

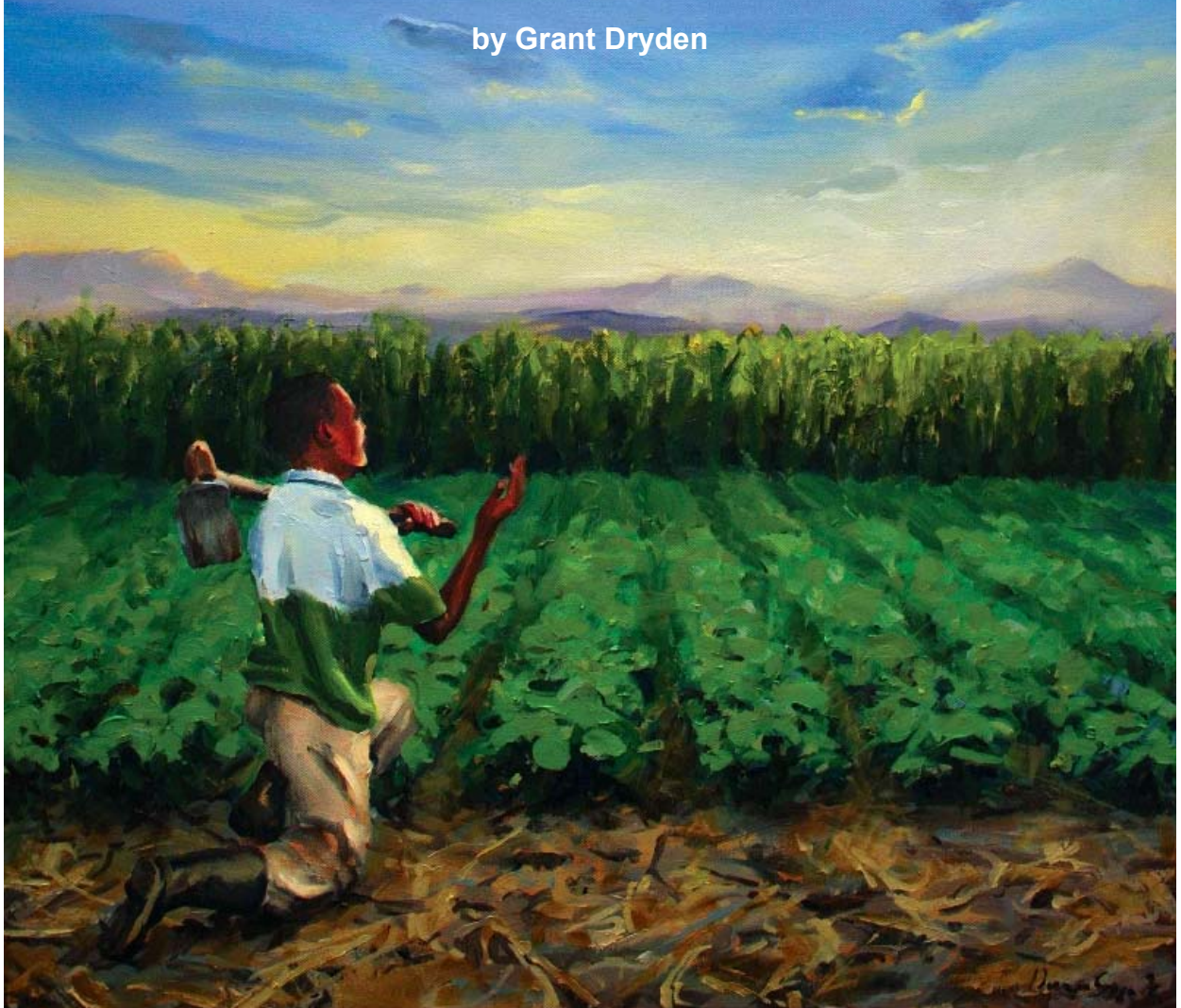


FARMING GOD'S WAY

TRAINER'S REFERENCE GUIDE

First Edition

by Grant Dryden



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This project was inspired by you the reader and potential Farming God's Way trainer, who has the potential to significantly transform the lives of the poor through your knowledge and impartation. I trust that this publication will go a long way to helping you realize that goal.

Many thanks, to Brian Oldreive, who has tirelessly poured out his life for this message of hope to get to the poorest of the poor.

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Thanks to Duncan Stewart for the oil painting on the cover capturing so much of what Farming God's Way stand for on canvas.

Thanks to my wife Nicola who gave hundreds of hours in editing this reference guide and for her support throughout this project.

Farming God's Way

Farming God's Way is a resource given to the wider body of Christ, to equip the poor and break the yoke of poverty.

Motto

Rooted in compassion,
Motivated by obedience and
Delivered with love.

Farming God's Way Logo

The new logo produced in 2009 was designed to fully capture the heart of Farming God's Way. The poor across the globe are central in this theme and the orange glow depicts the promise of Isaiah 58 "Your light will break forth like the dawn", starting with Africa as our core focal point and extending to the remotest parts of the earth. The cross and bowl symbolise Christ like humility and servanthood, where He was prepared to give up His crown and glory to serve the poor wholeheartedly. The horizontal portion of the cross is golden to represent God's Blanket protecting and covering the brown soil, which is such an important inheritance to pass on through generations. The vertical portion of the cross is blue to depict the provision of God's blessing in rainfall passing through the lush green growth and God's golden blanket, penetrating deeply, filling up the soil profile.

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Orders

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Email: info@farming-gods-way.org
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Cover Picture

Oil painting by Duncan Stewart

FOREWORD

Mark 16:15 “Go into all the world”

I've just had the privilege of meeting a dynamic young man of God whom I believe the Lord is going to use very powerfully on the continent of Africa, starting in South Africa, and then going right up into Central and North Africa. Grant visited me and shared his vision, which is huge. At Shalom we say if your vision doesn't scare you, it's not big enough. Well, I think it's with much fear and trepidation that Grant is looking forward to this vision that God has given him to be fulfilled.



Being a farmer myself, I can really relate to the heart that God has given to Grant and Brian Oldreive, whom I had the privilege of meeting at Shalom some years back. It's wonderful to see how God is raising up men all over our continent who are reaching out to the poor and the needy. Instead of giving them a fish, they are teaching them how to fish for themselves. Self respect is a very important part of a man's life. If a man can put bread on the table for his family, it is an honourable thing and something which God is pleased with. This is exactly what these brave young men and women are doing, teaching people not only how to sustain themselves, but also to make a living out of tilling the land God's way.

I really pray God's richest blessing on Grant, his ministry, his wife, Nikki, and their children, Benjamin and Caleb, that God would protect them as 'they attempt great things for God and expect great things from God' (William Carey, founder of the Baptist Union).

It gives me great pleasure to endorse this work and to give it my fullest support. Our prayer is that we don't only minister to the spiritual part of man, but the mental and physical part as well. To bring dignity to a man is a wonderful thing, especially to do it in the name of Jesus Christ, the greatest farmer who has ever lived. I pray that this work would continue to grow and be supported financially and mostly in prayer by God's people as these brave soldiers go into the most needy areas of our continent and preach God's Gospel in a practical way. Francis of Assisi said, "Preach the Gospel at all costs and, if you really have to, use words." This is what Grant is doing. He's preaching God's Word in a practical way. May God bless them richly as they continue to be obedient to the vision and the call that He has put on their lives.

ANGUS BUCHAN
SHALOM MINISTRIES
JANUARY 2010

Contents

1.	Course Outline	1
	Introduction	1
	Course Outcomes	2
	Practical Assignment	2
	Study Books	2
2.	Reality of the Crisis	3
3.	Farming God's Way	7
4.	History of Farming God's Way	11
5.	Motivation	16
6.	The True Fast	19
7.	Kingdom Agriculture	24
8.	Six Biblical Keys	27
	Introduction	27
	8.1 Acknowledge God and God Alone	29
	8.2 You are the Temple of the Living God	36
	8.3 Understanding God's All Sufficiency	46
	8.4 What You Sow You Will Reap	57
	8.5 Bring the Tithes and Offerings to God	63
	8.6 Stake Your Claim!!!	68
9.	Well Watered Gardens	72
	9.1 What is a Well Watered Garden?	72
	9.2 Characteristics of a Good Well Watered Garden Site	73
	9.3 Making a Teren Rope	74
	9.4 Well Watered Garden Kit List	74
	9.5 Laying out your Well Watered Garden	75
	9.6 Land Clearing	77
	9.7 Establishing the Permanent Baseline	78
	9.8 Holing Out	78
	9.9 Alternative Crops and Rotations	81
	9.10 Correcting Acidic Soils	81

9.11	Inputs	82
9.12	Covering for Seeding Depth	83
9.13	Waiting for the Rains	84
9.14	Planting	84
9.15	Covering	85
9.16	Applying God's Blanket	85
9.17	Emergence	86
9.18	Gapping	86
9.19	1st Weeding	87
9.20	Thinning	88
9.21	1st Topdress	89
9.22	2nd and 3rd Weeding	89
9.23	Full Canopy	89
9.24	Desuckering	89
9.25	2nd Topdressing	90
9.26	Pollination and Seed Fill	90
9.27	Pre-harvest Late Weeding	90
9.28	Harvest Time	91
9.29	Post Harvest Stalk Lodging	91
10.	20 Reasons Why We Do the How	92
11.	Management	102
11.1	On Time	104
11.2	To High Standards	109
11.3	With Minimal Wastage	116
12.	Scale of Implementation	123
12.1	Small Scale	123
12.2	Medium Scale	124
12.3	Large Scale	125
13.	Basic Budget	126
14.	Extension – Getting the Message Out	128
15.	Biodiversity Through Alternative Crops	132
15.1	Rotational Cropping	132

15.2	Relay Cropping	133
15.3	Green Manure Cover Crops	134
15.4	Alternative Crop Guidelines	135
16.	Composting	139
17.	Steep Slopes	143
18.	Appendix	148
18.1	How to Facilitate the DVD Series	148
18.2	Well Watered Garden Check List	151
18.3	Recommended Production Timeline – Southern Africa	152
18.4	Recommended Production Timeline – Central Africa	153
18.5	Farming God's Way Budget Template	154
18.6	Farm Evaluation Form	155
18.7	Life Expectancy Chart	156
19.	Other Resources	158
20.	Recommended Reading	158
21.	Glossary of Terms	158
22.	Bibliography	159

1. Course Outline

Introduction

The African continent has the most natural resources of all the world's continents. It has vast mineral, precious metal and oil reserves, excellent agricultural potential, wonderful people, plenty of water and riverine systems and a wildlife biodiversity which has the potential to become a booming tourist industry.

In contrast to her potential, Africa is also the most poverty stricken, with extremely low standards of living, famines, high levels of undernourishment, shocking infant mortality rates, disease, wars, dependency, poor education, deforestation, corruption and high inflation as hallmarks of what the continent represents.

The Lord Jesus prayed that the Father's Kingdom would come on earth as it is in heaven. His desire is that His children, who are called by His name, will not only have the free gift of eternal life, but walk in the promise of His abundant life.

The question is, if so much of Africa has come to salvation, why do we still see so much of the curse rather than the promise of His blessing?

It is an integral part of this course to expose the myths of poverty and unmask the blindness that Satan has so deceptively put in place.

Poor subsistence farmers account for approximately 80% of the population of the continent, who are living undernourished and degraded lives. The current yields of these farmers are well below their family's requirements, which, in turn necessitates the importation of millions of tons of grain every year. Year after year the perpetuation of the dependency cycle continues and the poor get poorer and poorer.

In the midst of these negative sentiments, it is encouraging to know that none of these are insurmountable. The Word is full of the promise of restoration and when we as God's people will put into practise the conditions of His Word and exercise faithfulness and stewardship, we inherit those promises not only in spirit but in practise.

Farming God's Way is a model of agriculture unlike I have ever seen even through my BSc (Hons) Agriculture and extensive travels, as it meets peasant farmers where they are at, whilst dealing astoundingly well with the negatives parameters facing African farmers.

It consists of a suite of Biblical keys, management skills and agricultural techniques and has a proven track record since 1984, when it was modelled by Brian Oldreive of Zimbabwe on the farm Hinton Estate (3,500ha). The farm was run commercially utilizing these techniques, before it became a model for peasant farmers.

Farming God's Way is implemented primarily through church, missional and non governmental organisation networks into the continent. We firmly believe that God's people are both accountable and faithful to roll out this hope restoring model. Many success stories abound where farmers have adhered to standards and lives across

the continent have been drastically improved with results of radically increased yields, provision, profitability and restoration of farmers self worth.

Course Outcomes

The outcomes of this journey of discovery of Farming God's Way will impart not only a knowledge base, but a practical empowerment to bring about change in your life and prayerfully to become an agent of change in communities for the King and His Kingdom.

By the end of this course learners will be able to:

- Demonstrate heart-felt concern for the poor.
- Demonstrate appreciation of 'Kingdom Agriculture' as a relevant transformational message.
- Apply biblical principles for 'the redemption of the land'.
- Apply practical farming skills as God has revealed through His creation.
- Share the principles learned as a message of hope to the hopeless.

Practical Assignment

As an integral part of this course, it is greatly encouraged that an actual Well Watered Garden be implemented. A Well Watered Garden is a small 6 * 6 meter demonstration garden, showing on a small scale what should take place on a large scale in the field.

In order to achieve this, it is essential to implement your Well Watered Garden simultaneously with your biblical studies. Ensure that you are well prepared for the season by going through the calendar timing as laid out in the course notes on Well Watered Gardens – Section 9.

Study Books

All scriptures, unless otherwise stated, are from the New American Standard version of the bible.

2. Reality of the Crisis

Considering Africa's vast natural resources, it remains a mystery for most as to why the continent is stuck in poverty. Africa with 30,3 million km² is larger than the combination of China (9,6 million km²), the USA (9,4 million km²), Western Europe (4,9 million km²), India (3,2 million km²) and Argentina (2,8 million km²), three Scandinavian countries and the British Isles put together.



[1]

However the gross domestic product (GDP PPP 2008 estimate) of Africa is US\$ 3 trillion compared to world GDP at US\$ 65 trillion i.e. Africa produces a mere 5% of the worlds GDP [2]. This clearly displays that Africa has vast untapped potential.

Worldwide, there is a desperation regarding food security due to a number of factors including the population explosion, agricultural undersupply, governmental negligence, wars, rising oil prices which have led to the biofuel industry flourishing at the expense of food supply and high agricultural input costs.

All of these factors, amongst others, have led to a greatly diminished supply of agricultural commodities.

These shortages have predominantly been met by the importation of grains, amounting to over 25 million tons annually, through aid organizations such as the World Food program (WFP) and other non governmental organizations, which in turn receive donations from donor countries such as the United States of America 4,000,000 tons, European Union 1,500,000 tons China 577,000 tons, Canada 275,000 tons (figures 2005).

In 2007, the WFP spent \$1,83 billion in Africa alone, accounting for 67 percent of its expenditure.



In the years 1975-2003 the average grain yields changed:

From 5.5 → 9 tons per hectare in the USA

From 2 → 4 tons per hectare in Asia

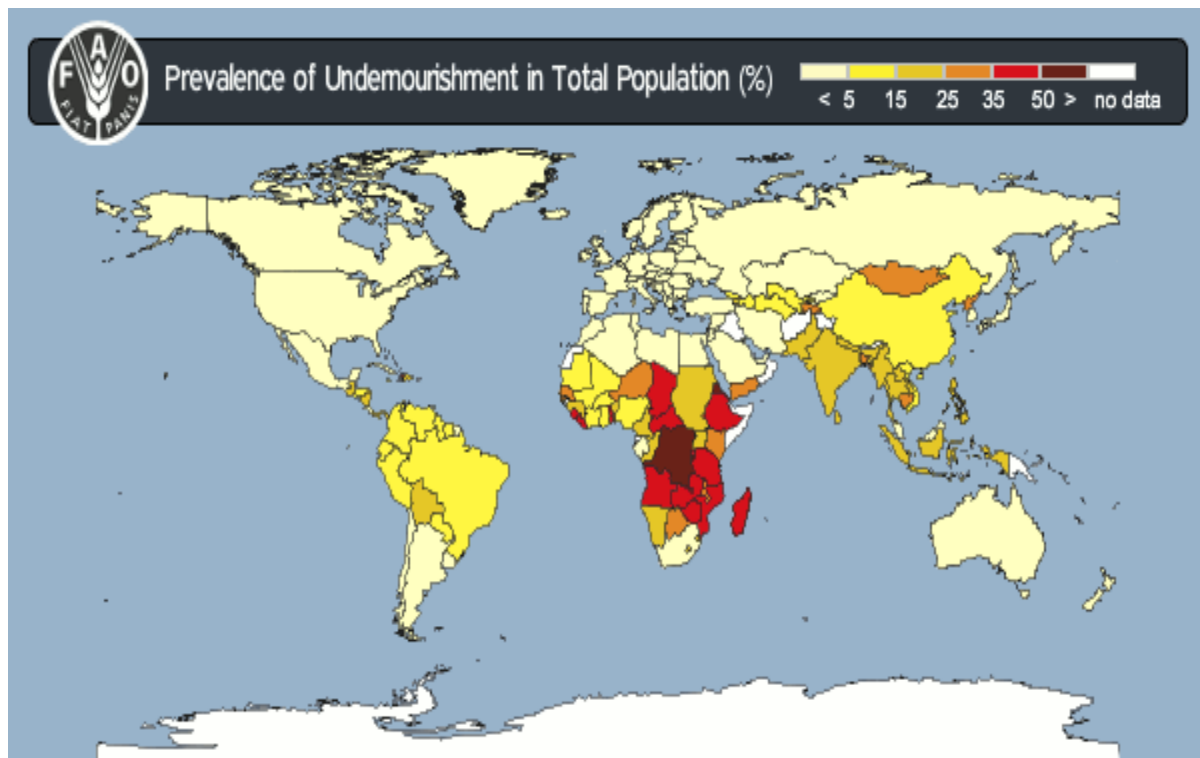
Most African countries have by contrast had a steady decline in yield, with averages amongst the poor subsistence farmers we work amongst averaging a meagre 350 kg/ha. [3]

[4]

With the current rate of population expansion and the steady decline in agricultural production per capita, grain imports will have to increase to 50 million tons by 2010 to avoid further disaster.

On a macro scale these figures seem rather like monopoly money, unrealistic and intangible, yet when we see the figures and the amount of aid streaming in, one can't help wondering - **"is it making a difference?"** The poor are getting poorer and poorer and there seems to be no light at the end of this dark tunnel of hopelessness. The statistics show that one in three Africans are undernourished and Africa is the only continent where the number of hungry people, are increasing annually.

The problem created by the food shortages is that basic food prices increase with demand, often putting the poorest people in a situation where they are unable to buy the basic staples they need to survive. However, the upside of higher prices is that those who are growing at subsistence level have a window of opportunity to grow more than their basic needs, to sell, capitalize on good pricing and make a profit.



[5]

This map of undernourishment displays that the African continent has by far the most countries with severe undernourishment levels of greater than 20 percent. It is polarized by the affluent countries of Algeria and Egypt in the North and South Africa in the South, with the highest concentration of undernourishment being in Sub Saharan Africa.

The levels of poverty in certain areas in Africa are through the “world’s eyes” inexplicable considering the wealth of unutilized resources. In the midst of this macro economics and world powers, individuals whom God loves and cherishes are struggling to survive.

An average family of six needs approximately 1,250 kg of maize to survive and with the annual production levels as low as 350 kg’s per hectare in places, it is a very real shortfall crisis, which has to be supplemented by either food aid or other forms of income and food intake.

People living in Malawi and Mozambique are surviving on wild bulbs, which are not suitable for human consumption and which have no nutritional value whatsoever except to fill a stomach with fibre. They collect this “Nyika” from the floodplains and although it only requires that they use energy to collect it from the submerged and embedded mud, it is costly as there are many crocodiles and hippopotamus in the region and there is considerable loss of human life, especially children. Many people are maimed in the process losing limbs, muscles and breasts in the struggle to escape their attackers. The poor in Zimbabwe in 2008 are eating a single meal every 3rd day to survive, whilst supplementing their diets with ground tree leaves from indigenous trees. Across the continent children are malnourished with evidence of protein deficiencies called kwashiorkor. Many African people eat rats and mice as a

protein supplement and hundreds of thousands of hectares of natural indigenous forests are burned down to extract these rodents yearly.

As a result of the agricultural crisis, another crisis arises, that of urbanization. Year after year the rural poor stream to urban centres in the hope of finding employment. Farming has not proven to be a successful means of providing for their families and the result is urbanization on a massive scale. Urbanization itself is fraught with problems, including social vices such as crime, prostitution, substance abuse, health hazards, aids, poor standards of living etc. Urbanization is not the solution and on the contrary has proven to be even more problematic than the rural dilemma.

The environment is suffering under huge pressure from mankind in this era, with soil erosion, siltation, eutrophication and deforestation as some of the poor stewardship hallmarks.

Romans 8:22 “For we know that the whole of creation groans and suffers the pains of childbirth together until now.”

In Africa, soil erosion due to poor land use practises in agriculture, accounts for an estimated annual average soil loss of 55 tons per hectare and up to 250 tons per hectare [6,7,8,9,10,11]. These huge topsoil losses through sheet erosion, which is where the most nutrient rich soil is found, result in depleted soil fertility and poor structure, which in turn leads to erosional scarring in the form of gullies, exposing bare lifeless parent material, which is even more susceptible to erosion. A leading scientist in Zimbabwe, Dr Elwell, stated that “the annual erosion of Zimbabwe soil would fill a goods train which would go twice around the earth.” [12]

The knock on effect as a result of this erosion is the siltation of water courses, rivers, dams and estuaries. Besides the obvious destruction of the natural habitat, it also results in significant costs to states in order to sort out the problem. The soil's poor condition leads to farmers needing to over fertilise in order to compensate for certain losses. The extra fertiliser is unable to be held effectively in the soil, leading to leaching out of nutrients which again end up in water courses, causing bacterial proliferation, low oxygen levels and significant environmental affects to fauna and flora. Large tracts of land are deforested yearly by slash and burn agriculture to make room for new cropping areas. The land produces well in the first two seasons, thereafter it fails and the farmers again deforest new areas, leaving a trail of deforested, decimated lands in their wake.

At writing in 2009, where we live in a highly technologically advanced and civilised era, neither the strategies employed by the world's systems, nor the social responses are delivering fruit. Instead poverty levels are becoming more advanced. It is no surprise that the world looks at Africa disdainfully and the continent is cursed frequently as “the begging bowl” and “the dark continent”.

Africa's beauty is as glorious as her poverty is ominous.

Clearly we need to go to God for the solutions to this crisis.

3. Farming God's Way

Farming God's way is an amazing Godly solution to the food security and poverty crisis for the rural poor. It was designed before man was on the face of the earth, when God put His laws in place to govern His creation and their inter-relations with one another. God is the master farmer and He has been farming this way since the beginning. God graciously revealed His truths on how He looks after creation to a wonderful team of Godly men to bring the full package to realisation and still we are learning from Him.

Farming God's Way has a proven track record of success since 1984, where Brian Oldreive first pioneered these practises on Hinton estate in Zimbabwe on a large scale commercial farm, eventually cropping 3,500 hectares. Since these small beginnings Farming God's Way has spread into many countries, being used by churches, missionaries and NGO's in order to create the critical mass of effectiveness needed to roll out Farming God's Way across the continent.

