy, hosting and insurance costs are also significant. The total cost of the five-year period is $590 000.

Three potential revenue streams are presented – subscriptions, database enquiries and website advertising. These are estimated to raise $158 000 in the first year, growing to $258 000 in year five when they would meet with the full costs of recurrent expenditure and partial costs of CAPEX cost.

Introduction

Agriculture contributes 15-20% to Zimbabwe's Gross Domestic Product, estimated at US$ 11.427 billion in 2012 (GOZ, 2012), and accounts for 40% of the nation's exports (GOZ, 2013a). The sector accounts for 25% of formal employment and provides livelihoods for over 70% of the rural population. The sector is central to the economy in guaranteeing food security and backward and forward linkage to markets. The agro-processing industry draws some 63% of its input requirements from agriculture (GOZ, 2013a).

The government of Zimbabwe has prioritised irrigation development since 1930 when it embarked on a national dam construction programme for large scale commercial farmers (GOZ, 2004). In a country where agriculture is dependent on a single rainy season (November through March) irrigation is an important strategy for increasing productivity through:

- Provision of supplementary water during mid-season dry spells, or seasonal droughts.
- Winter production of crops such as pulses (sugar beans), cereals (wheat) and horticulture.

In addition, access to irrigation allows farmers to explore the production of new, higher valued crops.

According to the World Bank (2013a), the country now has more than 8 000 dams which in 2000, commanded more than 120 000 ha of irrigation land[1]. The Fast Track Land Reform Programme that commenced in 2000, and the related decade-long period of economic decline, contributed to a reduction in this irrigated area. The same report estimates that in 2012 the area under irrigation was only 51 000 ha[2] (*ibid.*).

Government policy is to rehabilitate these idle irrigation schemes before developing new ones (e.g. GOZ, 2013b). It is estimated that about 200 000 ha can be developed from existing under-utilized storage capacity and dams under construction (World Bank, 2013b). Furthermore, the irrigation potential of the country is estimated at around 365 000 ha, considerably less than irrigable land, estimated at 600 000 ha (*ibid.*).

The Government of Zimbabwe continues to promote irrigated agriculture through various policy documents including the Medium Term Plan (GOZ, 2011), CAADP compact (GOZ, 2013c), Zimbabwe Agricultural Investment Programme (GOZ, 2013a), Zim-Asset (GOZ, 2013d) and most recently, the 2014 National Budget Statement (GOZ, 2013b).

Since independence in 1980 government has focused on irrigation development in communal farming areas, many of which are located in drought-prone regions. Over 180 smallholder schemes have since been developed on communal and old resettlement schemes commanding an area of 8103 ha (GOZ, 2004). A further 2000 ha have been

[1] This value is based on satellite imagery. However estimates vary widely in the literature. For example, the ZAIP document (GOZ, 2013a) reports that 200 000 ha were irrigated in 2000

[2] See Footnote 1. The ZAIP report (GOZ, 2013a) estimates that 135 580 ha was under irrigation in 2009. World Bank (2013b) estimate that between 70 000 and 135 000 ha are currently being irrigated. The equivalent estimate in Zim-Asset (GOZ, 2013d) is 150 000 ha.

developed on small scale commercial farms. Thus a total of up to 10000 ha of irrigation are available in the formal smallholder subsector (*ibid.*). One of the features of these schemes is that, for the most part, they are stuck in a recurring cycle of build, operate, decline and rehabilitation with the latter process usually being funded by government or international donors on a grant basis. To this end, government has allocated US$9.4 million for communal irrigation schemes in the 2014 budget, whilst the Swiss government recently provided a grant for the rehabilitation of Rupike and Pfuve Panganayi irrigation schemes in Masvingo Province. This cycle points to a lack of capacity of scheme beneficiaries to maintain their equipment. World Bank (2013a) note that a lack of technical capacity also extends to national institutions such as ZINWA.

According to World Bank (2013a), the restoration of irrigation infrastructure is necessary *but not sufficient* to restore irrigated agricultural production. Other constraints include uncertainties about land tenure, absence or dilapidated infrastructure, unreliable power supplies and weak input and output markets. They argue that past budgetary allocations by the Ministry of Finance have not been effectively used because of these constraints. There is thus a need to focus on 'software' (i.e. capacity) and market issues as well as the more obvious hardware limitations.