Farming God's Way is not just a technology but a well balanced biblical, management and technological solution for the agricultural domain, to equip the poor to come out of poverty, with what God has put in their hands and to reveal the fullness of His promised abundant life.

The Word of God says 'My people perish because of a lack of knowledge.' We must acknowledge the importance of teaching the poor faithfulness in the agricultural domain before the rest of the continent's potential can be revealed.

A people group called the Boni live in the rainforests on the northern coast of Kenya. They still live in absolute simplicity as hunter gatherers, hunting wild game as their major source of food. The Kenyan wildlife authorities are currently pressurizing them into getting involved in agrarian practise to reduce the poaching of wildlife in the wilderness areas. This has been a difficult transition for them and the slash and burn cropping practise has had devastating effects on the coastal forests.

A Boni man questioned me as to why the soil would be so fruitful, producing bumper crops in year one, then decline to very average yields in year two and then finally be a crop failure or thereabouts in year three?

This is a valid and pertinent question for most agricultural land, which in its virgin state is a high producer, but within three years is producing very little. The resultant is the slash and burn of new land areas, which in another three year crop cycle will also be unproductive. This cycle of abuse of the land leads to vast areas of land lying degraded and eroded and it will take as many as a hundred years in some ecosystems for the vegetation to be restored to some measure of its previous state.



Year 1



Year 2



Year 3

Previously God's garden was a highly productive rainforest which was in need of nothing. The forest was capable of succeeding even in drought years and never slowed or lost its productivity. The trees never lose their leaves or wilt. They keep on producing flowers, fruits and seeds and are able to carry vast numbers and diversity of animal species.

The Father and Creator put mechanisms in place which would allow the fauna, flora and soil to co-exist, with high levels of productivity, no environmental degradation, little or no erosion and a high buffering ability to withstand all the negative parameters of the harsh climate of the African continent.

In Genesis we see that God gives man the right to rule and reign over the whole earth and all that it contains. He then gives man his first responsibility.

Gen 2:15 "And the Lord God took the man, and put him into the Garden of Eden to work⁵⁶⁴⁷ it and to keep⁸¹⁰⁴ it."

5647 'abad

to *work*; by implication to *serve*, *till*, dress, execute, + husbandman, keep, labour (-ing man), bring to pass, serve, do service, till, work.

8104 shâmar

properly to *hedge* about as with thorns, that is, *guard*; generally to *protect*, *attend to*, carefully watch over.

We have to work and carefully look after God's garden which He has entrusted to us.

The Boni slash and burn system does not fit the "work or caring for the garden" instruction by God. Neither does the abuse of farm land by commercial farmers, who are deep ploughing and who cover up their failure to fulfil the instruction by over fertilisation. The "caring for the garden" is a part of all sufficiency in God. When a garden is being worked and cared for in God's Way, it will never be in a state of decline nor crop failure.

What has remained unchanged in that forest before and after?

- Temperature
- Rainfall
- Sunlight hours
- Soil

What has changed in that forest before and after?

- Man has appointed lordship to satan and his demons through spiritual practises
- Canopy of trees destroyed
- Decomposing organic surface material burnt or removed
- Soil structure broken down
- Soil inverted

Physically, the laws that God has put in place in creation for the most productive ecosystems in the world include little or no soil disturbance, no destruction or incorporation of decomposing mulch and a significant biodiversity.

These are the laws which allow the working and careful watching over His handiwork in creation. He knows best and we should be doing what we have been shown by our Father, following what we see Him do in creation as closely as we can and to simulate His laws in an agricultural environment, where there are high demands and pressures.

Therefore practically speaking, in the forests, has anyone seen God ploughing the soil He created?

Or has anyone seen God destroying these mulch covers through burning, removal or incorporating it mechanically?

The answer is quite obviously no. God neither ploughs the soil nor destroys the beautiful blanket of mulch, which we refer to as God's Blanket.

So why do we 'lean on our own understanding' and not trust in the way He has shown us how to farm? Do we presume to be better at farming than God? Or is it our pride to do it our way? Or is it that we still trust our earthly father's way?

Alongside the technological failings, there are management principles that need adjustment as well. These include being on time, doing things to a high standard and without wastage.

The spiritual reasons for this failing system are less obvious and yet the most crucial to gain understanding about. Read Hosea 2.

Hosea 2:8 "You did not know that it was I ..."

God's people had been prostituting themselves with the idols and gods of the Canaanites who were there before them, just like Hosea's wife. They had 'turned after their lovers' and 'acted shamefully', acknowledging them as the supplier of bread, water, wool, flax, oil, wine, silver and gold. So the Lord hedges up her way

with thorns and builds a wall so that she cannot find her way. Because of this idolatry and the acknowledgement of other gods He declares 'I will take back My grain at harvest time, new wine, wool, flax, destroy her vines and fig trees'. All of this judgement is so that God can humble His people to come back to Him and acknowledge Him, so that it may go well with them and they may be blessed. His judgements are all rooted in His amazing, deep, faithful love for His people.

Read Amos 4 to gain another insight into God's judgement to turn His people back to following after Him.

4. History of Farming God's Way

Farming God's Way was birthed in a crisis

The principles of Farming God's Way were first revealed to Brian Oldreive from Zimbabwe, in 1984. Brian became manager of Hinton Estate, near Bindura in the north east of Zimbabwe, in October 1982. Over the next 2 years he observed that they were experiencing high land preparation costs, fertility and yield declines, tremendous soil erosion and water losses and the costs of inputs were increasing annually. Hinton Estate was in a precarious financial situation and had not made a profit for many years.

In his desperation and concern that the farm was on its way to bankruptcy, he sought the Lord's counsel. Often large scale farmers overlook the fact that Farming God's Way was developed in a large scale commercial farming crisis and thereafter adapted for the small scale farmers, so that they too could benefit from the outstanding results obtained.

Brian asked God to teach him how to overcome the difficulties he was encountering and so the discovery of Farming God's Way began. God began to speak to him about how He manages creation, where He never tills or inverts the soil and where He never destroys or buries the decaying plant material on the surface. God also spoke clearly of the stewardship and excellence farmers are called to adopt, by caring for and managing the land in a way that would ensure that farmlands could be passed on as an inheritance from one generation to another and bring glory to God.

Start small and be faithful with little

A decision was made to implement Farming God's Way with high management standards, on a small tract of land, in order to both gain experience and have a manageable trial. The initial implementation was done using only 2 ha of land. The department of agriculture told Brian that his plan would never work, as 10 years prior to this some US based agronomists had approached and taught the Zimbabwean agricultural authorities about conservation farming, but due to their half hearted attempts with the technological concepts, they had failed. So it was extremely important to do the small plot to a very high standard so as not to give the devil any room to derail the concept.

1 Corinthians 10:31 "... whatever you do, do all to the glory of God."

Brian increased Hinton's Farming God's Way area annually, with their experience growing until the whole farm was converted over a 5 year time period.

Year 1 - Land area 2 ha
Year 2 - Land area 10 ha
Year 3 - Land area 50 ha
Year 4 - Land area 250 ha
Year 5 – entire cropped area 1,000 ha

The total cropped area of 1,000 ha was made up of 675 ha in summer (maize, seed-maize and soyabeans), and 325 ha in winter (winter wheat).

Brian's aim to implement 2 ha out of a total of 1,000 ha seems too insignificant to become consequential. However, it is upon those first 2 ha standards, that thousands of farmers have been trained today. A seemingly insignificant trial became the foundation for the transformation of the continent's agricultural domain.

Zechariah 4:10 "Do not despise these small beginnings, for the Lord rejoices to see the work begin..."

Although this text talks of a mere foundation laid by Zerubbabel, it is the excitement and rejoicing of the Lord that is most interesting. This is God's way. He starts with what we have in our hand and establishes character, faithfulness and stewardship values in us and upon our mastering these He then can put us in charge of bigger things.

Starting small is a difficult and seemingly insignificant way to start, but it bears the most lasting fruit. We are encouraged not to despise these small beginnings but to exercise faithfulness with them.

Use what God has put in your hand

Brian is a man of the highest calibre and is yet also an extremely humble and God fearing man. When the Lord had revealed His truths about the technology, they had no machinery to do anything like what they saw God do in creation. Instead of giving up, they worked with what God had put in their hands, hoes. At their peak manual planting level they were farming 650 ha of cropped land area with 1,100 labourers at planting time. This was an incredible commitment and required a lot of faith, but they persevered and succeeded. Later on, with the farm making such incredible profits, they were able to purchase imported large scale machinery such as no-till drills. However, Brian still testifies to the highest yields ever recorded as being under a hand planted, rather than machine planted technique, because of the precision in seed placement and covering operations.

Believing in the African people

At this point in history in Africa, there was very little room given to black management on farms, due to the colonial influences of white supremacy. Black Africans were never given any opportunities for training and development. Brian Oldreive had 2 white managers under him when he arrived and both gave him so much trouble that he decided not to take on any other white management. When he told the board of the estate they were shocked that he would consider raising up black managers, but he eventually persuaded them to let him try. Once given the responsibility, training and mentoring, these managers excelled in their new found measures of rule and never looked back. It is very interesting to note that in the collapse of the agriculture economy of Zimbabwe, these very same managers are still producing a profit for their new farm owners. What a testimony to the true discipling of the managers, that they would show lasting fruit in the absence of their mentors.

This is such an important part of the Farming God's Way outlook. We believe that black African nationals can farm just as well as anyone else, given the opportunity, education and mentoring. If we do not have faith in this we will never see our continent turned around to realise its God given potential. The love we have for each

other is a love given by God for our new found family in Him, a love which shows no discrimination against colour or race or hierarchical status.

Galatians 5:6 "For in Jesus Christ neither circumcision availeth any thing, nor uncircumcision; but faith which worketh by love."

The pride of men

It is interesting that the neighbouring farmers, whose farms were in the same steady state of decline in profitability as Hinton Estate had been, refused to listen to Brian's encouragement to change to doing things God's way. They continued to 'lean on their own understanding' and to walk in the way of their fathers, with their pride standing between them and a successful transition. It is this pride that is the most limiting of all factors to change, both for commercial and small scale farmers alike. Many of these farmers ended up going bankrupt and the farms were then bought up by the Hinton Estate trustees who could see the vision and fruitfulness since Brian's management changes.

Faithfulness rewarded

Meanwhile on Hinton Estate, crop yields and profitability improved dramatically allowing them to buy up some of these adjoining farms going through liquidation. The estate cropped area increased from 1,000 to 3,500 ha, with most of the area being double cropped, in rotations, for the 18 year duration of Brian's management. A vast array of crops including maize, wheat, soyabeans, groundnuts, cotton, sorghum, sunflowers, wheat, sugar cane, coffee, vegetables, pecan nuts and macadamia nuts were grown successfully on the farm. As a result of Farming God's Way, Hinton Estate received several achievement awards including: maize grower of the year, wheat grower of the year, as well as being a member of the elite Ten Ton Club for maize yields in excess of 10 tons/ha (best 13,9 t/ha). Brian was also invited to speak internationally at conservation tillage conferences.

The plight of the poor

The wonderful successes on Hinton Estate stood out in dire contrast to the poverty of the adjoining communal farmers who were practicing conventional tillage. They suffered from poor yields and crop failures during dry seasons, with severe sheet and gully erosion being the norm. God began to stir a deep desire in Brian's heart to transfer Farming God's Way practises to these communal farmers. The first year they trained into the neighbouring community using an individual farmer's field as a model. They prepared, fertilised and planted a hectare of land, but at harvest time they came to find a total crop failure. They were shocked but decided to try again. The very same thing happened in year two. Investigations showed that no weeding had been done at all and the maize crop had been totally out competed by the jungle of weeds. Further investigation revealed that the community had become jealous of this farmer receiving all this attention and assistance, so they paid a witchdoctor to put juju (magic potion) on the field. As a result of this the family had been too terrified to even put their feet in their own land. This was such a revelation of the curse of jealousy and witchcraft that is amongst the poor and was the trigger to realising the need for the spiritual elements to be incorporated into the teaching.

Later, 58 one hectare trial stands were put in across the whole nation of Zimbabwe, covering every bioclimatic group and region. Thousands of people were trained in the

technology through this initiative and yet despite the successes of the 1 ha plots, the method of training strangely met with minimal implementation from the poor.

After handing the management of Hinton Estate over to the widowed owner's son, Brian established a large commercial farm, Agriway Community Church and Farm, with the purpose of training the poor. Small scale farmers, were allocated 1 ha, 2 ha and 5 ha plots depending on their level of expertise and faithfulness. Many poor farmers cut their teeth on the road to success on this farm and despite the current difficulties in Zimbabwe many are still successful farmers today.

Zambian success story

In 1996, the Zambian authorities were so taken with the model that they combined with the World Bank to roll it out at large scale, the World Bank being keenly interested due to the commitment by the agricultural authorities as well as the significant reduction in financial risk achieved. The Zambian agricultural extension department were then taught by Brian and they in turn took it throughout the nation with significant results. However, the Zambians soon changed important fundamentals of the technology until it could really not be said to be from the original blueprint at all. There was no incorporation of the holistic teaching of Farming God's Way and only the technology was rolled out which was a great tragedy considering the potential for Farming God's Way to extend God's Kingdom.

Operation Joseph

Operation Joseph was launched in 2000 and by 2007 they were reaching 2,700 families in all 8 provinces of Zimbabwe. This was an ongoing and successful outreach that distributed inputs and training to each family for 1 ha of crops to help feed those families and create models for others to follow. The strategy used was for farmers to sell back yielded produce and then a portion of this would be used to pay for subsequent inputs for the next season. Unfortunately, the strategy of gradually reduced incentivisation never actually materialised and became a great turning point in the Farming God's Way history, to truly rely on God's all sufficiency and not to perpetuate the dependency cycle through incentive schemes. [12]

The Operation Joseph team, ably led by Alan Norton, were able to touch thousands of lives, with amazing testimonies of provision especially during the famine years of 2002-2008.

The sleeping giant (the church) awakes

Since those early days, Farming God's Way has gone into many communities and nations and the Lord has been actively piecing His puzzle together to allow God's people, who are called by His name, to release the potential of the African soil. As of 2003 the church really started to wake up to the potential of Farming God's Way going forward. After all, it had been given to the greater body of Christ and not to the world's systems to expand His Kingdom as His children begin to walk in His ways.

The fullness of the technology, management and spiritual keys became a well shaped model, useful for the greater body of Christ to express His plan of deliverance for those living under the captivity of the yoke. Many churches have come on board including AFM, Anglican, AOG, Catholic, Church of the Nations, Dutch Reformed, Methodists, New Covenant Ministries, New Frontiers International, Vineyard and others. Farming God's Way is being built into the wider body of Christ

with many NGO's, bible schools and mission organizations fully embracing and involved in the roll out.

Current influence

To date in 2009, Farming God's Way has gone into Angola, Benin, DRC, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Rwanda, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe and others to varying degrees within Africa, whilst also touching into Mexico, Nepal, British Gayana, USA, UK and others.

The Farming God's Way website www.farming-gods-way.org receives hits from all over the world and the global influence is immeasurable. Well equipped trainers are emerging in different flows and church denominations and it is increasingly evident that the spread of the seed throughout the body will be the solution to breaking the yoke amongst the poor.

Farming God's Way is a free gift given to the greater body of Christ and does not belong to any one church movement. It is not an organisation but a tool to be used in service to the poor. The integrity, flow and strategy of Farming God's Way, is given by a voluntary senior forum who are well experienced trainers. The principle of stewardship rather than ownership has been kept to ensure the liberal expansion of this incredible tool to transform the lives of the poor.

5. Motivation

It is not by chance that God has called you; however it is a weighty responsibility to walk in this calling. Higher learning is an incredible privilege which is given by God to those whom He sees fit to be implementers and communicators of this message. You have an added responsibility to be a faithful steward and communicator of this message, so that others can benefit from your understanding.

Luke 12:48b "From everyone who has been given much, much will be required; and to whom they entrusted much, of him they will ask all the more."

God has given you this privilege that you would become a good leader, teacher and shepherd. Jesus demonstrated and instructed us to walk in servant leadership. He spent His life fulfilling His Father's desire for Him, never elevating Himself, but rather humbling Himself and exercising unselfishness.

Unfortunately, given positions of authority, this is most often not the case. Most people, who once they have gained the understanding, will use it for selfish gain and even to attain a position of power. James warns:

James 3:1 "Let not many of you become teachers, my brethren, knowing that as such we will incur a stricter judgment."

This scripture is not given to discourage teaching, but to warn the teacher that to whom much is given, much is required and that you will be judged more severely than others because of the trust and favour that God has shown to you. The knowledge you gain is not intended for your selfish gain, nor for you to be given places of honour by men, but rather that you become a vessel that can usher in His Kingdom through your acts of service.

The judgement of the selfish and power hungry shepherds (those entrusted with positions of leadership over people's lives) is clearly laid out through scripture.

Jeremiah 23:1-4 "Woe to the shepherds who are destroying and scattering the sheep of My pasture!" declares the Lord. Therefore thus says the Lord God of Israel concerning the shepherds who are tending My people: "You have scattered My flock and driven them away, and have not attended to them; behold, I am about to attend to you for the evil of your deeds," declares the Lord. "Then I Myself will gather the remnant of My flock out of all the countries where I have driven them and bring them back to their pasture, and they will be fruitful and multiply. I will also raise up shepherds over them and they will tend them; and they will not be afraid any longer, nor be terrified, nor will any be missing," declares the Lord."

Ezekiel 34:1-19 "Then the word of the Lord came to me saying, Son of man, prophesy against the shepherds of Israel. Prophesy and say to those shepherds, 'Thus says the Lord God, "Woe, shepherds of Israel who have been feeding yourselves! Should not the shepherds feed the flock? You eat the fat and clothe yourselves with the wool, you slaughter the fat sheep without feeding the flock. Those who are sickly you have not strengthened, the diseased you have not healed, the broken you have not bound up, the scattered you have not brought back, nor have you sought for the lost; but with force and with severity you have dominated them. They were scattered for lack of a shepherd, and they became food for every beast of the field and were scattered. My flock wandered through all

the mountains and on every high hill; My flock was scattered over all the surface of the earth, and there was no one to search or seek for them. Therefore, you shepherds, hear the word of the Lord: "As I live," declares the Lord God, "surely because My flock has become a prey, My flock has even become food for all the beasts of the field for lack of a shepherd, and My shepherds did not search for My flock, but rather the shepherds fed themselves and did not feed My flock; therefore, you shepherds, hear the word of the Lord: Thus says the Lord God, "Behold, I am against the shepherds, and I will demand My sheep from them and make them cease from feeding sheep. So the shepherds will not feed themselves anymore, but I will deliver My flock from their mouth, so that they will not be food for them." For thus says the Lord God, "Behold, I Myself will search for My sheep and seek them out. As a shepherd cares for his herd in the day when he is among his scattered sheep, so I will care for My sheep and will deliver them from all the places to which they were scattered on a cloudy and gloomy day. I will bring them out from the peoples and gather them from the countries and bring them to their own land; and I will feed them on the mountains of Israel, by the streams, and in all the inhabited places of the land. I will feed them in a good pasture, and their grazing ground will be on the mountain heights of Israel. There they will lie down on good grazing ground and feed in rich pasture on the mountains of Israel. I will feed My flock and I will lead them to rest," declares the Lord God. I will seek the lost, bring back the scattered, bind up the broken and strengthen the sick; but the fat and the strong I will destroy. I will feed them with judgment. As for you, My flock, thus says the Lord God, 'Behold, I will judge between one sheep and another, between the rams and the male goats. Is it too slight a thing for you that you should feed in the good pasture, that you must tread down with your feet the rest of your pastures? Or that you should drink of the clear waters, that you must foul the rest with your feet? As for My flock, they must eat what you tread down with your feet and drink what you foul with your feet!'"

Matthew 23:2-6 saying: "The scribes and the Pharisees have seated themselves in the chair of Moses; therefore all that they tell you, do and observe, but do not do according to their deeds; for they say things and do not do them. They tie up heavy burdens and lay them on men's shoulders, but they themselves are unwilling to move them with so much as a finger. But they do all their deeds to be noticed by men; for they broaden their phylacteries and lengthen the tassels of their garments. They love the place of honor at banquets and the chief seats in the synagogues,

Matthew 23:11 "But the greatest among you shall be your servant.

Matthew 23:12 "Whoever exalts himself shall be humbled; and whoever humbles himself shall be exalted."

Jesus' fulfilled the role of the good Shepherd. He has demonstrated this so that you will follow Him as a true disciple of His, walking in humility, unselfishness and the fear of God.

John 13:14,15 "If I then, the Lord and the Teacher, washed your feet, you also ought to wash one another's feet. For I gave you an example that you also should do as I did to you."

So many times I encounter leader's that have absolutely no consideration for their flocks. Every Sunday they seek to feed themselves through force and severity, never taking the time to consider that it is the responsibility of the shepherd to feed the sheep. They run around like busy bodies seeking to be acknowledged by men, but seldom making a sincere heartfelt effort to care for the sick, bind up the broken hearted, gather the scattered or find the lost, whilst the sheep become plunder for every kind of predator wandering aimlessly through much hopelessness.

Pastors are only too happy to meet an international missionary and yet when the message of Farming God's Way is delivered, it is as if steel doors come down, shutting down conversation as if an abhorrent topic had been raised. The vast majority of their sheep are farmers, and yet the leaders show no consideration for the fact that their congregants need knowledge and skills in this area.

As a shepherd you have the opportunity to change the lives of the sheep you have been entrusted with, using a relevant Kingdom message in "Farming God's Way". From the outset of this course, take a humble view of yourself and follow Jesus' example of servant leadership, considering others as more important than yourself.

James 4:10 "Humble yourselves in the presence of the Lord, and He will exalt you."

Jesus modelled on earth a heart of compassion and love for the poor, which we in turn should display in our lives.

Luke 4:18 "The Spirit of the Lord is upon me, because he has anointed me to proclaim good news to the poor. He has sent me to proclaim liberty to the captives and recovery of sight to the blind, to set at liberty those who are oppressed, and to proclaim the year of the Lord's favour."

The Word of God warns us not to overlook the poor and is full of wonderful promises for those who consider the poor.

Proverbs 21:13 "Whoever closes his ear to the cry of the poor will himself call out and not be answered."

Proverbs 28:27 "Whoever gives to the poor will not want, but he who hides his eyes will get many a curse."

Psalms 41:1 "Blessed is the one who considers the poor! In the day of trouble the Lord delivers him"

Proverbs 19:17 "Whoever is generous to the poor lends to the Lord, and He will repay him for his deed"

As those who have been entrusted with much by the Lord, God expects much from us, not so that it would go to our own selfish end, but that it would be an expression of Jesus' modelled humility to serve the poorest of the poor. There is no greater work than this.

Our extension of Farming God's Way should be rooted in compassion, motivated by obedience and delivered with much love.

Let us ensure that our motivation is out of a deep, heartfelt consideration for the poor.

6. The True Fast

The founding scripture of Farming God's Way is Isaiah 58.

Isaiah 58:1-12 "Cry loudly, do not hold back; Raise your voice like a trumpet, and declare to My people their transgression and to the house of Jacob their sins. Yet they seek Me day by day and delight to know My ways, as a nation that has done righteousness and has not forsaken the ordinance of their God. They ask Me for just decisions, they delight in the nearness of God.

Why have we fasted and You do not see? Why have we humbled ourselves and You do not notice?

Behold, on the day of your fast you find your desire, and drive hard all your workers. Behold, you fast for contention and strife and to strike with a wicked fist. You do not fast like you do today to make your voice heard on high. Is it a fast like this which I choose, a day for a man to humble himself? Is it for bowing one's head like a reed and for spreading out sackcloth and ashes as a bed? Will you call this a fast, even an acceptable day to the Lord?

Is this not the fast which I choose, to loosen the bonds of wickedness, to undo the bands of the yoke, and to let the oppressed go free and break every yoke? Is it not to divide your bread with the hungry and bring the homeless poor into the house; when you see the naked, to cover him; and not to hide yourself from your own flesh?

Then your light will break out like the dawn, and your recovery will speedily spring forth; and your righteousness will go before you; the glory of the Lord will be your rear guard. Then you will call, and the Lord will answer; you will cry, and He will say, 'Here I am.' If you remove the yoke from your midst, the pointing of the finger and speaking wickedness, and if you give yourself to the hungry and satisfy the desire of the afflicted, then your light will rise in darkness and your gloom will become like midday. The Lord will continually guide you, and satisfy your desire in scorched places, and give strength to your bones; and you will be like a well watered garden, and like a spring of water whose waters do not fail. Those from among you will rebuild the ancient ruins; you will raise up the age-old foundations; and you will be called the repairer of the breach, the restorer of the streets in which to dwell.

Isaiah 58 begins with a stern rebuke for God's people, as termed by the House of Jacob and My people. This rebuke is not aimed at the ungodly, but at the church itself, those who are called by His name.

God exposes their hypocrisy in their daily seeking after Him, doing righteous acts, not forsaking His ordinances, asking for just decisions, delighting in being in His presence, humbling themselves, fasting, but doing all these things with selfish intent and having no consideration for others.

1 Samuel 15:22 "Samuel said, 'Has the Lord as much delight in burnt offerings and sacrifices as in obeying the voice of the Lord? Behold, to obey is better than sacrifice, and to heed than the fat of rams.'"

God wants us to obey His weightier provisions of the law – **justice, mercy and faithfulness** (Matthew 23:23) - and desires to see us incorporate these values into every day life and outlook.

He is able to see through all our actions, motives and thoughts and when He encounters selfishness and pride He resists us, closes His ears and removes His glory. Many Christians feel that under the new covenant they are exempt from

passages of scripture that bring the rebuke of self righteousness and selfishness such as Isaiah 58. However, Jesus modelled for us to walk in unselfishness and humility when He came to earth, taking on the form of a man, being raised as a son by an earthly father and working as a carpenter. When He began His ministry he continued in humility, ministering to the poor, broken, sick, oppressed and demon possessed.

In His extension, He said to His disciples “follow Me”, teaching them by example what they should in turn do. All record of His interaction with wealthy or prominent people were them approaching Him, while He focused on pouring Himself out for the poor. He was all man and all God, and yet never used His power for selfish ambition, but instead He practised the true fast in loosening, removing and breaking the yoke over people’s lives.

Jesus says in Luke 4:18 “The Spirit of the Lord is upon Me, because He has anointed Me to preach the gospel to the poor. He has sent Me to proclaim release to the captives and recovery of sight to the blind, to set free those that are oppressed to proclaim the favourable year of the Lord.”

In the same way, God desires for us to serve the poor wholeheartedly and unselfishly, just as He did.

Read Matthew 25: 34-40 “When I was hungry you gave Me something to eat...”

Isaiah 58 is a call for the body of Christ to get into action, to stop using the excuse of “works” as an excuse to walk in self righteous comfort. Jesus said ‘pick up your cross and follow me’.

Read James 2:14-26 Works do not justify us, as we are justified by our faith, but if our faith is without works, then we do not have true faith anyway. True faith, of full persuasion, must have an outworking of works as commanded to do. Without acts of mercy and love, you are like “clanging gongs” (1 Corinthians 13) and the “cups cleaned on the outside but filthy on the inside” (Matthew 23:26). Faith without works is dead and not faith at all.

God reveals His true fast in verse 6 – **to loosen, to undo and break every yoke.**

What exactly is a yoke?

A yoke is a heavy wooden implement used to harness animals together, usually oxen. Thereafter, other implements such as ploughs, sleds or trailers are attached to this yoke, which will be drawn by the pulling power from the animals. An example is shown on the following page.



[19]

The Isaiah 58 mandate to loosen, remove and break every yoke is a three part process and cannot be done in one motion.

- 1) You first loosen the bands or ropes, which tie the oxen to the yoke and the yoke to the implement they are drawing. These bands are what will keep the oxen attached to the actual yoke and implement being drawn and are not pictured above. This allows the oxen to be given more breathing space and room to move more freely without implement attachments. Untying them doesn't free them from the yoke but brings freedom a little closer.
- 2) Then you undo and remove the yoke from the oxen's neck by pulling out the U shaped wooden inserts which the oxen pull against.
- 3) Then you break it, to ensure that it cannot be put on again.

The references to the bonds of wickedness and the bands of the yoke are interchanged to show they are synonymous in this context.

Practically how do we, as God's people, loosen, remove and break the yoke and let the oppressed go free?

- 1) Divide your bread with the hungry
- 2) Shelter the homeless
- 3) Clothe the naked
- 4) Do not hide your eyes from the plight of others
- 5) Stop the pointing of the finger
- 6) Stop the speaking of wickedness
- 7) Give yourself to the hungry
- 8) Satisfy the desire of the afflicted

God's true fast for us, His people who are called by His name, the House of Jacob, is to see the **oppressed go free**. In an earlier section, "Reality of the crisis", great length was taken to explain the humanitarian crisis of poverty in this continent. A yoke, or heavy implement, is burdensome to bear or live under, heavy and uncomfortable to draw other implements with, and worse still, is never liberating. The same holds true for poverty, it is heavy to live with, difficult to produce anything and seemingly impossible to come out of.

The yoke is first and foremost a spiritual yoke and we must be fully persuaded of this if we want to bring true deliverance to the captives. When Jesus said He came to give us life and life more abundantly (John 10:10), He had this very same heart motive of fulfilling His Father's true fast.

Galatians 5:1 "It was for freedom that Christ set us free;"

When we come to Him, we also receive a yoke, but unlike the yoke of the evil one, it is easy and light. The yoke we take on is His yoke, not ours. He has already walked the walk under its weight and taken the brunt of the curse on our behalf, so that we can walk in the freedom that comes from His victory.

Matthew 11:28-30 "Come to Me, all who are weary and heavy-laden, and I will give you rest. Take My yoke upon you and learn from Me, for I am gentle and humble in heart, and you will find rest for your souls. For My yoke is easy and My burden is light."

In order to take on Jesus' yoke, we must first have the yoke of sin and death taken off our necks. We do this spiritually by leading people through confession and repentance and thereafter, by faith, the appointment of Jesus as Lord and Saviour. With this precious gift of salvation we have the right to be called children of God and have our names written in the book of eternal life. What a privilege!!!

Jesus is called the chief cornerstone and salvation is the placement of the cornerstone in the temple of our lives. With this cornerstone in place, we can build our lives into a temple worthy of His name, with every facet of our lives being built around Him. We have to start at the beginning, with the beginning, Jesus our strong deliverer and our hope. If we don't build on Him we labour in vain. We cannot deny Him. Instead we must acknowledge Him in all of our ways, words and demonstrations. That is why we call it Farming God's Way after all. It is an unashamed gospel of the Kingdom of God in the domain of agriculture.

Consider that in Africa, one in three people are undernourished. Even if we had to pool all our resources together, we would not have enough to remove the yoke from the poor as commanded to do. If we do not have enough resources to rebuild the ancient foundations and raise up the age old foundations how then can we fulfil the true fast?

When we train and extend Farming God's Way it equips the poor to take up their God given responsibilities for their own lives and farmlands. We cannot provide for every person's physical needs, but we can definitely equip the poor with the knowledge to provide for themselves. This equipping brings a liberty that no gift or donation could ever give, as it is empowering the poor into perpetuity.

A technological or management rollout alone has nothing to build upon and may temporarily remove the yoke, but it is only through God's Word and His anointing that the yoke gets broken and the captives set free. I exhort you to study the biblical keys thoroughly so that they are written on your heart, lived out and taught with full persuasion.

Promises

Although the Lord wants us to serve the poor wholeheartedly and unselfishly, He has also filled these commands with amazing promises for those that put them into practise. It would seem a paradox to give us incentives to do something we should be doing selflessly, yet God has chosen to bless with more than double the conditions when we act in unselfishness. When you serve the poor there is nothing in it for you, as the poor have no resources to be able to repay you. The only way there can be blessing through these acts of service, is if God looks at your heart and finds sincerity.

What promises are associated with fulfilling the practical application of the “true fast” that God has chosen?

- 1) Your light will break out like the dawn
- 2) Your recovery will speedily spring forth
- 3) Your righteousness will go before you
- 4) The glory of the Lord will be your rear guard
- 5) When you call the Lord will answer you
- 6) Your light will rise in the darkness
- 7) Your gloom will become light midday
- 8) The Lord will continually guide you
- 9) He will satisfy your desire in scorched places
- 10) He will give strength to your bones
- 11) You will be like a well watered garden,
- 12) You will be like a spring of water which will not fail
- 13) You will rebuild the ancient ruins
- 14) You will raise up the age old foundations
- 15) You will be called repairer of the breach
- 16) You will be called restorer of streets in which to dwell

These promises are for God’s people who fill the conditions to the promises. Look around the church today and you will find those that are sick, frail, depressed, struggling with righteousness, hard of hearing God, misguided, unsatisfied and empty. What solution is there to this crisis of God’s people? Simple, fulfil the mandate as clearly laid out in Isaiah 58. God’s promises are for them that believe.

When we consider the poor as instructed to do, we take our minds off ourselves and we focus on giving God’s unfailing love, mercy and compassion. We begin to walk in unselfishness. By doing something that gives no room for personal gain, God can truly see our devotion to fulfilling His command to love one another even as He first loved us. He sees something of His untainted, pure nature as we walk as He walked and then He commands a blessing.

It requires a commitment and determination to go through the 3 stage process of loosening, removing and breaking the yoke over the lives of the poor. That process is expounded on in the section “Extension”.

Out of the transformation of the heart through Jesus, comes the renewing of the mind in good management and then the practical outworking in the redemption of the farmland.

7. Kingdom Agriculture

The amazing thing about Farming God's Way is that it is a practical, holistic method to deal with God's true fast in an agricultural community. It allows for the full message of the gospel to be preached, not with words alone, but in life application.

It is often quoted that the church in Africa is a mile wide, but a mere inch deep. The mile wide element refers to the vast numbers of salvations and the inch deep element refers to the limited life application. This analogy clearly depicts that the gospel of salvation has been preached versus the gospel of the Kingdom.

Matthew 24:14 "This gospel of the kingdom shall be preached in the whole world as a testimony to all the nations, and then the end will come."

We have been commissioned to preach and usher in the Kingdom of God and to make "true" disciples by teaching them to observe all that He commanded us to do. The gospel of salvation is only the starting point – receiving the incorruptible seed. If the seed does not germinate and grow, it will remain a seed. This is why the gospel of salvation has had no fulfilment of the promised abundant life. It is still only a seed. Imagine what a blessed continent Africa would be if the gospel of the Kingdom was taught and implemented.

Matthew 11:29 "Take My yoke upon you and learn from Me."

Simply taking the yoke upon you does nothing to get your land prepared for increase. We still have to learn His ways and become transformed by the renewing of our minds. In the same way simply accepting Jesus Christ as Saviour, allows the privilege of eternal life but the promise of His abundance is still only a promise. Once we meet His conditions, by walking in His ways, He releases the promise of His blessing to us.

The Kingdom of God is like leaven in the dough, which works its way through the whole lump. (Matthew 13:33). Jesus wants the Kingdom of God to be revealed in the whole lump of our lives. The Kingdom of God is not a Sunday portion. It's everyday life at church, at home, at work, with our spouses, family and friends and most relevantly in our farming.

The Kingdom of God is like a mustard seed which although tiny, grows to become the largest tree in the garden. Jesus wants Himself to influence every part of the garden of your life.

The Kingdom of God is like a person who when he found treasure in a field went and sold all that he had in order to buy the field. Jesus wants to see our wholehearted commitment to give up everything that we see as valuable, so that we can buy the field with His invaluable treasure in it. This treasure the world cannot compare to and will satisfy our desire, even in a sun scorched land.

The Kingdom of God needs to become a part of every societal domain including agriculture, education, primary health care, business, government, arts, science, media and ministry. Approximately 80% or 800 million people in Africa are involved

in the agricultural domain ^[27]. The gospel of the Kingdom needs to be carried forward in this next wave of God establishing His Kingdom on earth as it is in heaven. Jesus should be central to everything we put our hand to as the Lord of our lives. For too long the church has played a non participative approach to the other domains of the Kingdom of God and focused entirely on “levitical type functions” downplaying all other domains as secondary in God’s order of things. This is commonly referred to as the sacred – secular divide or the clergy (priesthood) and the laity (people) structure.

When Jesus died, this separation was done away with, symbolically demonstrated by the tearing of the veil of the temple from top to bottom. In God’s eyes, we have one high priest, Jesus, who once and for all mankind made an eternal sacrifice for the sins of the whole world. His sacrifice allows the people to enter in behind the sacred veil as a royal priesthood and a holy nation. There is now no longer the separation in God’s eyes as he calls us His children. No man can take the sin of another man any longer.

Those in ministry are not in a higher position than the people they serve, nor is their function any greater or more important than those serving in other domains. It is the responsibility of the body of Christ to be actively invading and taking ground for the cause of the King and His Kingdom.

So few members of the body of Christ have grasped the enormous potential that God has given us to serve the poor in the agricultural domain. We need to become more Kingdom oriented and relevant to the poor, whom God loves so much, in order to loosen, remove and break the yoke. We should clearly be teaching the poor how to produce food and live in a lifestyle that can liberate and transform them, through doing things His way.

If you think about the enormous structure and influence that the church has throughout the world to bring about the purposes of God, it is so exciting to realize that the Lord has positioned His body for such a time as this, to release His Kingdom. The church can role out relevant Kingdom agricultural teachings to both feed its sheep, resource itself and expand the Kingdom of God further.

Farming God’s Way is not merely a technology, but an incredibly powerful tool delivering attainable solutions to both living and farming. It is a holistic view allowing for the Kingdom of God to be ushered in within the domain of agriculture.

Farming God’s Way consists of 3 spheres – Spiritual, Technology and Management. The Spiritual sphere speaks right into the heart of the problem and unveils the biblical truths as to why the land is under the curse and the poor under the yoke of poverty. The technological element demonstrates the practical principles of God’s Ways in order to usher in the redemption of the land. The management element speaks into some of the traditions and strongholds of the mind, giving practical steps for the poor to make a profit.

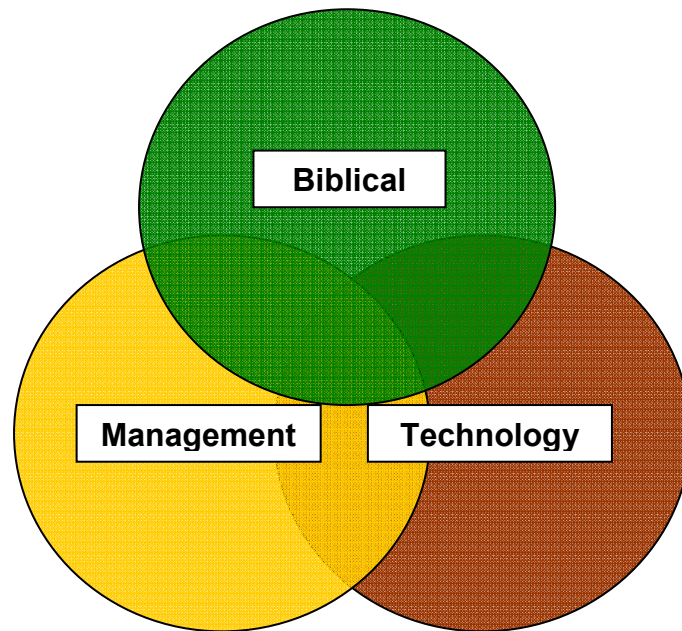


Diagram depicting the inter relationships and overlap between the Biblical, Management and Technological aspects of Farming God's Way.

If Farming God's Way was simply a technological resource, it would not represent the Kingdom of God. The Kingdom of God is a complete package, like the leaven in the dough which goes to every aspect of our lives, Spirit, Mind and Body. Farming God's Way represents a Kingdom agricultural tool to bring about a deliverance of the poor from the yoke of poverty in all aspects of life.

God's desire is to see communities of farmers who love Him with all of their hearts, mind and strength. This full submission and acknowledgement of Him will lead to the Kingdom of God coming in that community as it is in heaven. Preaching this gospel of the Kingdom to the poor and ushering it in to reality will allow for the complete freedom from the yoke they are now bound by and give the poor the opportunity to prosper, to progress and fulfil all of their God given potential.

8. Six Biblical Keys

Introduction

This chapter covers an in depth study of the Biblical keys, which lead to a spiritual unveiling of the mysteries of why Africa is bound under the yoke of poverty and the discovery of God's solutions for breaking this yoke. In the same way that Farming God's Way was spoken to Brian Oldreive many years ago, it is time to expose the truths of God's Word, for the loosening, removal and breaking of the yoke amongst the poor. God's Word is the ultimate authority for the truths we live by and turning to His Word brings the revelation and enlightenment that the yoke is first and foremost a spiritual yoke. If we only deal with the technical and management keys we will not be able to deliver the poor.

Unfortunately, the truth is not always what people desire to hear.

John 10:10 "Jesus said 'The thief comes only to steal, and kill, and destroy; I came that they might have life, and might have it abundantly.'"

There are two kingdoms in this world, the kingdom of God and the kingdom of Satan.

The vast majority of Sub Saharan African nations would say they are Christians, but they have the greatest number of undernourished people in the whole world.

Why is it that Christian nations with the highest resource potential have the highest poverty rating? This reflects poorly on the promise of Jesus when He said you will have life and life more abundantly.

Satan's ways contrast starkly to God's ways. If we are not for God then we are against Him and will have the fruit of satan's kingdom. The Word of God is unchanging and so are His promises. If we receive Jesus into our hearts and abide in Him, He gives us life and life more abundantly, but if not we live under the curse of the rule of satan and his demons.

God knows the inside of a man's heart, his motives, his ways, his gods and his idols.

Hosea 4:1-3: "There is no faithfulness, no love, no acknowledgement of God in the land. There is only cursing, lying and murder, stealing and adultery; they break all bounds and bloodshed follows bloodshed. Because of this the land mourns;"

Psalms 107:33,34 "He turns rivers into a wilderness, and the water springs into dry ground; A fruitful land into barrenness, for the wickedness of those who dwell in it"

Jeremiah 23:10b "For the land mourns because of the curse."

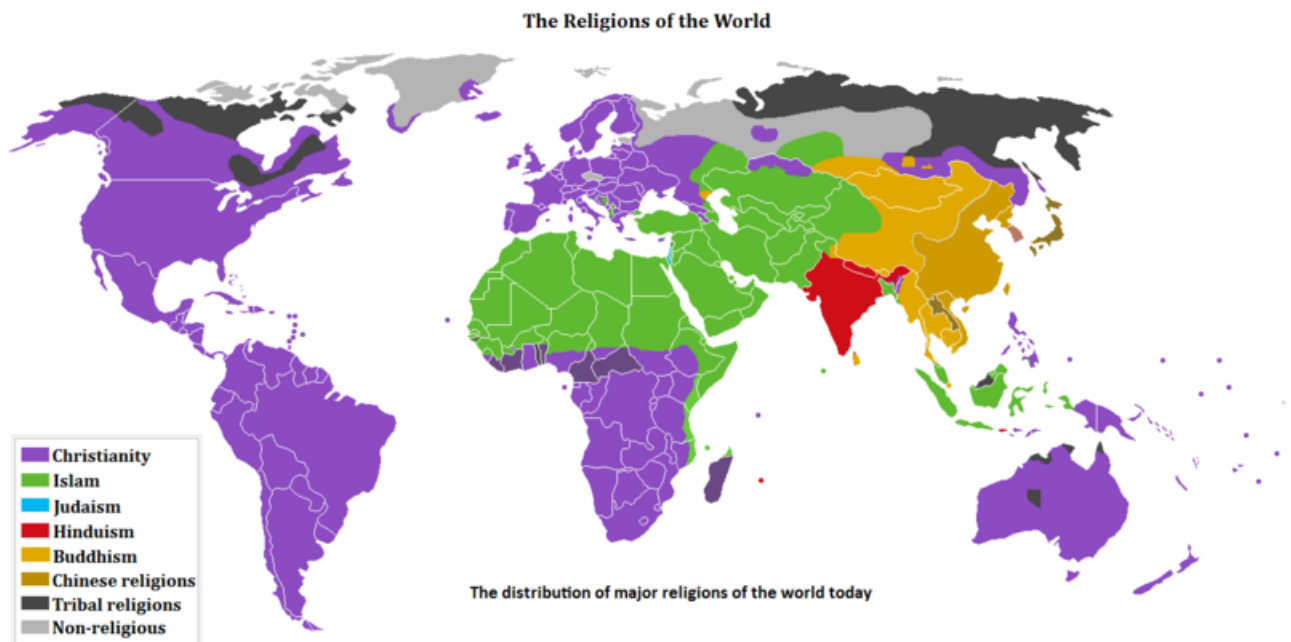
These are the six biblical keys:

- 1) Acknowledge God and God alone
- 2) Consider your ways
- 3) Understanding God's all sufficiency
- 4) What you sow you will reap
- 5) Bring the tithes and offerings to God
- 6) Stake your claim

Each of the six biblical keys will be explored by describing why the problem has come about and then revealing the biblical solution to these problems. Please explore them deeper as you meditate on his Word.

8.1 Acknowledge God and God Alone

In the early stages of this course, the African crisis was exposed with some worrying results. The fact that Sub Saharan Africa was shown to have the greatest number of undernourished people in the whole world reflects poorly on the fact that most Sub Saharan African nations would call themselves Christian states.



(20)

The map above clearly depicts the world's religions and if we had to superimpose this map over the undernourishment map the only area that doesn't display what God promised is Sub Saharan Africa.

Satan's ways contrast starkly to God's ways. If we are not for God then we are against Him and will have the fruit of satan's kingdom. The Word of God is unchanging and so are His promises. If we receive and abide in Him He gives us life and life more abundantly. One can easily see the contrast between this and what the map of undernourishment displays. Interestingly enough, many of the other maps of world religions clearly display a "mixed religious following" in Sub Saharan Africa, including Christianity, Islam and traditional beliefs in these countries. This discrepancy is in reality probably the case, as it would seem that surveys done by Christian teams would show a higher percentage of Christianity; and traditional survey teams would show a higher percentage of traditional beliefs; and again Islamic surveys would show a higher percentage of Islamic belief. This shows that the belief is not a belief at all, but rather a response or gesture out of desire of the peoples to please.

Unfortunately God is not like one of these survey teams. He knows the inside of a man's heart, his motives, his ways and his idols. God is not mocked.

Luke 4:8 "Jesus answered him, 'It is written, You shall worship the Lord your God and serve Him only.'"