It is against this background that Welthungerhilfe (WHH) and GIZ through the Food Security and Agriculture Programme plan to develop methods and tools that will assist investors (private sector, government and donors) in making decisions on selection of irrigation schemes providing the best investment opportunities. WHH and GIZ have considerable experience in smallholder irrigation system development and the smallholder farming sector in Zimbabwe and throughout the developing world. These organisations have contracted Floranature, an agricultural consulting firm specialising in the smallholder farming sector, to develop the framework for an Irrigation Systems Inventory (ISI).

This report is the last in a series of five, documenting the development of the ISI business plan. It draws on a number of resources completed by the ISI team during the earlier stages:

- A review of international and Zimbabwean literature of the development of Irrigation System Inventories.
- Report on Stakeholders Analysis and Consultations.
- Database Design Report.
- Field Survey Methodology.

Acronyms used in this report

AISP	Agricultural Inputs Supply Programme
CAADP	Comprehensive African Agricultural Development Programme
Capex	Capital expenditure
GIZ	Deutsche Gesellschaft fur lnternationale Zusammanarbait
GOZ	Government of Zimbabwe
ICT	Information and Communication Technology
ISI	Irrigation System Inventory
WHH	Welthungerhilfe
WSIA	Water Sector Investment Analysis
ZESA	Zimbabwe Electricity Supply Authority
Zim Asset	Zimbabwe Agenda for Sustainable Socio-Economic Transformation

About this report

In its simplest form, a business plan is a guide – a roadmap for an organisation that outlines goals and details how these goals might be achieved.

Business plans need not be complex documents – they can be as simple as a few bullet points to focus on strategy, with milestones to track tasks and responsibilities, and the basic financial projections needed to plan cash flow budget expenses.

The ISI business plan is integral to the development of an online national small scale irrigation scheme database. The plan includes the following:

- The opportunity
- The proposed solution
- The business model and financial summary
- The target market (who is the “customer” and many of them are there)
- Funding required

All these issues are addressed in some detail in the Microsoft® PowerPoint presentation presented as Appendix 1 of this report. Also accompanying this report is a complete financial model that has been prepared in Microsoft® Excel.

The purpose of this brief report is to with this document is to provide some level of detail regarding the assumptions that underlie the business model and abridged financial statements included in the presentation.

Assumptions behind the financial statements

Costs

Five-year project costs are summarised in Tables 1-3. Table 1 outlines costs related to capital expenditure. The greatest cost is that for development of the database and data capture, followed by motor vehicles to be used in the development of the database. Most of these expenses fall into the first year, with relatively small costs occurring in Years 2-5. Table 2 shows the depreciation of these assets over the 5 year period.

Table 1: Capital expenditure

	Year 1 ($000)	Year 2 ($000)	Year 3 ($000)	Year 4 ($000)	Year 5 ($000)	Total ($000)
Motor vehicles and motor cycles	130	-	-	-	-	130
ICT equipment	91	-	-	-	-	91
Data capture, database development	216	24	48	36	54	378
Office furniture and equipment	56	-	-	-	-	56
TOTAL	493	24	48	36	54	655

Table 2: Depreciation costs

	Year 1 ($000)	Year 2 ($000)	Year 3 ($000)	Year 4 ($000)	Year 5 ($000)	Total ($000)
Motor vehicles and motor cycles	26	26	26	26	26	130
ICT equipment	30	30	31	-	-	91
Data capture, database development	72	80	95	36	46	329
Office furniture and equipment	18	18	7	7	6	56
TOTALS	146	154	159	69	78	606

Recurrent expenditure for the 5-year period is summarised in Table 3.

- Human resource costs include the costs for a national ISI Manager, Field Research Officers and a data capture clerk.
- Occupancy costs refer to the costs related to renting and servicing an office in Harare.
- Hosting costs include the costs related to operating the website.
- Insurance costs are based on 5% per annum of fixed assets.

Table 3: Recurrent expenditure

	Year 1 ($000)	Year 2 ($000)	Year 3 ($000)	Year 4 ($000)	Year 5 ($000)	Total ($000)
Human resource costs [(1)]	36	37	38	39	41	191
Occupancy costs [(2)]	25	26	27	28	29	135
Hosting costs [(3)]	22	23	23	24	25	117
Insurance costs [(4)]	26	27	29	31	34	147

TOTALS	109	113	117	122	129	590

Notes: [1]National project manager salary and related costs; [2]ISI national office rentals, rates and electricity; [3]~$2,000 per month for website hosting and DBA salary; [4]5% per annum on cost of fixed assets.