The people of Africa have enormous strongholds of witchcraft and ancestral worship. Witchdoctors and wizards are found in great numbers in every village and are consulted on most things, at all critical stages of life including birth, sickness, adolescence, circumcision, weddings and funerals. The witchdoctors are also brought in to pray over the land so that it will produce a bumper harvest. Here they perform rituals including sacrificing chickens, sprinkling of animal blood, spreading bones, placing potions and putting of animal skulls on corner posts. In most areas there are high places from where witchdoctors operate, which are infamous for being sacred places. Here people carry up offerings of food or other sacrifices in vessels to appease their ancestors to this day.

The practise of ancestral worship is the honouring of ones dead ancestors through sacrifices, ritual rites and ceremonial oaths. This worship is not practised out of love but out of fear and terror. Community attendance at funerals and other gatherings are driven by the fear of being haunted by the ancestral spirits.

Often churches allow and condone such practises or turn a blind eye to them, justifying them as cultural. This soft line is a major part of the reason why the church in the continent is living under the curse, without Jesus' promised abundant life. The Bible clearly states that consulting witchdoctors and ancestral worship is witchcraft and demon worship. Even the Israelites were guilty of doing this on many occasions and God judged them severely for it.

Isaiah 8:19-22 "When they say to you, 'Consult the mediums and the spiritists who whisper and mutter,' should not a people consult their God? Should they consult the dead on behalf of the living? To the law and to the testimony! If they do not speak according to this word, it is because they have no dawn. They will pass through the land hard-pressed and famished, and it will turn out that when they are hungry, they will be enraged and curse their king and their God as they face upward. Then they will look to the earth, and behold, distress and darkness, the gloom of anguish; and they will be driven away into darkness."

The curse on those that practise these things is severe indeed; undernourishment, hunger, living in distress and darkness, depression and fear. If we see these things in evidence in communities, we have to understand that this is foremostly because God has removed His hand of blessing and the curse which comes from satan's rule has been instituted.

Leviticus 19:31 "Do not turn to mediums (familiar spirits, ghosts, ancestors) or spiritists (witchdoctors, wizards); do not seek them out to be defiled by them. I am the Lord your God."

Deuteronomy 18:10 "let not any of these be found amongst you."

In 2003 Linda Plonk, a young white Dutch woman, vanished on Mt Mulanje in Malawi and despite rescue attempts for weeks afterwards with helicopters and sniffer dogs, her body was never found. The locals were so entrenched in their belief system that they said that her body never turned up because the ancestors were never appeased with sacrificial offerings.

In Mozambique there is a prominent mountain that is so feared, that people won't even look at it because of terrible things that take place there. Besides routine food sacrifices, human sacrifices are not uncommon and it is especially children that are most vulnerable to this abomination. Adults often say the ancestors appear to them as if knocking on a door and that children, being sinless, should be used to answer the door by going up to the high places with the ancestral sacrifice. These ancestors are nothing more than demons masquerading as dead relatives and the witchdoctors advocate these practises to support themselves.

Deuteronomy 5:7,8 "You shall have no other gods before Me. You shall not make for yourself an idol, or any likeness of what is in heaven above or on the earth beneath or in the water under the earth. You shall not worship them or serve them; for I, the Lord your God, am a jealous God, visiting the iniquity of the fathers on the children, and on the third and the fourth generations of those who hate Me, but showing loving kindness to thousands, to those who love Me and keep My commandments."

Matthew 6:24 Jesus said "No one can serve two masters; for either he will hate the one and love the other, or he will be devoted to one and despise the other."

What does light have to do with darkness?

Psalms 24:3 "Who may ascend into the hill of the Lord? And who may stand in His holy place? He who has clean hands and a pure heart; who has not lifted up his soul to falsehood and has not sworn deceitfully."

The Solution:

There is only one true God and we come to Him through His Son, Jesus Christ, who died on a cross for us to have the free gift of eternal life. We are now no longer of this world's system and traditions but we have been adopted into His family and we have the privilege of knowing God as our Father.

John 14:6 Jesus said to him, "I am the way, and the truth, and the life; no one comes to the Father but through Me."

Joshua 24:14 "Now, therefore, fear the Lord and serve Him in sincerity and truth; and put away the gods which your fathers served beyond the River and in Egypt, and serve the Lord."

Matthew 23:37,38 "Jesus said to him, 'You shall love the Lord your God with all your heart, with all your soul, and with all your might.' This is the first and great commandment."

We have to come back to worshipping Him and Him alone in *all* areas of our lives, not just at our Sunday church services. God is not mocked.

If we see the statistics of major evangelists around the world we find that Africa has literally hundreds of millions of Christian converts.

Why is there no fruit?

Salvation alone is not the fullness of God's divine plan through Jesus Christ for us. Jesus is the incorruptible seed and nothing can contaminate or change His purity and holiness. That seed has the full potential for us to walk in His promised abundant life.

However if Jesus remains a seed He is only our potential hope. This seed must grow into every part of our lives so that the full potential of His Kingdom can be released.

Jesus is the chief cornerstone but if he remains only a cornerstone in your life what kind of building do you have?

Proverbs 3:5,6 "Trust in the Lord with all your heart and do not lean on your own understanding. In all your ways acknowledge Him, and He will make your paths straight."

This scripture gives us the guidelines to the breakthrough.

1) Trust in the Lord With all Your Heart.

We have been trusting in witchdoctors and ancestors not in the Lord. If we trusted in Him, we would consult Him and not the dead.

Whomever we trust in we will consult.

This trust is essential for the change.

We must be fully persuaded and trust that God is for us and not against us.

We must trust in Him as a loving and faithful Father whose Word never fails.

When we trust Him with all of our hearts, we will naturally walk in His ways following His laws and commandments and inherit his promises as a part of His family.

2) Lean not on Your Own Understanding.

Our traditions, culture and doing what we have been shown by our fathers are what have formulated our own understanding. Leaning on our own understanding has lead us into this yoke of poverty and the starting point of coming out from under the yoke, is to acknowledge that leaning on our own understanding is not working. It requires a deep level of humility in order for tradition to be broken and to change our ways.

When we humble ourselves and acknowledge that our ways and the ways of our ancestors have failed, then He lifts us up. Even in agriculture we need to acknowledge God's understanding and wisdom as higher than that of our fathers.

Pride says - "my father and grandfather farmed this way and I will not change". If you are a believer then who is your Father?

Traditional practise is a difficult stronghold to break, but that is the beauty about doing it God's Way. Doing things 'the way my earthly father showed me' only leads to poverty. We must be prepared to make a change!!! Our forefathers have not given us the understanding to create wealth – the Lord has and He has shown us the way we should go about it.

Jesus' dedication to only do what He was instructed to do by His Father and speak what the Father spoke to Him, gives us an incredible insight into His humility and unselfishness.

John 8:28 "I do nothing on My own initiative, but I speak these things as the Father taught Me."

John 8:38 "I speak the things which I have seen with My Father;"

John 5:19 "Truly, truly, I say to you, the Son can do nothing of Himself, unless it is something He sees the Father doing; for whatever the Father does, these things the Son also does in like manner."

Jesus fulfilled all that He could, not through independence but rather dependence on His Father. His Father showed Him what to do, He did it and succeeded. Our pride and selfishness wants to prove we can do it better and so we end up striving against the laws of God and we wonder why we fail spiritually and physically. What a glorious life we would live if we fulfilled His every desire for us.

Like Jesus, we should do only that which we see our Father in heaven doing and only speak the things we have heard Him say.

God knows best, He is the creator of all. He's been farming the longest – knows the crops, soils and seasons intimately as He designed them. He is the Master Farmer and we should follow His understanding diligently, observing all that he has shown us to do.

3) In all Your Ways Acknowledge Him

There needs to be a clear understanding of our heavenly Father's position in our lives, His sovereignty and Lordship. All of these stimulate faith in Him so that we have the full persuasion to change.

We need to turn away from ancestral worship and witchcraft. The curse is broken through Jesus' blood and His finished work on the cross and we are set free from the bondages and fear of ancestral spirits. His blood has bought us with a price and we are His children. We are tied into the lineage of Jesus through our turning to Him and with God as our Father, we are now His people.

If we have become His people can we dabble in ancestral worship or traditional practises?

No. We are either for Him or against Him, either a part of His family or not.

In all our ways means just that – every area, work, word, action and thought. This means we acknowledge Him in birth, adulthood transitions, weddings, funerals, healing, preplanting, rainfall, harvest - everything.

Jesus said the Kingdom of God is like leaven in the dough, going to all parts of the dough – that includes agriculture. We should be doing what we have been shown by our heavenly Father. He knows best how to work and carefully watch over the garden. We need to follow what we see Him do in creation as closely as we can, to simulate His laws in an agricultural environment where there are high demands and pressures.

Has anyone seen God ploughing the soil He created?

Or has anyone seen God destroying the thick mulch layer that lies on the surface of the soil, which we call God's Blanket, through burning, removal or incorporating it mechanically?

The answer is quite obviously no. God neither ploughs nor destroys His beautiful surface coverage. So why do we 'lean on our own understanding' and not trust in the way He has shown us how to farm?

Do we presume to be better at farming than God or is it our pride to do it our way? We are still trusting in our father's way above God's way.

We are still leaning on our own understanding.

My personal testimony is in 1987 the Lord spoke to me clearly to study agriculture to train the poor to come out of poverty. In 1993 I qualified with an honours degree in agriculture. Strange thing is, when I met Brian Oldreive, so much of what I had learnt I had to forget, as the vast majority of things I was taught were contrary to God's Ways. At University, the leading agricultural fathers promote the practise of deep ploughing and removing "trash" either through burning or inversion. These were basic "truths" we were taught and I had come to accept. The technical aspects that Brian was teaching had at University been exposed as "green do gooders efforts" not as agricultural solutions. Only after deep and intensive study and real meditation on the fact that God is the master farmer of the world and that He really does know best, was I able to become fully persuaded and realised that I needed to take the technological changes seriously. God's ultimate authority and Lordship over His creation were the two things that convinced me and caused me to have a change of mind and undo the learning of the world's systems.

4) And He will make your Paths Straight

When we fulfil this scripture in obedience to His Word we walk in the promise of Him making our path straight. In the African continent we desperately need the Lord to straighten out our crooked and hopeless path which has been taking people on a journey to nowhere for too long. God's straightening will lead us into the fullness of His promised abundant life.

The caution in our walk throughout our lives is to continually remain in this attitude of acknowledging Him in all our ways.

Deuteronomy 8:18 cautions us "But you shall remember the Lord your God, for it is He who is giving you power to make wealth, that He may confirm His covenant which He swore to your fathers, as it is this day. It shall come about if you ever forget the Lord your God and go after other gods and serve them and worship them, I testify against you today that you will surely perish."

This word 'remember' is synonymous with acknowledge, think of, be mindful of, or to keep in mind.

The judgements for not acknowledging Him in all our ways is severe but the benefits of the blessings for those that walk in this acknowledgement far exceed these on the other scale.

Deuteronomy 7:13-15 "He will love you and bless you and multiply you; He will also bless the fruit of your womb and the fruit of your ground, your grain and your new wine and your oil, the increase of your herd and the young of your flock, in the land which He swore to your forefathers to give you. You shall be blessed above all peoples; there will be no male or female barren among you or among your cattle. The Lord will remove from you all sickness; and He will not put on you any of the harmful diseases of Egypt which you have known, but He will lay them on all who hate you."

We have been saved by grace through Jesus Christ and we are now under the new covenant and not the law. Jesus came not to abolish the law but to fulfill it. Jesus never denounced His Fathers laws. He fulfilled them as the perfect sacrifice.

He has shown us the way we should walk, keeping His unchanging laws which will allow us to have the curse broken off our lives and the land, so that His unmerited favour and blessing can be poured out upon us.

If we believe that it is indeed Africa's time, then we have to tear down the high places of ancestral worship and set aside the traditions of witchcraft which have kept us in bondage.

Then we can come and ascend the hill of the Lord with clean hands and pure hearts to worship Him alone, in Spirit and in truth.

8.2 You are the Temple of the Living God

David was a man after God's own heart and in the latter years of his reign, he purposed in his heart to build a temple for the Lord, which he called God's footstool, and to house the Ark of the Covenant. Although the Lord had given David the detailed plans for the temple, God said "you shall not build it, for you have been a man of war and have shed blood." So David commissioned his son Solomon to construct the temple and provided most of the materials to complete it before he died.

Solomon completed the work in seven years using only the best craftsmen and materials. The temple dimensions were 30m long, 10m wide and 15m high made up of an outer court, several storerooms, a holy place and the holy of holies. Two pillars 20m tall with large brass capitals marked the entrance to the holy place. Most of the doors, beams, posts and even walls of the temple were overlaid with 23 tons of gold with fine inlay decorations. Inside the holy of holies there were 2 giant cherubim, with 5m wings spanning over the Ark of the Covenant that were plated with gold. There were 10 gold lampstands, 10 gold tables and 100 gold ceremonial washing bowls besides all the many gold, silver and bronze utensils. There was a bronze altar which was 10m by 10m and 5m high for the many sacrifices. Also a bronze sea standing on the backs of 12 oxen holding 100,000 litres of water which was for the priests to wash and another 10 bronze baths for the washing of the animal sacrifices.

It was truly an awe inspiring temple where God was to be revered and worshipped. At Solomon's dedication of the temple, when the priests carried the Ark of the Covenant into the holy of holies, the temple was filled with such a strong presence of God's glory that the priests were unable to minister to the Lord. The temple was a symbol of God's dwelling place amongst His people.

2 Chronicles 7:12 "Then the Lord appeared to Solomon at night and said to him, "I have heard your prayer and have chosen this place for Myself as a house of sacrifice. If I shut up the heavens so that there is no rain, or if I command the locust to devour the land, or if I send pestilence among My people, and My people who are called by My name humble themselves and pray and seek My face and turn from their wicked ways, then I will hear from heaven, will forgive their sin and will heal their land. Now My eyes will be open and My ears attentive to the prayer offered in this place. For now I have chosen and consecrated this house that My name may be there forever, and My eyes and My heart will be there perpetually. But if you turn away and forsake My statutes and My commandments which I have set before you, and go and serve other gods and worship them, then I will uproot you from My land which I have given you, and this house which I have consecrated for My name I will cast out of My sight and I will make it a proverb and a byword among all peoples. As for this house, which was exalted, everyone who passes by it will be astonished and say, 'Why has the Lord done thus to this land and to this house?' And they will say, 'Because they forsook the Lord, the God of their fathers who brought them from the land of Egypt, and they adopted other gods and worshiped them and served them; therefore He has brought all this adversity on them.'"

Throughout the next 20 generations of Kings, the Israelites struggled to maintain a walk of purity before the Lord. They regularly strayed into the evil practises of idolatry

and wickedness of the nations that were driven out before them. Despite the relentless efforts of the prophets to call the people back to God, they continued in their wicked ways.

Eventually the Lord had had enough and used Nebuchadnezzar as His instrument to judge the people. The Babylonians laid siege on Jerusalem for 2 years until it fell into their hands. In 586BC they broke down the city walls and took the Israelites as exiles into Babylon. They smashed the bronze pillars, the carts, the altars and the bronze sea. They took all the temple pots, shovels, trimmers, spoons, firepans, basins and all the articles of silver and gold. The temple, which had stood for 373 years, was then burned and completely destroyed, with no stone being left unturned. All the extravagance, artistry and craftsmanship of Solomon's work came to absolute ruination because God's people had turned from His ways.

47 years later, Cyrus the Medo Persian conquered Babylon and soon thereafter sent the exiles back to Israel with express instructions and resources for them to rebuild the temple of the Lord God. The Israelites went back but... besides rebuilding the altar of sacrifice, they did nothing about rebuilding the temple. The temple lay in desolate ruins for a further 18 years.

God sent Haggai the prophet to rebuke Zerubbabel the governor, Joshua the priest and the people of Jerusalem saying:

Haggai 1:2-11 "Thus says the Lord of hosts, 'This people says, "The time has not come, even the time for the house of the Lord to be rebuilt."

"Is it time for you yourselves to dwell in your paneled houses while this house lies desolate? Now therefore, thus says the Lord of hosts, "**Consider your ways!**

You have sown much, but harvest little; you eat, but there is not enough to be satisfied; you drink, but there is not enough to become drunk; you put on clothing, but no one is warm enough; and he who earns, earns wages to put into a purse with holes."

Thus says the Lord of hosts, "**Consider your ways!**

Go up to the mountains, bring wood and rebuild the temple, that I may be pleased with it and be glorified," says the Lord. "You look for much, but behold, it comes to little; when you bring it home, I blow it away.

Why?" declares the Lord of hosts, "Because of My house which lies desolate, while each of you runs to his own house. Therefore, because of you the sky has withheld its dew and the earth has withheld its produce. I called for a drought on the land, on the mountains, on the grain, on the new wine, on the oil, on what the ground produces, on men, on cattle, and on all the labor of your hands."

God's people clearly showed no interest in obeying His early requests for His house to be restored. His temple was lying desolate while men were about their own selfish ways and ambitions, making for themselves extravagant dwellings and status symbols to show their independence, skills and abilities. This showed that their hearts were not after God. Therefore His righteous judgements were issued on all things that would cause man to prosper or further themselves, so that they would come back to Him.

You may be saying "**We don't have a temple lying in ruins**"....

Or do we?

John 2:19 "Jesus answered them, "Destroy this temple, and in three days I will raise it up." The Jews then said, "It took forty-six years to build this temple, and will You raise it up in three days?" But He was speaking of the temple of His body."

Jesus destroyed the functional role of the temple depicted by the tearing of the veil at his crucifixion and in 3 days was able to rebuild the new temple where the temple of God would be established in our hearts through Him.

John 4:21-23 The old has gone and the new has come. We are now able to worship God 'neither on this mountain nor in Jerusalem... but as true worshippers in Spirit and in truth'

1 Corinthians 3:16-17 "Do you not know that you are a temple of God and that the Spirit of God dwells in you? If any man destroys the temple of God, God will destroy him, for the temple of God is holy, and that is what you are."

2 Corinthians 6:16 "Or what agreement has the temple of God with idols? For we are the temple of the living God."

If we, as the children of God, are the temple of God as God has said, then the state of our temple is something to consider.

Is the temple of God in you life in ruination, once glorious and now defiled through not walking in God's ways?

Does it need repairs or possibly a complete rebuild?

We find ourselves in the same predicament as in Haggai's day. Africa's fruit clearly displays a severe measure of God's judgement for the poor state of His temple in us.

Daily the poor like the Israelites are crying out – Why?

Why oh Lord is Africa so poor?

Why do we not have enough grain?

Why do we never have enough to be satisfied?

Why do we never have enough rain?

Why should our children suffer?

Why do our clothes wear out?

Why do we labour in vain?

It just seems so unfair that we should live in this abject poverty!!!

Twice in the passage from Haggai, God says "consider your ways," to emphasise the point, that it is not His ways that are in error but ours.

Ezekiel 18:25 "Yet you say, 'The way of the Lord is not right.' Hear now, O house of Israel! Is My way not right? Is it not your ways that are not right?"

Godly counsel oftentimes is very harsh as when we are expecting His sympathy He raises other issues far deeper for us to deal with. When crying out 'this way is not right?' He replies **it is your ways that are not right.**

We need to consider our ways!!!

Considering our ways, is not just a spiritual consideration but also practical. God told the Israelites to rebuild the temple. It was a practical resolution of a spiritual issue. Our ways are the things which lead to us being under the curse.

Let's take a look at just a few examples of the curses we live under because our ways are not aligned to God's ways:

1) The Curse through Bloodshed and Violence

Genesis 4 gives the horrific tale of Cain murdering his own brother Abel. Cain and Abel had both brought an offering to God as an act of their worship. Cain brought an offering from his crops and Abel brought an offering from his flocks and herds. Many speculators will allude to the preference that God had for the animal sacrifice, however the sacrifice itself we know, from Isaiah 1, is not what God delights in. He wants us to be blameless, stop our evil ways, learn to do good, seek justice, correct oppression, care for widows and orphans and then we will eat the good of the land. Cain was clearly fulfilling a religious duty to bring the Lord his offering, whereas Abel brought the offering out of obedience and delight to Him. Man often looks at the outward appearance but God looks at the heart.

As a result of Cain's heart being far off, God rejected his offering and Cain became resentful and jealous towards his brother. The jealousy amongst us is so deeply hidden in our culture and this needs to be addressed. It stems from a sense of failure and results in people, even wilfully, preventing anyone else from succeeding.

God says to Cain 'Why are you so angry? Why has your countenance failed you?' God encouraged him - 'Do good, and your countenance will be lifted up, and if you do not do good, sin is waiting at the door. You must master the temptation to sin or else it will overtake you.'

The beginnings of sin are in the entertainment of temptation.

God's warning to Cain fell on deaf ears and soon his temptations yielded the first murder on earth.

The history books of the nations of Africa are filled with stories of bloody battles, massacres, tribal antagonism and a general disregard for the sanctity of human life.

In the Kenyan elections of December 2007, the guise of democracy and the dignity of one of Africa's most advanced countries was shattered by a light breeze. Over 1,000 people were killed and 300,000 displaced in the post election violence. [14]

Between the disputed Zimbabwean elections of March and June 2008, over 103 opposition party members were murdered, with countless medical accounts of amputations and 5,000 abductions. [15]

In South Africa, Xenophobic attacks in 2008 claimed the lives of 62 immigrants with 670 injured and tens of thousands left homeless. [16]

The Rwandan genocide in 1994 resulted in 800,000 Tutsis being killed by their fellow countrymen, the Hutus. [17]

Recently when I was in Benin, I was disgusted to hear of how a chief massacred a neighbouring tribe, collected the blood of his enemies and mixed it with soil to make the bricks for his palace instead of using water!!! [18]

Can you imagine how God is reviled with us?!!!

Why has your countenance failed you, oh Africa the Lord asks?

Isaiah 59: 3 “For your hands are defiled with blood and your fingers with iniquity.”

The voices of the blood of the innocent cry out to God from the land wherever He walks upon this continent. Abel’s blood, righteous, innocent blood is pouring out upon the land daily in so many countries it is horrifying.

The judgement was severe upon Cain. He was cursed from the same ground which held his sin’s terrible secret.

- His first curse was agricultural - that the ground would not yield its fruit or strength to him
- Secondly, he would be a fugitive and a vagabond on the earth.

The curse was and is still a law of God for the shedding of innocent blood.

The curse is hard labour with no fruitfulness; one who is an escapee and has a wayward wandering existence with no permanent place to live.

Africa is a continent living under this very same curse, where the land cries out to God continually for the atrocities done between brothers and against the innocent. The people struggle and usually fail to survive off the land and are in a continual state of migration, wandering from one country or town to another to find work and survive.

This is a very sensitive issue, as many will say ‘but they have not murdered or been a part of this violence against their brothers’. In 2 Samuel 21, King David had the same complaint that the nation of Israel was being cursed for the sins that King Saul had committed against the Gibeonites. This sin had been committed many years before and Saul was not even David’s father. Yet the earth cries out to God for the shedding of innocent blood. As a result of this crying, Israel had a famine in the land for three years and the Lord’s curse was clearly that the land would withhold its produce. Upon consultation with David, the Gibeonites asked for retribution and had seven of Saul’s sons hung in Gibeah. Once this redemption blood was paid, then vs. 14 says ‘the Lord was moved by entreaty for the land.’

Praise God that we are living under the new covenant where blood no longer needs to be shed for the redemption of the curse to take place.

Isaiah 59:16 “then His own arm brought salvation to Him and His righteousness upheld Him.”

Jesus became the last and perfect sacrifice for our sin in the past, present and future. He became the curse through His hanging, so that we could be set free from the curse. He paid the price which should’ve been paid for by the hanging of our seven

sons. However, Jesus still requires that we repent and ask for His 'innocent' blood to cleanse, heal and break the curse over our land.

Once we settle this issue, then the Lord establishes a treaty with the land that it will no longer withhold its produce and we can be free of the fugitive and vagabond stigma to dwell peacefully and contentedly with His blessing.

Jesus commissioned us to love one another as He has loved us. What a contrast to the disregard for the sanctity of human life we see around us.

Consider your ways!!!

2) The Curse of a Short Life

In Zambia, Zimbabwe, Malawi and Mozambique the average life expectancy is 37 years old!!! One finds very few of the older generation in African communities, where often the village elders are in their 30's. This is a curse not a state of poverty!!! Compare this to the average life expectancy in the developed world which is usually expected to be over 70 in the USA and 77 in the UK. [21]

According to a United Nations aids survey, South Africa has 5,5 million people living with aids, the highest number in any country in the world. Approximately 1,8 million people have died from aids since the onset of the epidemic. In 2006 Aids was estimated to kill slightly under 1,000 people per day in South Africa, with over 350,000 aids related deaths annually. 30% of women tested in antenatal classes were infected with aids in 2008, with the death rates of children dying from aids escalating yearly.

South Africa in contrast has the lowest levels of population undernourishment in Africa, which is the most accurate indicator of poverty, and also has one of the highest GDP's per capita in the continent. China has a similar GDP per capita as South Africa with only 0.05% Aids infection rate. This clearly exposes the myth that aids is poverty related. It is not. We have to consider our ways. The sexual promiscuity of the African population is the cause of the epidemics rapid spread with the resultant reduction in life expectancy. [28]

When men seek the counsel of the wise they come up with a myriad of solutions to the Aids epidemic, with vast resources spent on talk shops, conferences and advertising campaigns. The current solutions include anti-retroviral drugs, condoms and sex education.

1 Corinthians 3:20 "The Lord Knows the reasonings of the wise, that they are useless."

God's ways are far above our ways and He placed the laws in place to govern the behaviour of men so that they would live long and full lives.

Psalms 34:12 "Who is the man who desires life and loves length of days that he may see good? Depart from evil and do good."

God's way is so simple and pure. A man is to have one wife and they are to be faithful to one another as a demonstration of the way He is faithful in His love for us.

No conference or sex education required, simply considering the error of our ways, asking for forgiveness from them, repenting and walking in His way. If we implemented God's ways in this we would live in His blessing.

1 Thessalonians 4:3 "For this is the will of God, your sanctification; that is, that you abstain from sexual immorality;"

Sexual immorality includes adultery, incest, fornication, homosexuality and bestiality.

Romans 6:23 "For the wages of sin is death, but the free gift of God is eternal life in Christ Jesus our Lord."

When people are living to half their life spans, how can we expect to be able to grow in knowledge and understanding or to be able to have a healthy, productive agricultural workforce? At 37 one is just starting to lose your vigour and gain some wisdom. This is very significant for a learning culture to develop. If mentors and teachers who have been developed to transform the lives of the poor are ending up dead at 37, there is no way that the population can develop knowledge bases beyond what they were given. As a result, knowledge transfer stagnates and deteriorates. This is a very harsh reality amongst the poor farming communities where lives of young and old are remembered every weekend at burial sites. Sadly their ways still remain the same!!!

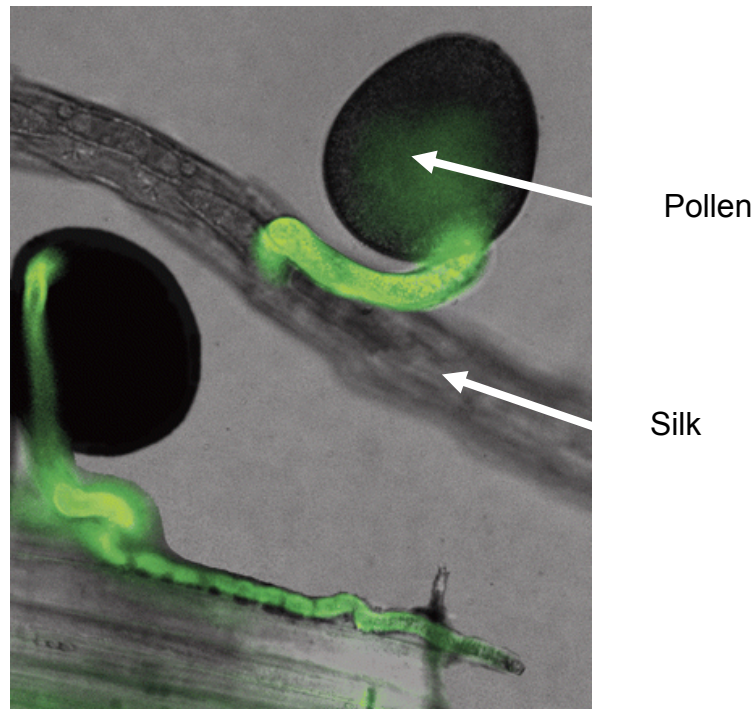
If our dream is to turn the continent around from the "Begging Bowl" to the "Bread Basket", we will have to consider our ways and repent so God can lead us to have a healthy, productive, well educated and long living population.

Consider your ways!!!

3) The Curse on What the Land Produces (poor yields)

In Haggai it is interesting to read that it is God who is the One to withhold the rain and the produce from the ground.

In a maize plant there is an interesting God created phenomenon. Every single ovule has an individual silk, the long golden brown coloured thread which comes through the top of the cob. During the pollination phase of the plant, a single pollen grain lands on the silk and grows down the silk until it comes into contact with the ovule where it fertilizes and forms a seed.



This picture clearly shows the landing of the pollen grain on the silk and the beginning of its growth towards the cob and ovule. [22]

The silks attached to the bottom rows of ovules emerge first and therefore get pollinated first and the maize cob will gradually fill going upwards until the topmost seeds are filled.



In this diagram you can clearly see the seed fill that has been completed in the bottom rows and the later fill in the top rows with silks still attached. [23]

However, if the Lord of the harvest calls for a drought on the land and what the ground produces, this process is drastically affected. The silks need to be moist in order for the ovules to be pollinated otherwise the pollen cannot grow through the silks tube. The drying off through insufficient available moisture during the reproductive stage of the crop results in significant crop losses. Even tall crops can suffer crop losses where the cobs fill to $\frac{1}{4}$, $\frac{1}{2}$ or $\frac{3}{4}$ of the way up the cob. The African

continental yield average for subsistence farmers growing maize is 350 kg/ha where the record international yield is over 25,000 kg/ha. These low yields are clearly a curse which results in the need for over 25 million tons of grain to be imported to African shores annually.

Farmers are under the curse that God has commanded as a judgement on the land and its produce and yet we, as the children of God, can overcome this curse simply by considering and practically changing our ways, working within the constraints that God has put on the land. Practically, by not ploughing and utilising God's Blanket coverage, the moisture conservation throughout the season stands Farming God's Way farmers in good stead to reap a great harvest and beat droughts when they come.

A great testimony of the ability of God's children to be fruitful even in the midst of God's judgement on the land was in 2004, during the worst drought in the Lower Shire area of Malawi in decades. Dixon Shuwali harvested 5 * 50 kg bags of maize whereas his brother and surrounding neighbours harvested zero. In 2009, the Lower Shire region of Malawi again had another drought with no rainfall during the growing season from end December through to harvest time, and Dixon still managed to harvest 30 bags whilst his neighbour harvested only 1,5 bags from the same land area.

The Solution: Restoring the Temple

In our efforts to find the godly solutions to difficult questions like the abject poverty around us, we begin by considering our ways for we are the temple of the living God.

The wonderful testimony of the story in Haggai is that Israel did eventually hearken to the Lord's request to restore the temple and completed it in 515BC and so can we.

1 Peter 2:5 "You yourselves like living stones are being built up as a spiritual house, to be a holy priesthood, to offer spiritual sacrifices acceptable to God through Jesus Christ."

We may not be able to change our nation but we can each change our own lives and influence the lives of our families and communities around us, which collectively can make a significant difference.

When we build into the temple, giving God His rightful place in our lives and considering our ways, we are supposed to be developing and progressing towards God's master plan that our lives would give Him glory in every way. As we consider our ways, ascend the hill of the Lord with clean hands and pure hearts, His life in and through us begins to bear fruit.

Haggai 2:18-19 "Do consider from this day onward, from the twenty-fourth day of the ninth month; from the day when the temple of the Lord was founded, consider: Is the seed still in the barn? Even including the vine, the fig tree, the pomegranate and the olive tree, it has not borne fruit. Yet from this day on I will bless you."

Even though the temple was still a work in progress God still blessed them with immediate relief and fruitfulness. God is not as much interested in our perfection as

our determination to 'walk in His ways.' God is looking for a people He can call His very own, people after His own heart, who love Him and walk with Him.

1 Thessalonians 2:12 "Walk in a manner worthy of the God who calls you into His own kingdom and glory."

We choose daily with the temple of our lives to give Him His rightful place of Lordship and honour, not like the temple of old which was used by the people only at feasts and times of sacrifices. This is an amazing privilege and something not to be taken for granted but to be even more sincerely appreciated.

2 Corinthians 6:16 "God said, "I will dwell in them and walk among them; and I will be their God and they shall be My people. Therefore come out from their midst and be separate," says the Lord. "and do not touch what is unclean; and I will welcome you, and I will be a Father to you, and you shall be sons and daughters to Me," says the Lord Almighty. Therefore, having these promises, beloved, let us cleanse ourselves from all defilement of flesh and spirit, perfecting holiness in the fear of God."

The temples of our lives are in ruins because we have been serving our own selfish ambitions and futile ways and not walking in God's ways. Let us as His sons and daughters be committed to rebuild the temple of God in our lives, by considering our ways and aligning them to God's ways, not just in Spirit, but in mind and body as well. The revelation of the fullness of His glorious church will come from each individual rebuilding the temple ruins and walking in the ways that Jesus has shown us. We need to be in faith for the latter glory of His house in us to be more glorious than the former, that He may be pleased with it and command His blessing.

8.3 Understanding God's All Sufficiency

Dependency

The dependency syndrome has been created over many years of handouts and expectations and yet the demand seems to increase yearly. There is absolutely no way that Africa will realize its potential, unless Africans do.

The continent has countless failures where affluent nations have, with all good intentions, given to the poor but in the long run it comes to no avail. The initial heart response is to give to improve people's lives which are in desperate situations. This is a truly noble intention, but it has complex out workings and in some cases has been shown to create more problems than benefits. More privileged people need to learn to give with discretion and wisdom to ensure that their gift does not become a curse.

Isaiah 58 reminds us that we should be fulfilling the true fast, to loosen, remove and break the yoke. One of the buckles of the yoke of poverty is the dependency syndrome.

How then do we loosen the buckle of dependency?

God's way says that it is more blessed to give than to receive, but how can we give when we have nothing?

We firstly need to know our source.

Who are you dependant on?

Man or God.

The poor have been conditioned to look to man for their provision. They see governments, white people, NGO's and self as their source.

Governments use the dependency syndrome all over the world by distributing food, seed and fertiliser to gain votes, often at times just prior to elections.

As a **white man** in Africa I am continually confronted with the dependency syndrome. People see the white skin as a source of money, fertiliser, seed, irrigation pumps, tractors etc.

NGO's, play a part in perpetuating the dependency syndrome by distributing relief and agricultural inputs to farmers. The poor become more and more dependant on the NGO's assistance as they become accustomed to the handouts.

There are documented cases of farmers who have eaten the seed that was given to them, instead of planting it. What a travesty.

I have also been told many times how farmers have sold the fertiliser handouts, instead of using it in their fields.

Others don't plant because they know that the NGO's come and check to see their yield potentials when doing their aid requirements. The better their crop the less aid they in turn receive.

These are all classic cases of mature dependency.

Large capital expenditure does not bring lasting change. People don't develop just because you throw money at them.

Self Sufficiency

Since the beginning of man's creation, he has always tried to be self sufficient, doing things his own way, relying on his own wisdom rather than following the Lord's wisdom. This has led to his downfall in so many ways.

Self sufficiency is rooted in humanism and has no place in the Kingdom of God. It is based on selfishness, saying that we can do all things using our own ability and insight. Man has no ability on his own. He is a limited resource and has a start and end point. Self sufficient, self made men are proud and arrogant.

James 4:6 "God is opposed to the proud, but gives grace to the humble."

Even if the wicked, selfish or proud are successful for a season, the next season they wither and are no more, but the humble will inherit the earth. The fruit of self sufficiency is pride.

The Solution: Knowing God's All Sufficiency

We as God's people are called to improve, not maintain; to develop, not sustain. God's ways are not to keep the status quo; it is not a part of His nature. He is progressive, creative and His kingdom is advancing all the time.

Genesis 1:27-31 "God created man in His own image, in the image of God He created him; male and female He created them. God blessed them; and God said to them, "Be fruitful and multiply, and fill the earth, and subdue it; and rule over the fish of the sea and over the birds of the sky and over every living thing that moves on the earth." Then God said, "Behold, I have given you every plant yielding seed that is on the surface of all the earth, and every tree which has fruit yielding seed; it shall be food for you; and to every beast of the earth and to every bird of the sky and to every thing that moves on the earth which has life, I have given every green plant for food"; and it was so. God saw all that He had made, and behold, it was very good. And there was evening and there was morning, the sixth day."

God gave man everything he needed to live a full and prosperous life. He also gave man authority over all of His creation to rule over it.

As we rule over the living creatures they should not only be protected from destruction, they should flourish under our faithful stewardship. Along with our farms the environment should prosper, not be sustained.

In Farming God's Way we do not advocate self sufficiency or sustainability, but rather embrace God's all sufficiency which leads us to make a profit. He is our source of everything and in Him we find increase.

God wants His children to be the light, to prosper and to be called blessed in the world in which we live.

God's all sufficiency leads to increase not decrease.

God wants us to be reliant on Him. His desire is that we would ask Him and He would answer and walk with us as a loving and faithful father would with a son. The fruit of God's all sufficiency is having more than enough, increase, profitability and progression. God's all sufficiency will lead us to prosper. God's all sufficiency is never ending with no limits to His reserves, as He has no limits.

2 Corinthians 9:8 "And God is able to make all grace abound to you, so that having all sufficiency in all things at all times, you may abound in every good work."

Breakthrough comes as we repent for depending on man, including ourselves, lay aside our pride, humble ourselves and acknowledge that He truly is the source of everything we need.

Knowing God's sufficiency shatters the dependency syndrome.

Knowing "His all sufficiency" shatters any dependency we may have on man or governments or aid organizations or financial institutions. All of these are merely temporal and will pass away, but God is eternal. Those depending on the provisions of men will be disappointed, but those resting in God's provision will never be disappointed. Those depending on man's provisions will live under their yoke. God's all sufficiency allows us to be free from any yoke.

2 Chronicles 14:11 "Then Asa called to the Lord his God and said, "Lord, there is no one besides You to help in the battle between the powerful and those who have no strength; so help us, O Lord our God, for we trust in You, and in Your name have come against this multitude. O Lord, You are our God; let not man prevail against You."

King Asa prayed this prayer when an army of a million men and 300 chariots from Ethiopia had come up against them. Shouldn't we carry this same full persuasion and trust in God's name and supernatural power to be sufficient for our battle against poverty?

Farming God's Way has no dependency outside of God. Our provision is completely founded upon Him and His word. He is the precious cornerstone of our lives and everything gets its alignment, levels and square from this precious cornerstone, Jesus our Lord.

What do you have in your hand?

God's all sufficiency is not limited to supernatural interventions. He has provided everything we need to prosper and has a solution to every crisis. All we need to do is open our eyes to see what is available to us.

1) God's All Sufficiency in YOU

Deuteronomy 8:18 "You shall remember the Lord your God, for it is He who gives you power to make wealth."

One of the greatest limitations in turning to Farming God's Way is actually the mind of man. It sets the boundaries of progress and opportunity. I have found that if you ask

a farming community – “Who of you are farmers?” Maybe 10% will raise their hands. The poor have such a low self image and are really embarrassed to be farmers. They feel if they could only move to town it would mean they would actually move up in the world which is in fact quite the opposite.

Self image is not something that is determined by our work, income or societal status, but rather something that emanates from deep within. A good self image comes from being secure in sonship with the Father God, having a real relationship with Jesus and a life lead by the Holy Spirit. This is the starting point of knowing all sufficiency. It is founded in Him. When we know how amazing, wise, wealthy and powerful our God is and we know He is on our side, it sets us up to succeed.

Farmers need to have their minds renewed, to believe that they can actually succeed. They need to be taught the spiritual, management and technical aspects of Farming God's Way, and God is the one who brings the rain and the increase. The land is given to us to steward and be faithful custodians of so that it can be passed down as a prosperous living inheritance to future generations. We have to believe that God has indeed given US the ability to create wealth.

2) God's All Sufficiency with Agriculture

The outlook we have of the agricultural domain is an important area to address in understanding God's all sufficiency.

Many people have a disregard for the value of the agricultural sector and many of the poor have already given up on the land's ability to provide and left their lands to run to the lights of cities and the mines.

All nations' economies are founded on an agricultural platform. It is one of those age old foundations in establishing and sustaining nations through growth and development and tough times.

It is very clear that God's first instruction to man was agricultural by definition and it remains this way today.

Gen 2:15 Then the Lord God took the man and put him into the Garden of Eden to cultivate it and keep it.

If a nation is well founded agriculturally, it sets the platform for all other industries to be built upon. If a nation can't feed itself it cannot support any other economic sectors or industries. This is not a fact simply because of the need for food, but it also originates from God's plan and ordering of man's steps.

A good example of the value of the agricultural sector is the collapse of the Zimbabwean economy. In 2002, when the enforced and often violent land redistribution took place in Zimbabwe, it was the beginning of the end of their agricultural platform. 6,000 commercial farmers, who were the backbone of the agricultural sector, were displaced during this time. The currency went from Zimbabwe \$42 in 2002 to literally trillions by the end of 2008, with a loaf of bread costing 12 trillion Z\$, and the currency halving everyday. If the agricultural sector collapses, the whole house will collapse with it.

By contrast, Joseph in Malawi was down and out. He traditionally harvested 7 bags of maize from his field, but in his first year of doing Farming God's Way he increased

his yield to 70 bags. That is a ten fold yield increase in just his first year. At the same time he got his life in order with God, got married to the woman he was living with and was soon thereafter able to buy his own land and build his own house. What a blessing from God's all sufficiency.

The fruit of God's all sufficiency is restoration, redemption, increase and His glory is revealed.

3) God's All Sufficiency with the Land

The land has been given to us by God to steward, cultivate and to care for. It doesn't belong to us, it is His.

1 Corinthians 10:26 "The earth is the Lord's and all it contains".

Leviticus 25:23 "The land, moreover, shall not be sold permanently, for the land is Mine; for you are but aliens and sojourners with Me."

We are merely passing through and temporal so even our title deeds were not a part of God's plan for His people. Land is such an important thing to man and as a result it has become the root of much violence, wars, political manipulation and family feuds. We should simply look at land as God's land and adopt an outlook of stewardship rather than ownership. This way we are working 'as unto the Lord' and 'working and caring for His garden'. He is the owner who will ultimately come back and assess our workmanship and stewardship of what belongs to Him.

An African parable

There was a very wealthy man who lived in the rural areas. He had cattle, goats, chickens and vast tracts of cropped lands. Although he had started with little, he had been a very faithful and successful man and his children were then able to go to good schools and even attend university. Many people lived off of his wealth and he was very generous in helping widows and orphans in the village. When he was old, he became very sick and called for his family to come to his bedside so that he could bless them. He blessed each one and then told them about their inheritance, which they were all eager to hear about.

After he completed each one's blessing, he began by saying that "your inheritance lies hidden in the field..." and before he could finish, he died.

They were all waiting with eager breath to hear exactly where in the field but it was not forthcoming. So, after the burial and period of mourning was over the siblings got together to discuss the strategy of finding their hidden inheritance. They concluded that their inheritance must be hidden very close to the house as their father was old and would not have ventured very far away. So the first day they spent digging in their chosen spots close to the house but it was to no avail. The second day they got up early, decided it was pointless trying to dig randomly like they had done and began digging from one side of the field to the other to a depth of 20cm. They all worked extremely hard but found nothing. The next day they decided that due to their father being a wise man, he would not have buried their inheritance too shallow due to the risk of someone stumbling across it, so they decided to dig to 60cm deep throughout the field. They began on one side and ended up taking two days to complete the whole field without finding anything.

They were desperately discouraged and slumped down together over the evening meal. After a long silence, they looked up at their mother and she said, "Your father had meant that your inheritance was hidden in the field and in order to discover its treasure you would have to work it."

This is Africa's parable – we need to appreciate our lands and employ wisdom to unlock its potential as a living inheritance.

There are no hidden treasure boxes or get rich quick schemes that work. There is no replacement for hard work and in agriculture that truly means hard work. We need to be fully persuaded that our inheritance lies in the soil and by working it we will discover the hidden inheritance God has in the field for us. This full persuasion will lead us to work as unto the Lord knowing full well that our land is a part of God's all sufficiency.

4) God's All Sufficiency with Seed

In the beginning God created everything in its place according to its kind. God is a God of increase, reproduction and multiplication.

Genesis 1:11-13 "Then God said, "Let the earth sprout vegetation, plants yielding seed, and fruit trees on the earth bearing fruit after their kind with seed in them"; and it was so. There was evening and there was morning, a third day."

When God created vegetation He created it to be able to reproduce of its own kind.

Man in his wisdom has created seed called hybrid seed, where through a process of crossing over two cultivars, the hybrid is able to cause a significant boost in crop yield. This boost is due to the best of both gene pools stimulating growth and is termed hybrid vigour. However this benefit is limited by one major issue, the seed is unviable and a poor performer if replanted.

Man's creations typically seem to display this attribute where they are suitable for an immediate benefit and not for reproducing of themselves. Man can produce seed types which produce food but not seed. He produces for now and has little consideration for the next generation.

God made plants yielding seed after their own kind and trees bearing fruit with seed in them after their own kind. These seed types are called open pollinated varieties (OPV) and can be replanted for many years in succession.

God's all sufficiency is available in pure seed

Seed companies produce hybrid seed not because they are able to produce better but because farmers will have to buy seed from them every year. They know that if they convince farmers that hybrid seed is better than open pollinated varieties then they will secure a much bigger and consistent seed sales base. The reality about hybrid seed is that it produces exceptionally well, i.e. up to 25% better yields than OPV's. However this is only in optimal growing conditions, which are very uncommon in most of Africa's farmer's fields. The growing conditions should have maximum nutrient availability, good soil ph levels, well managed moisture status and farm

management done to very high standards. This is not the case in most of the African continent and so seed companies are selling hybrid seed which is unsuitable for the majority of farmers that use them. This is a part of the yoke that is over the continent where the greed of man will even abuse the poorest of the poor. Farmers once making the transition to hybrids are forced to buy seed every year from the hybrid seed bank, paying up to twice the amount for hybrid seed compared to OPV's.

God's way is that farmers would be able to keep back the best of their selected harvest to be able to plant next season. Usually a hectare would require a 25 kg bag to be retained for the following season. This OPV seed will be able to be replanted according to God's sovereign plan and the laws of His creation, where seed will be able to produce after its own kind. This will liberate farmers to be free to plant when they need to according to rainfall pattern of that season.