Figure 1 shows a visual representation of these costs, together with anticipated revenue discussed in the next section of the report.

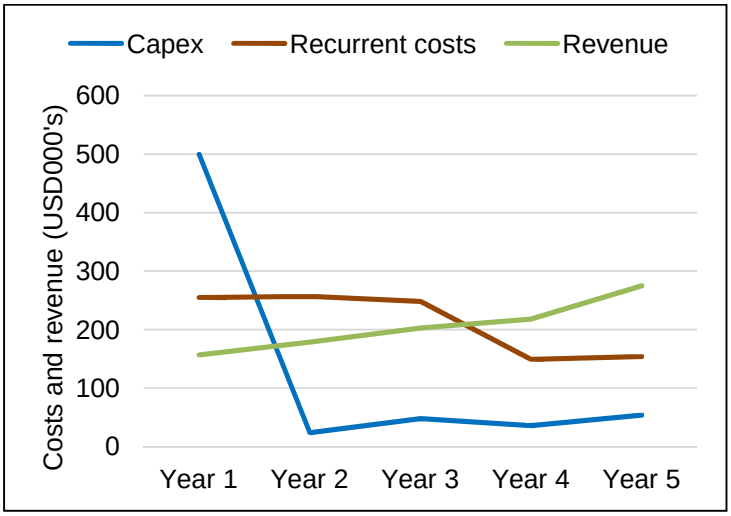

Figure 1: ISI business plan financials

Potential revenues

The literature review (Part 1 of this Inception Report) shows that there is little consideration for cost recovery of national irrigation databases that have been developed elsewhere in the world. This is unlikely to be the same situation in Zimbabwe which experiences budget deficits every year, and where cost recovery is the norm for many government ministries with service provision functions. In this section of the report we propose a number of potential revenue streams that will hopefully offset some of the recurrent costs shown in Figure 1. Some of these ideas were discussed with stakeholders during the interviews (Part 2 of this Inception Report). These include subscription income, database enquires and website advertising.

Subscription income

The idea here is that organisations will be able to purchase annual subscriptions which will allow them full access to the database at all times, including any software or data upgrades. The cost of an annual subscription will be $10,000.

Table 4 provides a projection of the number of subscriptions that will be sold each year. It is is thought that this package would be of interest to donors.

Table 4: Annual ISI subscription sales[1]

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Number of subscriptions	10	12	14	15	20	71

Notes: [1]Annual subscriptions at $10 000 per year

Database enquiries

Organisations who do not want to subscribe for the entire database would have an option of purchasing specific information. They might for example, want information about a particular scheme or geographical area. It is proposed that a service fee of $1,500 be charged per query submitted. A number of companies and development organisations interviewed earlier in the study (Part 2 of this Inception Report) suggested that they might be willing to pay for information (see Table 5).

Table 5: Projection of annual database enquires[1]

Donors	5
Commercial organisations	10
Development organisations	20
TOTAL	**35**

Notes: [1] Database enquiries prices at $1 500 each

Website advertising

Another area of potential revenue is from the sale of advertising space on the website and any reports generated. This revenue has been estimated at **~$2,000 per annum** but has potential to increase as the database gains universal adoption by the market.

Abridged cash flow summary

Table 6, also illustrated in Figure 1, provides a summary of the 5-year cash flow. It is projected that by the fifth year, the ISI project will generate sufficient income to meet with recurrent expenditure and that a small surplus will nearly meet with Capex requirements in the same year.

Table 6: Abridged cash flow summary

	Year 1 ($000)	Year 2 ($000)	Year 3 ($000)	Year 4 ($000)	Year 5 ($000)	Total ($000)
Capex	493	24	48	36	54	655
Recurrent expenditure (including depreciation)	255	266	280	191	208	1,200
Potential revenues	158	178	198	208	258	1,000

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Appendix 1: Business Plan Presentation

See ISI_Business_Plan.pptx

Appendix 2: ISI Financials

See ISI_Financial_Model_v8.pdf