God desires for us to be free of all dependency whether brought about from seed companies, governments, NGO's or any other source. He wants us to be free indeed, no longer subject to the yoke of slavery but instead liberated to walk in His all sufficiency.

5) God's All Sufficiency with God's Blanket

God's Blanket is such an amazing provision that allows for so many wonderful benefits which are covered in other sessions. Unfortunately this gift from God is so often rejected through burning or being ploughed in.

6) God's All Sufficiency with Inputs: Manure, Anthill soil, Compost, Fertiliser

In order to reap a good harvest there has to be a determination to sow of ones own available inputs.

What happens when there is nothing to sow you may be asking?

God's word is applicable in all areas of His Kingdom. Therefore it must be applicable here too. Discovering and being fully persuaded of His all sufficiency is pertinent to being able to apply the sowing principle.

Often people look to governments, local leaders, churches and NGO's for their inputs of fertiliser, but God has already provided His all sufficiency for them.

The inputs available for this portion of the sowing are manure, good quality compost, anthill soil and even worm castings.

Manure often stands up to a meter high in animal night camps where it has been piling up for many years. This is a readily available input resource which is very effective and yields great results. If animals are left to roam freely, the manure is impossible to collect, but by night camping them, it allows for the manure to come to one collection point.

Yield results in Harare in April 2008, with the same amount of God's Blanket present, showed that the manure trial yield's equalled those compared to applying high fertilisation rates. This seems astonishing considering the yield potential of fertiliser, but is explained due to the poor rainfall in late season. The manure has a very high organic matter content and after 4 years of this benefit to the trial site, the water

holding capacity of the soil has been significantly improved. Fertiliser is a salt, and therefore has a negative effect on the soils moisture holding capacity, and after 4 years this would have had a significant negative affect. So in a dry weather spell at a crucial period for growth i.e. at tassling, the soil which has higher moisture holding capacity will allow for the crop to have sufficient moisture and high drought tolerance.

Compost is another excellent form of God's all sufficiency, consisting of materials that are readily available to all farmers. Compost is an exceptional alternative to fertiliser, which builds up not only the organic nutrient levels in the soil, but helps to restore the natural biotic balances which occur in the soil profile.

God's Word is true, He has made a way for the poor, even those who cannot afford fertiliser and do not have livestock, to make the best quality soil supplement through utilising compost as a superior substitute for fertiliser. By putting good quality compost back into the soil they can have equal or better profitability in the long term, as compared to fertiliser usage. See later session for more information on making compost.

Anthill soil is another incredible part of understanding God's all sufficiency. Jesus said that not one sparrow falls to the ground without the Father knowing about it. The heart that God shows for the weakest in this world is astounding and in human form there is no weaker than the widows, orphans and elderly. Many of them do not have any form of inputs or wealth and yet God in His wisdom and compassion makes a way for them to know His all sufficiency as well.

Solomon taught us saying "go to the ant you sluggard, consider her ways and become wise." Proverbs 6:6

I always thought that Solomon was referring to the activity, government and order of the ants, but take a moment to consider that many ants are collecting God's Blanket for a living. They bring it into their burrows, and create an ideal cool, moist environment for bacteria and fungi to flourish. They feed them God's Blanket and then eat the fungi. This anthill soil is more fertile than the surrounding soil because it contains numerous beneficial fungal spores; has a higher soil nutrient base than surrounding soil i.e. up to 25 % more fertility; as well as a higher clay and organic matter content which would allow it to hold more moisture. All of these beneficial factors combined result in significantly increased yields.

The benefit to utilising anthill soil can be seen in fields where the plants grown on the slopes of the anthills far surpass their competitors. Simply by breaking down anthill mounds and applying the soil into the planting stations can be a ready solution for the poorest of the poor.



We have testimony from widows who have adopted this all sufficiency value with amazing crop yields as a result of working faithfully with what is in their hand.

There are other solutions to the nutrient sowing requirements such as using worm castings, where farmers make good quality compost and feed this to their worms in controlled environments and the worms in turn produce their alternative to fertiliser. Some commercial farmers are growing crops solely on worm castings, due to the excellent nutritional and biological value they add to the soil.

A benefit of this type of input is that it only needs to be applied in a fraction 1/3 of the volume of the others. However caring for the worms requires high management with a very controlled environment, so if this is not available to the poor then they themselves should not be encouraged to use this type of input.

7) God's All Sufficiency in Tools

Exodus 3,4 is the passage of God's commissioning of Moses at the burning bush. In Exodus 4:2 God asks Moses the question "What is that in your hand?" Moses replied "a staff."

Moses was then instructed to "throw it down". This is a crucial element in the breaking of the yoke. There needs to be a casting down of all the things we thought were the correct methods passed down from generation to generation. If we hold on to the old staff or methodology we will continue in the same abject poverty our fathers have walked in. A change from the oppression will require a confidence in Farming God's Way sufficient to cause us to throw down what we have practised before. The staff becomes a snake supernaturally and when Moses was instructed to pick it up again it became a staff once again, but not just a staff, a supernaturally powerful staff for delivering the captives.

God in His wisdom always uses the principles that keep with His own word. What do we have in our hand, as the instrument to break poverty and the food crisis in this continent?

The answer is "A hoe."

Throwing down our hoe's, represents a whole hearted persuasion in God's ways. Our hoes get transformed into implements with a supernatural edge and result in His supernatural blessing as we execute Farming God's Way according to His standards.

So what is different? No longer is a hoe used for ploughing but merely for an incorporation of inputs and good seed to soil contact through minimal soil disturbance.



So often, farmers are looking to get loans, grants or handouts from governments or NGO's for tractors and other heavy duty equipment. Countless cases of handout tractors lying around in rural areas on blocks are testimony to the fact that the farmers are unable to maintain and keep this expensive machinery in operation. What they need to realise is that they have all they need to prosper right within their hand already. Faithfulness with the hoe, may lead to the expansion of farming operations so that a large scale implement may become more viable, but this is not the starting point. We need to exercise faithfulness with the first talent, the hoe in this example, in order to have the breakthrough.

Brian Oldreive farmed up to 650 ha with hand hoes very successfully.

8) God's All Sufficiency in Rain and Increase

In His provision of rain God blesses His children and with it He brings seeds to life and increases the harvest. This is also a measure of His all sufficiency. Many farmers are crying because of poor rainfall patterns, drought incidence and even heavy intensity rainfall. However, they are the very ones rejecting God's gift of rainfall with runoff being as high as 90% due to ploughing and the destruction of God's Blanket. The faithfulness with the first talent is ensuring that the soil is in a condition that will allow for deep penetration of moisture and minimal runoff, whilst retaining that moisture by reducing evaporative losses. This is achieved simply by doing what we see God do in creation – minimal soil disturbance and heavy mulch covers. The best water retention scheme is not a dam or soil pit but the soil itself.

Farmers looking at irrigation systems as the ultimate solution should start with what God has put in their hands, knowing that these systems can come out of profitable working farms where faithfulness has led to sustainable increase over several years.

We have seen countless times that as farmers turn to God, He supernaturally turns to them and blesses them far more abundantly than the science of the benefits allow for. The yield increases are stemming from His undertaking as people are honouring Him by turning fully to His ways.

Look to God as your provider knowing that He has given you all sufficiency to prosper in every way.

Conclusion

A farm is a viable business with wonderful benefits in being able to provide food and housing, a beautiful outdoor working environment, a safe and usually healthy place to raise children and also a wonderful business inheritance to pass from one generation to another. This Godly all sufficiency has been instituted with a blessing to become the all sufficiency for the next generation.

It is a kingdom based principle of working faithfully with what God has put in your hand whilst trusting for His supernatural intervention.

8.4 What You Sow You Will Reap

From begging bowl to bread basket

Africa is known as the begging bowl of the world and I believe that God desires to turn that around so that the begging bowl can be transformed into a bread basket.

Once we understand that God is our source and that His all sufficiency is truly available to us, we can look at giving our way out of dependency and into His promise.

As believers we have been mandated in the Word to give to the poor, but we need to use wisdom in our giving and not perpetuate the dependency syndrome. There is a time to give and a time to withhold material giving.

Many communities are living in areas that have no opportunities for any development at all. These people have settled for less simply because of the availability of free food and have never left. They have become comfortable in the security of knowing that their provider will be there when they are in need again. In a small township in Port Elizabeth there are 11 soup kitchens running and the poor move from one soup kitchen to the next, never even attempting to get work. If we continue to perpetuate dependency on man, we encourage the poor to look to the wrong source of provision, man and not God.

2 Thessalonians 3:10 "if a man will not work then neither should he eat."

Strong words indeed but they are there for good reason. In communities such as the above, there is an indescribable amount of evil practise, where all values and morals have fallen in the idleness of their ways. Work is not a curse it is a blessing. Most of these poor people have land in the rural areas which is lying idle.

Farming God's Way is the sowing of knowledge and understanding and we are not locking the poor into the dependency syndrome.

God is the source of all things good, and when we turn wholeheartedly to Him, He turns to us with His lavish blessings. If we assume, that man has the answers to the poverty crisis, we are horribly mistaken as man is the very cause of the problem.

God's way is that people should develop according to His principles, where He rewards based on sowing and reaping, on stewardship and being faithful with what you have been entrusted with.

The Solution: We Need to Give in Order to Receive

Acts 20:35 says "it is more blessed to give than to receive"

When we give, His irrevocable laws come into play once again and he will cause even greater measure to be given back to us.

God's solution is well balanced and produces life giving results. His laws are true and will remain forever. If we give then we will be blessed and it will be given back to us in good measure. The transition from a receiving to a giving mentality has far reaching effects, even extending into the reaching of the nations with the good news of the gospel of Jesus Christ.

Luke 6:38 "Give, and it will be given to you. Good measure, pressed down, shaken together, running over, will be put into your lap. For with the measure you use it will be measured back to you."

What a beautiful upside down kingdom we belong to. God in His wisdom has established an irrevocable law that we need to give and then we will receive far more extravagantly back from Him.

In many cases this has been solely used as a scripture to promote the giving of tithes and offerings, but it was actually referring to all areas of life.

If one looks at God's outlook on our work or labour, His word says "Whoever works his land will have plenty of bread, but he who follows worthless pursuits will have plenty of poverty." Proverbs 28:19. This is a matter of principle; if we do not work then we will be poor.

In farming there is no greater example of this principle where we continually need to be giving and sowing in order to reap a harvest. We need to sow our seed, fertiliser and other inputs, labour, time, management and capital if we are to receive a harvest. Often farmers are at great risk due to the fact that they have to give so much, with so many unforeseen variables continually at play. Yet this in no way should limit the giving or sowing farmers do, but rather encourage them to have more faith in God.

God's ways are truly amazing!!! Take a maize seed, sow it at the right time, give it the right growing environment and it will in all probability reproduce of itself more than 600 times. Farming God's Way records show that 25 kg's of seed planted on a hectare can yield 13,900 kg dryland, which is a 556 times increase. This is truly running over and poured into your lap.

Sowing and the dependency syndrome are at constant war in the minds of farmers and the current systems actually discourage farmers from sowing. There must be a full persuasion to sow the best they can, utilising the talents available to them, knowing that God has made a way for them to succeed.

The greatest testimony of sowing must surely be of a 70 year old woman by the name of Fanny from a village in Malawi. She heard the training session and decided to go all out to plant to Farming God's Way standards. She had heard that if you don't have money for fertiliser, then use manure. She was too poor for either of the above. She knew she had to sow something in order to get something back. What could she do? We had taught about the value of nutrients in the anthill soil and that if one was really desperate one could take that anthill soil and place it in the bottom of the holes in the same way as using manure. She swallowed her pride and decided to give it a try.



Leading by example at the Well Watered Garden in Tomali.

Fanny collected the anthill soil nearby to her small farmland and planted using the Farming God's Way techniques using anthill soil as her input. She had a very good yield indeed, whilst everyone around her had a complete crop failure. God's laws are irrevocable; if we do not sow we will not reap. He doesn't mind what you sow, even if it be anthill soil. As long as you apply the principle you will be blessed.

We can't keep on taking and not giving something back. The Bible says we will reap what we sow. Zero times zero equals zero, zero times 100 equals zero, zero inputs in 22,222 holes equals zero. If you give nothing to even good potential soil you get nothing in return.

1) Sow Bountifully

How much we give or sow is also an interesting point of discussion.

Corinthians 9:6 "Now this I say, he who sows sparingly will also reap sparingly, and he who sows bountifully will also reap bountifully."

Bountiful is synonymous with generous or lavish and in this context speaks of a reverential giving out of a desire to give back to God.

If for example you have manure as your input, don't halve the recommended quantity in order to use it over double the area. Your effort will be twice the amount, as the majority of time and labour is spent in hole preparation and weeding, and your yield on the other hand, instead of reaching the 5 ton/hectare mark, will stagger at 2 ton/hectare due to the lower nutrient levels. So you could end up with a 4 ton yield for your 2 hectares, and have wasted twice the amount of time and labour.

Rather apply the Farming God's Way standards of 350 ml per hole over 1 hectare and get a 5 ton/hectare yield. It is far better to do a smaller portion of land to the recommended standards of excellence rather than a large portion to a low standard. Be faithful with what you have in the first year after which you can plan better for next year to have enough manure to do 2 hectares.

Recently a young excited missionary couple decided to implement Farming God's Way, but they didn't have enough manure to use over the whole land. They were advised by the community to simply mix soil with the manure, hereby making it go further, resulting in diluted input amounts. Needless to say they were very disappointed with the results.

Remember, if you sow sparingly you will reap sparingly!!!
Your inputs should determine the land area you prepare.

It is far better to farm a small area to a high standard than to do a large area to a low standard.

2) Sow Knowledgeably

I have found that in most of Africa it is not a case of idleness or apathy that is causing the dire poverty levels, it is often a lack of knowledge.

Hoseah 4:6 "My people perish for a lack of knowledge"

We need to sow knowledgeably or else we can sow as bountifully as we like and not break the yoke of poverty. God has shown us how we should follow through with His methods of transforming our hearts first, then renewing our minds and then redeeming our lands. We must simply humble ourselves and repent from our former ways, come and learn from Him and obey. Hard work and inputs are not a recipe for success on their own. We must also sow the wisdom which comes from above.

Many farmers say they don't use any form of fertilisation as they believe their soils are fertile enough. However, when yield assessments are done, they reveal that the yields per hectare are shockingly low while declining yearly and the farmers have been deceived into believing this lie. This failing comes from a lack of knowledge, believing the lie that their soils are fertile enough without having to sow anything into it.

You cannot take, take, take without giving something back. If we do not sow neither will we reap, we need to give in order to receive. All that happens is that the soil gets less and less fertile as those necessary nutrients for plant growth are removed from the soil by each crop. Soil does not have an unlimited reserve of nutrients, once it has been used up – that's it.

3) Sow Faithfully

If we are faithful, albeit with little, God promises to add to us.

In Matthew 25:14-30 Jesus portrays the parable that he sometimes gives in different quantities to various individuals. In this case He gave 5 talents to one servant, 2 to another and 1 to another, each according to his ability. God looks at us and gives according to our ability as he doesn't want us to fail and squander the talents He gives.

The servant who had 5, went out traded and made five more and when the Lord came He praised him saying "well done good and faithful servant, you were faithful with little, so I will put you in charge of much, enter into the joy of the Lord."

The servant, who had 2, did the same and traded his two talents making 2 more, and God praised him in the same way.

However, the servant who only received one talent, hid it under his bed and when the Lord came to him he was angry and said "you wicked and lazy servant, you could at least have given your talent to the bank where you would've received interest, be cast out into eternal darkness". He then took the one talent and gave it to the one who had five.

God detests unfaithfulness and laziness and those who are unfaithful with His provision, it will be taken away from them. It is no excuse to say that the one received more than the other, as God has given the talents according to a man's ability, and it is therefore God who decides the amount that each one receives. The parable is not here to teach that the more you get the more you will be faithful with, rather that God firstly gives more of His all sufficiency to faithful men and then calls to account each one, irrespective of the amount of His initial giving, expecting a good return on His investment. We need to know that God expects of us faithful stewardship of His all sufficiency, and if we do, we will receive praise, be put in charge of much and 'enter into His joy'. If we are unfaithful and lazy, he will judge us harshly and we will be cast into eternal darkness.

The key is to be faithful stewards of whatever God's all sufficiency measure may be.

Luke 16:10 "He who is faithful in a very little thing is faithful also in much;"

An example of being unfaithful with the land is shown in levels of soil erosion. We have not been caring for the garden as instructed to do so by God. The current rates of erosion are estimated at 55 tons per hectare per annum in Africa. This seems alarmingly high, however many respected soil scientists say that this figure is under-estimated and in some countries it is as high as 250 tons per hectare per annum. Considering that a hectare is 10,000m², this means that it is probably between 2-4 mm of soil lost through sheet erosion per year. Once these erosion processes are severe it leads to huge gullies up to 20m deep in places.

When we consider that in normal African climatic conditions soil forming processes are forming 0.6 mm of soil per year it doesn't require a strong mathematician to recognise that farms are on there way out – to the ocean. Our rivers are so muddied with silt from our catchments and this sediment ends up in the ocean where it destroys natural coral reefs and estuarine habitat. This is no way to "carefully watch over the garden" and is clearly depicting unfaithful stewardship with what God has entrusted us with.

When we turn to doing Farming God's Way a dramatic decline in rates of erosion is seen from 55 tons per hectare per annum, to less than 1 ton per hectare. This clearly demonstrates a shift to faithful stewardship of the land and soil, which is one of the first measures of His all sufficiency given to us.

When a people are capable of stewarding "the garden" faithfully and successfully, they can manage other responsibilities with ease.

Where the land is abused and the agricultural sector is in disarray you won't find a thriving secondary or tertiary industry. Faithful stewardship of the land equips men to be able to develop progressively in a manageable way which allows them to improve their standards of living and social infrastructure. Skills learnt through faithfulness in the garden are essential for the building into all other societal sectors.

4) Sow with Joy

The attitude with which we give is also crucial.

2 Corinthians 9:7 "Each one must do just as he has purposed in his heart, not grudgingly or under compulsion, for God loves a cheerful giver."

Our attitude towards our work is also a component of what we sow. If we sow begrudgingly, we will also reap begrudgingly. In contrast to this if we sow with joy, we will also reap with joy. God delights in our sowing with joy.

No beggar receives a gift with real joy just in case their smile tells their next customer that they are doing well and they lose out. There is no joy in the labour of their hands.

Nehemiah 8:10b "For the joy of the Lord is your strength."

Our joy is firstly founded in the Lord, but that same joy should move through every part of our lives and into the work of our hands. It is interesting to note how much of our joy is directly connected to the other areas of our management. See later sessions on management.

If we sow God's all sufficiency, as unto the Lord, we will reap in joy. This joy comes from a contentment and deep satisfaction in the things of God and following through with this relationship into all areas of our lives.

It is possible to have the joy of the Lord and not joy in the farmland if we have not let the Lord be Lord in this area of our lives. If He is given a place of Lordship on the farmland, we will want to glorify Him in all that we do there. We will sow bountifully and with joy and in turn reap a bountiful and joyful harvest.

As you turn wholeheartedly to Him He will turn and bless you according to His Word and promise. Let us purpose in our hearts to sow bountifully and with joy as unto the Lord.

8.5 *Bring the Tithes and Offerings to God*

God is sovereign and He governs everything He created. Job 38-41 gives such a humbling account of God's ability, resourcefulness and wealth.

Psalm 97:1-6 depicts an awe inspiring vision of God's power. Again mankind is put into God's perspective where in Psalm 8:4 David exclaims 'what is man that you are mindful of him, the son of man that you care for him.'

Even with all of His divine power, deeds and sovereignty God still loves and cares for man. He delights to know that men would of their own free will choose His ways over the sinful ways of His adversary. He longs for men to walk with Him in the garden as it was in the beginning with Adam in a sincere heartfelt relationship.

Considering God's character, power and resources, how can it be possible to steal from Him? According to the scriptures in Malachi 3 it is possible to rob God through our tithes and offerings. This scripture was written in an agricultural society and the hearts of the people in their giving back to God has significant agricultural consequences.

Malachi 3:7-12 "From the days of your fathers you have turned aside from My statutes and have not kept them. Return to Me, and I will return to you," says the Lord of hosts. "But you say, 'How shall we return?'

"Will a man rob God? Yet you are robbing Me! But you say, 'How have we robbed You?' In tithes and offerings.

You are cursed with a curse, for you are robbing Me, the whole nation of you! Bring the whole tithe into the storehouse, so that there may be food in My house, and test Me now in this," says the Lord of hosts, "if I will not open for you the windows of heaven and pour out for you a blessing until it overflows.

Then I will rebuke the devourer for you, so that it will not destroy the fruits of the ground; nor will your vine in the field cast its grapes," says the Lord of hosts.

"All the nations will call you blessed, for you shall be a delightful land," says the Lord of hosts."

The tithe, although implemented by giving to the church or wherever ones leading is to give, is actually a giving back to God. God really doesn't need our increase or wealth, but it shows Him where our hearts lie as we acknowledge Him first in our giving.

Interestingly, God says "return to me and I will return to you."

We clearly need to return to Him wholeheartedly. He measures this 'returning' by our giving back to Him of our tithes and offerings.

Matthew 6:21 "for where your treasure is, there your heart will be also."

Giving of our treasure to Him, demonstrates our hearts toward Him and our faith in His provision. He is less interested in the amount or percentage, than in our heart attitude in giving back to Him. After all, He is the source of all things that are good in our lives and is the owner of it all anyway. He has provided everything we have and own and we are simply stewarding His resources. This mindset helps to give to God freely, without any percentage calculation required.

The African church in general is extremely poor, where pastors cannot feed their families let alone care for widows and orphans out of the storehouse. They have buildings in a shocking condition, and have no resource to be able to allow for the establishment and expansion of the Kingdom of God. The church is not a reflection of the glory of God at all in this area, and needs to be transformed in order to realise its God given potential and in turn to transform nations.

This can happen through Farming God's Way.

Consider the millions of farmers, who have been coming to church for years. In every service they hear their pastor verbally beating up fellow sheep about the bringing in of the tithes and offerings. Individual farmers, walk away feeling guilty, knowing they have not fulfilled this instruction and also knowing full well that if they did, they would not be able to feed their families.

God's expectation to give back to him is an indicator of our hearts toward him, but He is not beating up the sheep about this. He speaks of a judgement on the shepherds for this. If the shepherds would take up their God given mandate to lead and guide their sheep to green pastures and clean drinking water, all the while protecting and discipling them in the way they should walk before God, they would all know and cherish God first. Shepherds would gain naturally from the increase as the storehouse becomes more and more blessed. From the increase of the community harvests, they would then willingly sow into the storehouse.

The widow giving to Elijah is often used as an example depicting God's providence in tough times and we need to give back to Him even in these times. However this was truly a desperate time and God needed to provide for Elijah supernaturally. In everyday circumstances God's laws are what govern and these laws clearly say when we give back to God **of our increase** we walk in His unmerited favour. He delights in our increased harvest as much as we do, but He wants to be honoured as the source of that increase. Giving out of our lack is not a normal Godly request, although it can be a request of His.

Imagine if the church in Africa would take up the teaching of the gospel of the kingdom, wholeheartedly implementing and teaching Farming God's Way in agricultural communities. Shepherds would hereby be leading God's people to redeem their lands from the desperately low crop yield averages, of 350 kilograms per hectare, to 3,500 kilograms per hectare, through sincerity, compassion and discipleship. This is a ten fold yield increase which has been achieved many times. Up to a recorded 20 fold increase has also been achieved.

Dixon Shuwali was a poor village farmer from Mapelera in Malawi. His father was a subsistence farmer and historically got an average yield of 3 bags from the acre he farmed. Dixon adopted Farming God's Way and in his first season got 5 bags, but this in a terrible drought where neighbouring farmers had total crop failures. In his second year he achieved a yield of 45 bags. In His third year he achieved 54 bags and in his fourth harvest, 69 bags.

Twenty fold yield increase

This example, multiplied several times through a congregation, would allow for a significant yield improvement for the whole community. It would also significantly

increase the amount of grain given to God at the storehouse so that it could truly be filled with food. This would allow for the care of the shepherd, widows, orphans and elderly, as well as building maintenance and improvements. Once this increase becomes substantial, the church can then start to become the community changer it was meant to be, by resourcing educators to start Christian schools in the already existing church building and even for the resourcing of health care workers. It is at this point that the kingdom of God really starts to advance, all starting with the increase and heartfelt giving back to God.

To see this transformation of the church with its current dependency on Westerners and outside international support would be the most powerful witness for those living in darkness to know that God's ways lead to life and life more abundantly. This is the fulfilment of Christ's promise – 'life and life more abundantly.'

Whether we give the widows 'mite' or millions of dollars a month, is irrelevant to God. He knows what we have and how much it costs us to give to Him. Often times a widows 'mite' is more costly than a multi million cash injection into the Lords' house. The Lord knows the state of our hearts before we give and He will measure the blessing based on this heart evaluation and not the amount.

An amazing testimony of a super wealthy businessman in the USA revealed that he was tithing 90% of what he earned into the kingdom of God. This is a dramatic act of obedience to what God had asked him to do, but does that establish a principle of giving 90% for great success? No, God simply wants your act of obedience to His instruction. So the percentage is not the law it is the act of obedience to give whole heartedly and delightfully back to Him. Unfortunately this example is quite the exception where, most times, the wealthier people become the more difficult they find it to give back to God.

People often make the mistake misinterpreting Malachi 3 as being for the benefit of the church establishment however it was designed to be a blessing for the giver not the receiver. The tithe is giving back to God and not motivated by the storehouse's needs or requirements. Where there are a people following and devoted to the Lord their God you will not find a storehouse lacking, because people are giving to God and not to the storehouse. The motivation is putting God first in our giving not because of a need for iron sheets to be out on the roof or even a pastor to feed his family. The needs are taken care of out of the abundant provisioning that comes out of a peoples devotion and heartfelt giving to the Lord God.

What we give in an agricultural context is important as it can help to prevent us from robbing God of the whole tithe. Often farmers convert their crop to cash and then bring in a portion of that cash as their tithe or offering. However in the transfer from maize bag to cash to actual giving there is significant temptation. The word teaches that if something causes us to sin then we should cut it off. In this case the opportunity of the cash is the temptation and often farmers will spend their cash on items even on the way home from the market. The tithe is then calculated on the cash remainder after other non income generating expenses and the tithe on this is significantly reduced as compared to the harvest amount. In this we rob God and we will not be blessed for this as we are not putting Him first in our giving, we are putting our personal needs first.

Example: John changes to Farming God's Way and yields a significant harvest in his first season of 50 bags of maize. He keeps 10 bags at home for his family's requirements and the 40 bags he takes to the market to be sold. He gets 10 US\$ per bag and puts 400 US\$ in his pocket. On the way home he buys a new bicycle for 80 US\$, and a new pot set for 20 US\$. On Sunday he brings in the tithe of his remainder of 300 US\$ which is at 10% 30 US\$.

He should however have brought his whole tithe in from the beginning, 'so that the Lord's house could be filled with food'. A tithe on the 50 bags would have been the equivalent of 5 bags of maize which has far more use to the pastor, widows, orphans and elderly for food firstly, then for resale, which sold in smaller quantities can bring in a lot more income. These 5 bags at 10 US\$ each would be a tithe on 500 US\$ and come to 50 US\$. This shows that either 2 bags or 20 US\$ have been stolen from the 'whole' tithe. This example clearly shows why God said bring the harvest to the storehouse, so that we will not be tempted, even unknowingly, into robbing Him of what is His.

The incredible part of this giving back to God is that it is all for our benefit. It was not orchestrated by God for the storehouse's sake but rather the givers blessing. The blessing comes to the giver threefold.

1) God promises He will open up the floodgates of heaven and pour out a blessing until it overflows.

Proverbs 3:9 "Honor the Lord from your wealth and from the first of all your produce; so your barns will be filled with plenty and your vats will overflow with new wine."

Surely this is the blessing that God has commanded and a blessing we desperately seek in this continent where we are so impoverished and living in such desperation. When God truly pours out His blessing from the floodgates of heaven the blessing will be so enormous it will be uncontainable. We need to have this blessing at individual, family, church, community, nation and continental levels. However it starts with the individual's response to God.

2) God himself will rebuke the devourer so that he will not destroy the fruits of the soil...

How many times have you rebuked satan in your lifetime, unsure whether what you are saying is just meaningless recital? When we bring the whole tithe to the storehouse God Himself takes care of satan for us so that our fruit is well protected. The devourer has been hard at work destroying the fruit of the land for too long and it is time to get back what has been stolen. God Himself gets involved when we return to Him through our tithes and offerings by rebuking satan and demarcating his boundary. Satan comes to steal, kill and destroy and by honouring God with our increase and wealth we give satan no room or right to what belongs to God.

3) God will cause all nations to call you blessed because you will be called a delight.

Africa is cursed with names like the begging bowl, the dark continent, the epicentre of corruption, violence and dictatorial rule. When we as the people of God start giving back to God what is His in the first place, He takes care of the rest including restoring nations from the curse to the blessing. This has nothing to do with our abundance and everything to do with His. Collectively even a 10 fold yield increase will not turn the economics of this continent around but as God's people called by His name turn to Him, then His supernatural laws of blessing get fulfilled and there is no explanation for them except that He alone is the God who promises us life more abundantly.

Giving to the Lord brings Him honour and acknowledges Him in a way we can't understand. Giving to the Lord forces us to consider a cause outside of ourselves and begins the journey into selflessness where we put His Kingdom before our own selfish end.

8.6 Stake Your Claim!!!

Most Bible scholars would know and understand the incredible importance of prayer and spiritual warfare, however only a few apply it in a real and tangible way. In no way does this section offer a complete study of this, but rather an exhortation to make spiritual warfare applicable to the agricultural domain. Spiritual warfare and prayer was not solely designed for crusades, mission thrusts and other church events. The Lord has given this tool to His children, for us to be able to exercise our spiritual authority in all spheres of life, so that the Kingdom of God may be firmly established.

James 5:14 "The effective prayer of a righteous man can accomplish much."

Every year people are crying out to the ancestral spirits to come and watch over their lands and make them more fertile, so they can yield a good harvest. This gets done by witchdoctors sprinkling the blood of slaughtered animals, bones or "magic potions" onto the soil in strategic positions in the field. These are current practises even amongst church going communities. The meddling in both spiritual worlds does not go unnoticed by God. Can you sense him withdraw and say "well now lets see what those dry bones can do for you!!!" or "you asked of the dead firstly so let them answer your need."

Proverbs 15:29 "The Lord *is* far from the wicked: but he heareth the prayer of the righteous."

The desperate cries of the wicked will go unnoticed by God because He is far from them. Those practising witchcraft, and other sinful activities cannot have their requests made known to Him until they have humbled themselves in confession and repentance.

He rules all things. Jesus has been given all authority in heaven and earth, but unfortunately we have also been given free will to choose who we want to be on the throne of our lives, our families, our homes, our fields, our communities and our nations.

We should be taking God into all areas of our lives including our farms. We can talk with him about our problems on the farm and pray and ask Him for His blessing on our crops and families even in desperate times.

However, the land still needs to be reclaimed and this comes through us acknowledging our idolatries, witchcraft, shedding of innocent blood and other evil ways which result in living under the curse.

2 Chronicles 7:14 "if my people who are called by my name humble themselves, and pray and seek my face and turn from their wicked ways, then I will hear from heaven and will forgive their sin and heal their land. "

As those who have become the righteousness of God through Christ Jesus, we should be praying, believing God for His word and promises, so that our farms and community can prosper.

We stake our claim as sons of God by taking Jesus into every area of our lives. Jesus taught us to pray “let your Kingdom come on earth even as it in heaven.”

The Kingdom of God is a glorious Kingdom with the full blessing and provision of the Father in all areas, where godliness and peace abide, where children grow in health and in wisdom, where truth and righteousness prevail; the benchmark of His Word establishes the boundaries and His Spirit brings gifting, fruitfulness, life and love.

How to Stake Your Claim

Staking your claim is like pegging out your field (see Field Scale Layout – Section 12: Small Scale Implementation).

1) Humility is the Starting Point of Staking your Claim

Humility is acknowledging that God’s ways are superior to ours and that we have been mistaken. This is such a powerful tool to tear down the curse and should never be underestimated. Jesus was no walk over, yet He exhibited the greatest humility of all mankind throughout His amazing life. Humbling ourselves before Him and not coming in with ranting and raving will allow us to hear what He wants us to do. Jesus never exalted Himself above His Father instead He continually made reference to Him as the source of His every word and deed.

James 4:10 “Humble yourself in the sight of the Lord and He will lift you up.”

A physical sign of this humility is to get on ones hands and knees and to take the soil in your hands as you pray over it.

2) Seek His Face and Not His Hands

God desires His children to have a love relationship with Him where they will adore Him and know Him intimately. So often our prayers are overshadowed by our pleadings and requests that there is no real relational communication. In this the church at large are like babies which have no other means but to moan when they do not get what they want, and except for the odd smile they have little or no real relationship with their parents. God wants to communicate and be with us like he was with Adam in the garden, and Jesus has made a way for that to be a reality, we just need to walk in it.

Deuteronomy 4:29 "... seek the Lord your God, and you will find Him if you search for Him with all your heart and all your soul."

3) Confess and Repent

Confession and repentance are the starting point to bringing God back to His rightful place in our lives and land. God wants us to walk with Him as faithful sons, honouring Him in all our ways so He can make our paths straight. When you pray to claim the land back, no measure of screaming or shouting will have any effect on the strongholds for *‘the weapons of our warfare are not of the flesh but have divine power to destroy strongholds.’ 2 Corinthians 10:4*. This divine power is through Jesus’ finished work on the cross and in His name which is above every name. Instead, Jesus has taught us how we should pray not as the hypocrites do, but in Spirit and in truth in Matthew 6:5-13.

4) Ask and You Will Receive

How many farmers do you know who ask God for rain before they complain about not having enough rain? There has to be a regional drought declaration before farmers actually come together and ask God for His blessing and rainfall.

Matthew 7:7 "Jesus said 'ask and it shall be given you.'"
James 4:2. "You do not have because you do not ask."

God desires for us to come and ask of Him, even although He knows what we will ask before we ask Him. In so doing we acknowledge His divine power, sovereignty and authority over all things. This too is an act of worship.

5) Pray

How should we pray then?

- Humble yourself and pray on your hands and knees before God with sincere reverence on the land taking the soil between your hands.
- Ask for forgiveness for the witchcraft and any form of idol worship that has taken place on the land asking for the blood of Jesus to redeem it and sanctify it, even if you are unaware of such practises having taken place.
- Ask Him for His sovereign Lordship to be established over the farm.
- Repent for the shedding of innocent blood on the land.
- Repent for your pride, where you have been 'leaning on our own understanding' by doing farming man's way for so many years, and not acknowledging or even considering that He had a way we should do things.
- Repent for where you have not been a good steward of what He entrusted to you by allowing such high rates of erosion and soil degradation on your farmland.
- Repent for taking greedily from the land and not sowing bountifully back into it asking Him to improve it over time.
- Repent for your dependency on man and not looking to the Lord who is your all sufficient one.
- Repent for your poor management standards and commit to doing all as unto the Lord.
- Ask Him to heal the soil. Yes it can be done. Soil can change colour, fertility and consistency in just 2 years but most full benefit to a whole hearted change to Farming God's Way will be fully revealed within 5 years. He has the ability to speed up the process and supernaturally restore the fertility and we need to be asking for this process by faith.
- Ask for His blessing in rainfall, sunshine and protection from pests, disease and fire.
- Commit your farm to His Kingdom and ask that He would use your farm as a launching pad for the Kingdom of God's expansion. This shows your commitment to be unselfish with what you are stewarding.

6) Stand Firm

God is for us not against us and He desires for our farms to be blessed. Take back the ground that is under enemy territory. Stake your claim firmly in the ground for the cause of the King and His kingdom. As leaders we should be serving the sheep by going to their farms and assisting them in these types of prayers of repentance and dedication.

When we have finished, we need to stand firm and walk boldly even in the face of opposition. I know of farmers who after changing to Farming God's Way have come under huge attack from their peers and neighbours, where curses from witchdoctors have been put on them and sacrifices of the strangest contortions have made them so fearful that they have turned away from the promise. Stand strong in His might and resist the devil and he will flee from you, knowing that 'greater is He that is in you than He that is in the world'.

Ephesians 6:10 "Finally, be strong in the Lord and in the strength of his might. Put on the whole armour of God, that you may be able to stand against the schemes of the devil. For we do not wrestle against flesh and blood, but against the rulers, against the authorities, against the cosmic powers over this present darkness, against the spiritual forces of evil in the heavenly places. Therefore take up the whole armour of God, that you may be able to withstand in the evil day, and having done all, to stand firm. Stand therefore, having fastened on the belt of truth, and having put on the breastplate of righteousness, and, as shoes for your feet, having put on the readiness given by the gospel of peace. In all circumstances take up the shield of faith, with which you can extinguish all the flaming darts of the evil one; and take the helmet of salvation, and the sword of the Spirit, which is the word of God, praying at all times in the Spirit, with all prayer and supplication."

This Kingdom we enter into is done in a very different manner to the traditional rule of terror and fear. We walk in the Lord's victory that He has already accomplished and the quiet confidence that comes from knowing and assured of His peace. Do not fear, but be on your guard by walking in the Spirit and the protection of His blood.

Romans 8:37 "But in all these things we overwhelmingly conquer through Him who loved us. For I am convinced that neither death, nor life, nor angels, nor principalities, nor things present, nor things to come, nor powers, nor height, nor depth, nor any other created thing, will be able to separate us from the love of God, which is in Christ Jesus our Lord."

9. Well Watered Gardens

Farming God's Way is the gospel of Jesus Christ with boots on!!! It is a gospel of both Word and deed and it is at the Well watered Garden that we get down, humbling ourselves; and dirty, practically serving and equipping the poor to come out of poverty.

9.1 What is a Well Watered Garden?

Well Watered Gardens are small 6*6m demonstration gardens which allow for the training and discipleship of farmers in their own communities. Although they are small they are still large enough to train farmers how to implement the Farming God's Way techniques successfully on their own large farms. They take 2-3 hours to complete and are very cost effective models.

Communal training site

Whole communities gather around these Well Watered Gardens, not only at planting time, but throughout the cropping cycle so farmers can learn the step by step procedures from hole preparation, fertilization, planting, topdressing, weeding and harvesting.

Be encouraged to make the Well Watered Garden experience fun by using competitions and drama and give the farmers lots of hands on opportunities.

Timing

The best time to put in your Well Watered Garden is long before the rainy season, so that farmers can adopt what they have learnt and still have sufficient time to prepare their fields in the same way.

For example in an area where planting is done at the end of November, which is typical in the summer rainfall region of Southern Africa, the ideal time to put in your Well Watered Gardens is in August and September, leaving the farmers with 2 months to prepare their lands so they will be ready for planting on time.

However, if you want to plant your own trial Well Watered Garden, then plant at the optimal time in your region.

Segmentation

If you are living nearby to the community you are serving, you have a great advantage. Break the teaching into sections and then get your group of farmers to complete each section before they get their next bite size chunk of training.

Spiritual incorporation

Well Watered Gardens are great opportunities for the preaching of the gospel, so remember to integrate the Word into your teaching at frequent intervals by using parables and stories which will reflect the gospel applied to life.

Commitment

“Like springs of water that never fail” be committed to serve the poor faithfully, repeating the training for several years. We feel very strongly about this commitment which establishes a relational platform on which to build and also brings the community adoption of Farming God's Way to account.

Generally very few farmers are brave enough to change immediately, with some communities showing a much slower adoption rate than others, often a couple of years, yet through perseverance and wholehearted, committed service, God suddenly gives the breakthrough and the number of followers swell the adoption rates significantly.

So don't give up loving and serving, not in the 1st, 2nd, 3rd, 4th or even 5th year.

For His breakthrough He needs your commitment.

9.2 Characteristics of a Good Well Watered Garden Site

Here are some pointers to help you choose the best Well Watered Garden site:

- Choose a **prominent** and **accessible** place where the whole community can see what you are doing. Remember, you will be planting at the same site for many years, so select the correct site right from the start.

Matthew 5:14 “Jesus said, ‘You are the light of the world. A city set on a hill cannot be hidden. Nor do people light a lamp and put it under a basket, but on a stand, and it gives light to all in the house. In the same way, let your light shine before others, so that they may see your good works and give glory to your Father who is in heaven.’”

- Good sites are at entrances to community centres, churches or at crossroads.
- Make sure you have a large enough area before you start, preferably 10*10m, and square it off with existing structure.
 - Fence in the site to protect it from animals by using living fences or thorn branches
 - The actual garden size is only **6*6m** but we want to allow enough room for people to be able to come for training within the fenced area.
- Shade drastically reduces crop yield, so ensure the site that you choose has **no shade** throughout the day.
- Because Well Watered Gardens are planted before the rains, choose a site which is **close to water**, so that the garden can be watered by hand until the rains come.
- Choose a faithful steward to be your **site manager** who is close at hand to care for the garden

Standards

Remember we want Well Watered Gardens to be **a light in the darkness** so do everything at your site to **a high standard** that will give God glory.

9.3 Making a Teren Rope

A teren rope is a measuring rope used in Farming God's Way to ensure high standards of plant population density, amongst other reasons. Select a long (up to 50m), non stretch, hardy rope, which can be made out of nylon, cable, material tape, woven grass braid and even stiff wire in segments. Cut a 60 cm stick with which to measure the marker position on the rope. Tie loops in each end of the teren rope, peg it in on one side, pull the rope tight and peg it in again on the other end. Then attach the markers by crimping bottle tops or tying short strips of plastic onto the rope at exactly 60 cm intervals. For a Well Watered Garden it is best to have a 75 cm teren rope as well, but this is not essential for field size implementation.



9.4 Well Watered Garden Kit List

What you need to take with you:

- 7.2m teren rope with 60 cm markers – I will explain why it is not a 6m rope shortly!!!
- 6m teren rope with 75 cm markers
- 4 permanent pegs
- 25 * 4 inch nails
- 3 * 5 ml teaspoons
- 3 * 12 ml tablespoons
- 3 * 350 ml cups or tins
- 1 Cup of good quality maize seed about 350 seeds
- 1 Cup of good quality bean seed about 180 seeds

1 kg lime
2 kg of basal fertiliser - Compound D, DAP or NPK 2.3.2.
1 kg of topdress fertiliser - AN or Urea

If you are training in an area where the farmers don't use fertiliser, you should still have a little on hand to demonstrate a few holes.

The following items I have found you can usually get on site:

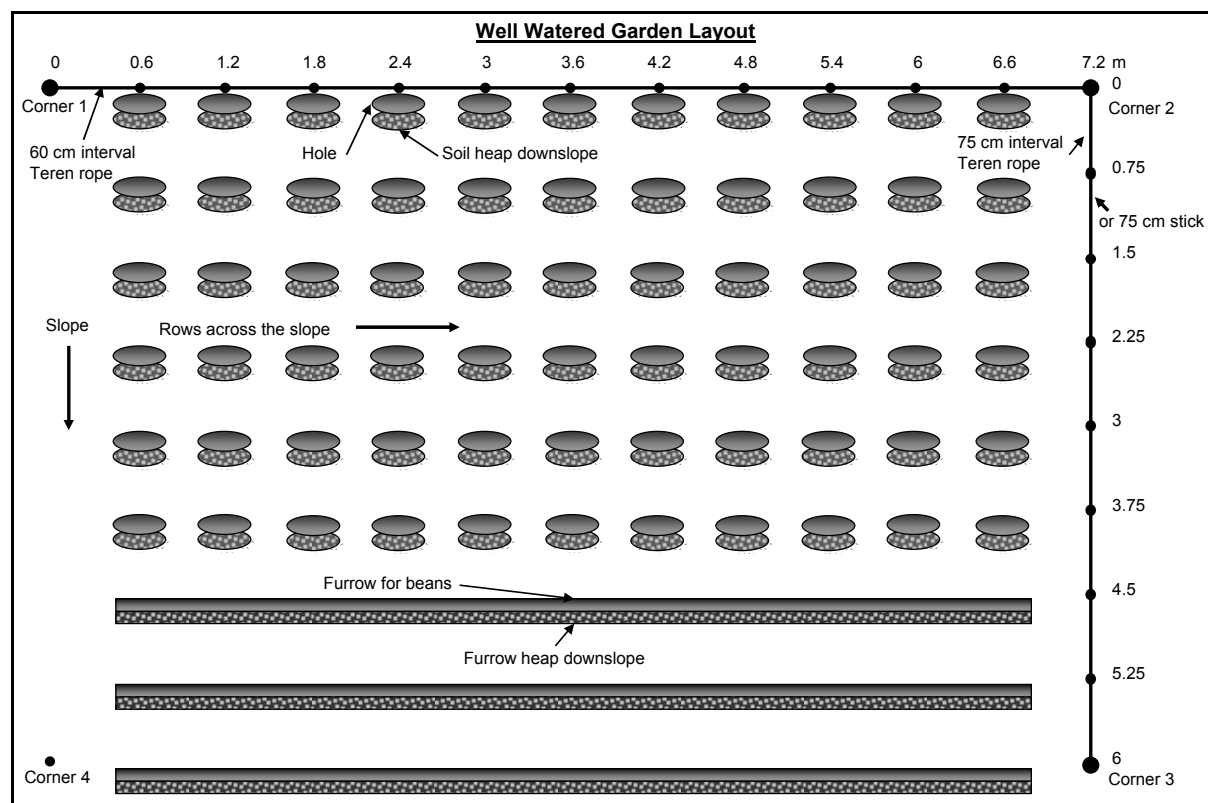
5 hoes
1*50 kg bag of manure
A large heap of God's Blanket, made up of plant materials such as leaves, thatch grass or maize stalks.
200 litres of water

See the Appendix for a printable checklist

9.5 Laying out your Well Watered Garden

Before you put in your Well Watered Garden, lay it out and then teach afterwards. Remember we are not trying to teach the poor how to put in Well Watered Garden's but how to do Farming God's Way in their fields.

Square off your garden with a wall, road or pathway.
Clear the weeds in the garden by cutting them off at the surface and pull up creeping grass as best you can. Try to get the Well Watered Garden to be as level as possible.



Baseline, Corner 1 and 2

Place the 7.2 m long 60cm teren rope across the slope on the contour.

Push in nails at each end, which are corners 1 and 2.

This is your baseline.

Don't put in permanent pegs now as you must teach this during the training.

Corner 3

Connect the loop of your 6m long 75 cm teren rope to the corner nail 2. Using a piece of paper, adjust the 75 cm teren rope until it makes a 90 degree angle off the baseline. Pull tight and place your corner nail in at the end.

This is corner 3 and you now have an L shape to your garden.

Place a nail at the outside edge of each of the 75 cm markers on your teren rope.

You will need 7 nails for this. Dig marker holes on the outside of each of these nails as sometimes the nails pull out when learners are helping to put in the garden. If this happens, these marker holes will help you to find the nail placements again and allow you to replace the rope in the right spot again.

Corner 4

Remove the loops of all the teren ropes but leave the corner nails in their place.

Place the 60 cm teren rope at the bottom of the garden.

Place the 75 cm teren rope at the other side of the garden.

Connect the loop of the 75 cm teren rope to corner 1 and the loop of the 60 cm teren rope to corner 3. Pull the two ropes towards the prospective corner 4 and place a nail in the 2 loops of both ropes, pull tight and then insert the nail. This is your 4th corner and your garden will now be square.

Again place the remaining 7 nails at the outside edge of each of the marks of your 75 cm teren rope and dig marker holes next to each of these nails.

Bring your 60 cm baseline back to the top of your garden and connect it back on to the baseline nails 1 and 2. Wind up your 75 cm teren rope and put it away.

Remember the poor only need to make one 60 cm teren rope.

Lay the Well Watered Garden out correctly from the start as this will allow you to plant in the same permanent holes for all the years you serve there.

Before you put in your Well Watered Garden decide on your main input type (manure, compost, anthill or fertilizer), this being the one that is most commonly used in that community. You will be demonstrating how to use that input, leaving only a few holes or a row to show an alternative input type, otherwise your Well Watered Garden crop will be very uneven.

I normally put in Well Watered Gardens using manure as my main input, but composting will be the way of the future, so get those compost piles cooking.

You are now ready to teach Farming God's Way at the Well Watered Garden site. Enjoy yourself!

9.6 Land Clearing

You need to start your land preparations approximately 2 months before your planting season begins.

In the summer rainfall regions of Sub Saharan Africa start your land preparations at the beginning of September. In central African countries like Kenya and Uganda, which experience both long and short rains, start preparing your lands at the beginning of January for long rain plantings.

Instead of clearing enormous areas of land, rather start small and do Farming God's Way to a high standard. Let your available inputs that God has given you in manure, compost, anthill or fertiliser, determine what land area to prepare.

For example: If you have only got 150 bags of manure, don't prepare 2 hectares, as your total yield could be as low as 2 tons; whereas if you had done 1 hectare to a high standard, your yield could be as high as 3-5 tons. Here our inputs are determining our land area to be prepared.

If you have got 6 bags of DAP fertiliser then you can do 1 hectare to a high standard.

Instead of diluting your inputs, rather reduce your area.

a) You are most likely going to be planting into an old cropped land, so make sure the previous crop has been knocked down and keep the land weed free throughout the off season.

b) If the land is a jungle of weeds, simply hoe the weeds down at ground level and let them lie as God's Blanket on the surface of the ground. Any creeping grasses that are in your field must be uprooted and removed out of the land. If you can afford it use Roundup to kill problematic creeping grasses, but smother mulching is also very effective.

c) If you are preparing land that has never been farmed before, the soil is already in prime virgin condition which has produced a beautiful natural vegetation for centuries without ploughing or burning. Cut down trees, destump and clear the bush, leaving God's Blanket made up of leaves and grasses lying on the surface of the ground. Whatever you do at all costs do not plough the land or burn God's Blanket. Level off destumped areas and spread God's Blanket evenly over the whole field. The forests are a part of God's awesome wonder which we have to actively preserve. Farming God's Way allows such drastic yield improvements that we lower land demand for sensitive natural forests. God expects us to look after and care for His creation and by simply increasing our yields per hectare we don't have to destroy forested areas by using slash and burn agriculture.

9.7 Establishing the Permanent Baseline

Always start at the top of your field. Establish the baseline at 90 degrees off an existing boundary fence or pathway or wall for efficiency and neatness. Using your 60 cm teren rope, place it across the slope, on the contour. This is very important as we want to slow the water running down the slope to limit soil erosion to an absolute minimum. The contour is always a level line that runs at 90 degrees to your slope.

2*Permanent pegs

At each end of the baseline drive in permanent pegs so that you can guarantee that you can attach the rope at the same starting position year after year. Use steel rods or hard wooden pegs that won't rot and drive them in deeply so they can't be moved by animals or children.

Establishing the perfect right angle

Run another rope (either your 75 cm teren rope or an unmarked rope) down the slope at 90 degrees to the baseline. First attach the rope to corner 1 and place a square piece of paper up against the baseline. Adjust the downslope rope until it lines up with the edge of the paper making a perfect right angle. You can also use the 3,4,5 rule to establish this right angle even more accurately.

On a field size you should place permanent pegs every 10 to 20 rows to ensure that you maintain same hole and row accuracy (see Field Scale Layout – Section 12: Small Scale Implementation).

By having both the permanent pegs and the perfect right angle a field matrix is established which allows for planting in the same holes year after year.

Here are some reasons why we should plant in the same holes every year:

- a) Last years crops would not have used up all the nutrients that we put in and so these left over nutrients can be easily accessed by the next crop
- b) The Soil gets softer and easier to work
- c) The Previous crops roots decompose in those holes improving fertility, leaving channels for easy root growth of the next crop, and greatly improved water penetration
- d) There will be less compaction in the row as feet or implements will only travel between rows
- e) There is minimal soil disturbance between rows hereby reducing weed growth.

9.8 Holing Out

With Farming God's Way we do not plough. We simply make holes, or planting stations, to be able to place our inputs and seed at the required depth.

Hole spacing

Our holes are going to be **60 cm by 75 cm apart** which will give us 22,222 holes per hectare. Holes should be about **12 cm wide** which is the size of a normal hoe head.

Holes for **organic inputs** such as manure, compost or anthill soil should be **15 cm deep** and **15 cm long**. Holes for **inorganic fertiliser** should be **8 cm deep** and **10cm long**.

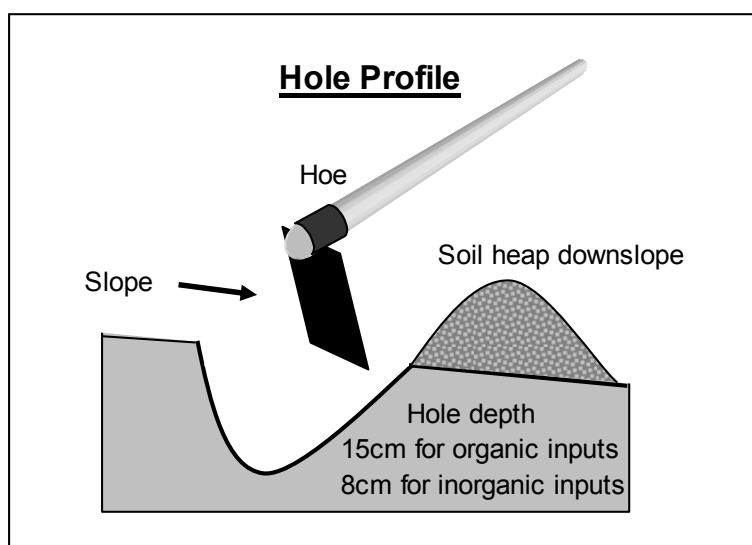
At the Well Watered Garden start the first hole at the 1st marker, with the last hole being dug at the last marker, not at the loop or permanent peg. The Well Watered Garden will consist of 11 holes across the slope and 9 rows down the slope.

Organic input holes

Look up the slope and centre the hoe head in line with the 60 cm teren rope marker.

Start 15 cm downslope from the rope, striking deeper and deeper until you come right up to the rope, digging to a depth of 15 cm. This usually takes 5 or 6 strikes. This is a large amount of soil so be careful not to throw it too far down the slope as it will interfere with the next row 75 cm away. Bringing the soil downslope means that the

water will be slowed by the hole and then collected like a dam and result in a deep penetration right in the plant root zone.



Inorganic input holes

If you are going to be using fertiliser your holes need only be 8cm deep. Prepare your holes in the same way as described above, but this time start digging 10 cm from the rope and complete in 3 strikes.



3 holes across the slope

Do not's

- 1) Moving the soil upslope is really not a good idea as the soil will be washed straight back into the hole.
- 2) Moving the soil to the side means that the water will be moving at full pace down the slope when it hits the heap because it doesn't have the hole to slow it down. Therefore this method will have little benefit in slowing soil movement.

So stick to the downslope method.

The hole profile is steep on the upslope side and more gentle on the downslope side. When holing out, move in an organized manner left to right, spacing out evenly to prevent wasting time in leap frogging over one another. Make sure that the team dig the holes accurately at 60 cm intervals, with an even depth and size.

Establishing the second and subsequent rows



Leave the downslope rope in place throughout the holing out process. Once you have finished your first row, measure down the slope with your 75 cm measuring stick on the downslope rope. Remove the 60 cm teren rope and place it at this new position 75 cm down the slope. Remove the other end loop (corner 2), measure down 75 cm on that far side and place the 60 cm teren rope at this new position. Dig the second row's holes and then move down 75 cm again. Continue doing this until

your whole field is a matrix of 60 by 75 cm holes. Prepare the first 6 of 9 rows, as described above, at the Well Watered Garden.

Land Preparation Summary

To summarise, your final hole dimensions are a hoe width of 12 cm; a hole depth of 15 cm when using manure, compost or anthill soil or alternatively 8 cm deep for fertiliser. Your holes will be 60 cm apart, with a 75 cm interval between rows.

Once you have completed digging your planting stations, count and record them.

Remember you can't manage what you don't measure.

Look at the work of your hands and enjoy.

Solomon wisely speaks of the joy of good hard work and we can enjoy our garden's beautiful matrix of in-rows, rows and if you look carefully, even diagonals. We have brought order into chaos on a small scale. Farmers should be able to lift up their heads and be proud of the work of their hands.

9.9 Alternative Crops and Rotations

Leave the last three rows of the Well Watered Garden open to plant green beans as a part of the rotation teaching of Farming God's Way. We advocate that each land be divided into 3 portions.

A Well Watered Garden demonstrates this by having 2 portions (A and B) with 6 maize rows and the last portion (C) with 3 bean rows.

In year 1 land A and B will be planted to maize and C to beans.

In year 2 land A will be planted to beans and B and C will be under maize.

In year 3 land A will be maize, land B will be beans and land C will be maize again.

This gives each land a rest from the maize crop every 3 years, which allows for the breaking of the disease cycles as well as soil fertility improvement through nitrogen fixing when rotating with legumes. Don't be deceived into believing that you will get away with growing the same crop year after year after year. You must have full persuasion to grow a third of your field to alternative crops for the rotational value as well as helping to spread your market risk.

Other legumes you can grow in your 1/3rd rotation include groundnuts, soyabeans, pigeon peas, cowpeas amongst others. You can also grow other non legume crops such as cotton or sunflower for your rotation (see additional information under Biodiversity Through Alternative Crops – Section 15).

The in row spacing of many alternative crops is very narrow and so we simply cannot use a hole. Instead we plant in a continuous furrow on the contour. Place the teren rope across the row, but instead of digging at the 60 cm markers simply dig an 8 cm deep furrow right across the slope.

9.10 Correcting Acidic Soils

In some soil types, usually ones that are reddish in colour, and where the annual rainfall is high, there is a tendency for the soil to be acidic. These acidic soils bind nutrients that are necessary for plant growth, making them unavailable to the plants, hereby causing low yields and nutrient deficiencies.

Agricultural lime applications increase soil ph making it more neutral, which will allow for nutrients to be more easily absorbed by the roots, which in turn means higher yields. Simply place a heaped teaspoon of lime in each hole along the base. Your dosage can be made more accurate if you have a soil sample analysis done.

As an alternative to lime you can use a heaped tablespoon of woodash or mix a bag or two into your compost pile.

Brian Oldreive would only lime every 5 years in his problematic fields, so you only need to do this every few years. Over the years the need for lime will become less and less due to the fact that we are not ploughing and we are using 100% coverage of God's Blanket.

9.11 Inputs

God has provided each farmer with a measure of talents. To some he gave 1, others 2, others 5 talents. Does this story ring a bell? I hope you are being faithful with whatever God has given you. We have to learn to give to get out of the begging bowl mentality. Our mindset must change. We can't keep on taking and not giving something back. The Bible says we will reap what we sow.

Zero times zero equals zero, zero times 100 equals zero.
If you give nothing to even good potential soil you get nothing.

Uganda, Malawi and Mozambique have beautiful deep soils and the people tell me "We don't need to put in any inputs as our soil is so fertile" but when I ask I find that they are getting ridiculously low yields. We will reap according to the measure we sow. Every season the crop is removing nutrients from the soil and we have to give back to ensure that these nutrients are available to the next seasons crop.

If you know the number of holes in your field then you can calculate your input needs.

Example:

350ml times 22,222 holes gives 7.7 cubic meters divided by 50 equals 156 bags.
350ml times 99 holes for a Well Watered Garden gives 2/3rd of a bag.

Organic inputs

When using manure, compost or anthill soil, use a 350 ml cup or tin and place the input in the bottom of the 15 cm deep holes. Make sure that each hole receives the same amount of inputs.



The worst weed in your field is another maize plant. Ensure even placement per hole so that each plant gets the same opportunities as its fellow plant. We want to have even stands which close the canopy early, so maintain high standards at every stage.

Place your inputs in the holes 2 rows at a time to limit traffic to every second row.

You would need 156 bags of any of these inputs per hectare, which is a lot, but don't be discouraged. Many farmers are doing it and succeeding and so can you. Compost can be made at the field and so it does not have to be transported to the lands.

The yield potential per hectare with manure is 3-5 tons; with compost is 2-5 tons and anthill 1-3 tons.

Our yield average in the continent is around 350 kg or 7 bags per hectare, and so we can comfortably go ten times better using these simple proven and available solutions. These 3 inputs all build up our soil microbial life and fertility, improve

texture, structure and the soil's ability to hold moisture and are much more preferable and cost effective to use than fertiliser.

When placing your inputs in the bean rows, simply spread the 350 ml inputs across the furrow every 60 cm. With less nutrient demanding crops spread the inputs over a meter.

Inorganic fertiliser inputs

Most small scale farmers have no access to fertiliser because of its high cost and the remoteness of their areas, but they do sometimes get given fertiliser vouchers or bags and should therefore know how to use it wisely. In many African countries people are scared of using fertilisers as they have been given false information. There is nothing wrong with using fertiliser, but overusing it will have a negative impact on the soil. Remember, in large scale farming systems it is nearly impossible to give back the volumes of nutrients removed by the crop and get very high yields and so there is a place for fertiliser. Fertilisers have been used on Hinton Estate (where Brian originally started Farming God's Way) since 1984, with excellent results.

Fertilizers come in 2 types; basal and topdressing.

The basal types include DAP or Diammonium phosphate and NPK in varying ratio's. They have a balance of nutrients and are made up of nitrogen, phosphorus and potassium. Basal fertilizers get placed in the bottom of the holes.

Topdressing types have only got nitrogen in them. They get placed on the surface of the ground and include CAN or calcium ammonium nitrate and Urea.

For optimal yields place 12 ml or a tablespoon of DAP in a narrow band across the bottom of each hole. You will need 6 bags of DAP per hectare. The record Farming God's Way yield was 13.9 tons per hectare on large scale using fertiliser.

An example to calculate your fertiliser requirement is:

12 ml times 22,222 holes equals 266 kg or 6 bags of DAP per hectare

If you are using fertiliser for your furrow rotation crop, simply spread a heaped teaspoon every 60 cm.

Remember to prepare a land area that you would be able to give good inputs into and not to spread your inputs thinly over a large area. If you only have a limited amount of inputs, rather use what you have on a smaller area and do it to a high standard, than doing a large portion to a low standard.

9.12 Covering for Seeding Depth

Cover all the inputs with 3 cm of soil from the downslope soil heap, to get the exact depth for planting for maize, which is 5 cm or a matchbox length. This separation layer is also very important to prevent the seed from being burnt by the inputs, especially when using fertiliser or manure. Covering also prevents the loss of nitrogen to the atmosphere.

Your bean rows need a final planting depth of 3 cm deep (matchbox on its side) so cover leaving this depth remaining.

9.13 Waiting for the Rains

Well Watered Gardens allow for the training of farmers through the complete planting process,, well before the rains come, in order that they will have enough time for field size land preparations. Therefore, Well Watered Gardens need to be watered. Apply 1-2 liters to each planting station before planting and repeat this every 3 days up until the rains begin. However, it must be clearly understood that this is simply for demonstrating the techniques before the rains come.

No matter where you are in the world, your field should be ready for planting at least 3 weeks before optimal planting time. This way you are sure of being on time, especially if you have good early rains.

In the summer rainfall regions such as South Africa, Zambia, Zimbabwe, Mozambique and Malawi you should be ready by the end of October, having dug your holes and placed your inputs and covered them slightly in readiness for the 10th-25th November optimal planting date. The table below displays a guideline for the amount of rain you should receive before planting in Southern Africa.

Total Amount of Rainfall Received	Planting Date
100 mm	1 st week November
85 mm	2 nd week November
75 mm	3 rd week November
50 mm	4 th week November
30 mm	1 st week December

In the central region where the long rains of Kenya, Tanzania, Rwanda and Uganda are dominant, you should be ready for planting by the end of February in readiness for late March planting.

We strongly recommend that farmers do not practise dry planting, which involves the planting of seeds before the rains actually come. If you have early rains that are just sufficient for germination and then have a dry spell, you will have to replant, wasting seed, time and effort. You must wait for sufficient rains before planting.

9.14 Planting

We advocate that small scale farmers use open pollinated variety seed (OPV) as opposed to hybrid seed. They perform at much the same yield under sub optimal conditions, are much cheaper, and the same seed can be stored at the end of the season and replanted for several years. Hybrid seed must be bought each year and the poor get yoked into the seed companies money making schemes or they become

seed aid dependants. The poor should be free to plant when they are ready to plant and not yoked to men, governments or organizations.

If you have to buy in seed, buy the best open pollinated variety that you can afford. When you are ready to plant and have had sufficient rainfall, take the amount of maize seed you can plant at one time and presoak it for up to 6 hours to allow the seed to take up water and swell.

Looking up the slope, place 3 seeds per planting station neatly in the row, one on the left, one in the middle and one the right. 3 seeds per hole is 66,666 seeds planted per hectare. The seeds are planted at 5cm or a matchbox depth from the ground level. If the hole is too full of soil then simply press the seed to the required depth from the ground level with your finger.

When planting in organic input holes with manure, compost or anthill, the seeds should be put 2 inches away from the topside of the holes, as that is the deepest part of the 15 cm hole where most nutrients are found.

When planting in fertiliser holes, place the seeds one inch or a matchbox width away as the deepest part of the hole is much closer to the top edge of the 8 cm deep holes.

When planting beans, place the bean seed at 10cm intervals along the row.

These are all part of the standards that are going to give God glory in our fields.

9.15 Covering

Cover with fine, loose soil from the soil heap, making sure that you don't cover with stones, heavy clods or God's Blanket. All of these can result in poor germination rates and uneven stands, so take good care at this point.

Cover evenly with no depressions. These depressions can cause problems as pools of water develop here after heavy rains and seedlings will get diseases such as damping off as their stems will be right in the water.

9.16 Applying God's Blanket

If you go to God's garden, which is anywhere where there is no intervention by man, you will see that He in His wisdom puts a protective covering on top of the ground made up leaves, twigs, fruit and decaying grasses. These lie on top of the ground gradually decomposing over many years.

We call this mulch, God's Blanket!!!

It protects the soil from erosion, allows for deep penetration of rainfall, conservation of moisture, improves fertility, crops have improved drought tolerance and an ideal growing environment, amongst many other advantages. All this leads to significantly improved yields. We need to be aiming for 100% and more cover in our fields and although it may take you a few years to get there, do this with all your heart.

In the beginning your only plant material available for God's Blanket is weeds and old crop residues. Do whatever you can to increase your blanket coverage by cutting grasses or banana leaves, carrying in forest mulch or even collecting your neighbours crop residues before they get burnt. Cover the whole field evenly – yes even over the holes. The seeds will germinate right through the blanket so don't fear. Only with small seeded crops should you take care to leave a narrow space over the seed rows to allow for easier germination.

God's Blanket is so important it cannot be emphasized enough. Nobody would simply allow a thief to walk in broad daylight and steal from their homes would they? Why would you allow the most important aspect of your farming practise to be eaten by your neighbours animals?

We need to see God's Blanket as the treasure of the soil, guard it and build it up.

9.17 Emergence

After approximately 10 days the seedlings emerge through God's Blanket.

Seedlings may emerge slightly slower through God's Blanket due to cooler soil temperatures, but don't panic they soon catch up and overtake seedlings in fields where the blanket is not present.



9.18 Gapping

Sometimes guineafowl, chickens or rats dig out the seed causing fairly large empty spaces, which we can correct by gapping. This is done shortly after emergence. Take the amount of maize seed you need and presoak it for 6 hours to allow it to take up water and swell.

Push the seeds down to 5 cm or matchbox length in existing holes and close them over. Gapping fills any empty spaces in your field and reinforces the 'minimal wastage' principle of Farming God's Way.

Note: Gapping of maize is used when you have empty areas of a few m² and not when 1 hole is empty.

9.19 1st Weeding

Weeds significantly lower crop yields because they compete with the plants for water, nutrients, light and space.

Weeds are stimulated to germinate by:

- 1) disturbance of the soil,
- 2) scratching of the seed coat and
- 3) exposure to sunlight.

Farming God's Way counteracts these stimuli by:

- 1) not ploughing and minimal soil disturbance - drastically reducing weed seed disturbance, scratching and exposure to light
- 2) God's Blanket cover - minimalises weed seed exposure to light
- 3) Planting at 60*75 cm spacing - effectively cuts out light by closing the canopy from as early as 5 weeks, hereby reducing weed seed exposure to sunlight even further.

Do your first weeding when the weeds are still small (around 3 cm tall) which is usually 10-14 days after planting. When weeds are weeded out at this "white hair stage" they are very easy to cut off and cannot re-grow. Weed by walking backwards, simply hoeing them off at the soil surface and leaving them to add to God's Blanket. Pull out creeping grasses and carry them out of your field, but try to disturb as little soil as possible. Repeat the weeding process every 10-14 days.

Example:

A Farming God's Way farmer, weeding when the weeds are just 3cm tall, will complete a hectare by working less than 5 hours a day for 7 days.

The lazy farmer says "I'll do this weeding tomorrow". He waits for the weeds to get to 30 cm tall and because they are so big and the job so much more difficult, it will take him twice as long, 14 days to do the same hectare.

The weed cycle is a 10 day cycle, so the weeds will be 4 days bigger than when he first started. He will always be behind with his weeding, lose his joy and have a significantly lower yield.

Don't let weeds set seed in your field, as they produce hundreds of thousands of seeds, which can remain dormant in the soil for 20 years, waiting for the right conditions for germination. Sin and weeds have a lot in common. When dealt with they can't bear bad fruit, but just leave them unattended for just a few moments and their fruit will leave you in disgrace.

Just one year of poor weed control can result in 7 years of weed problems. So be ON TIME and keep your lands weed free throughout the year.

9.20 Thinning

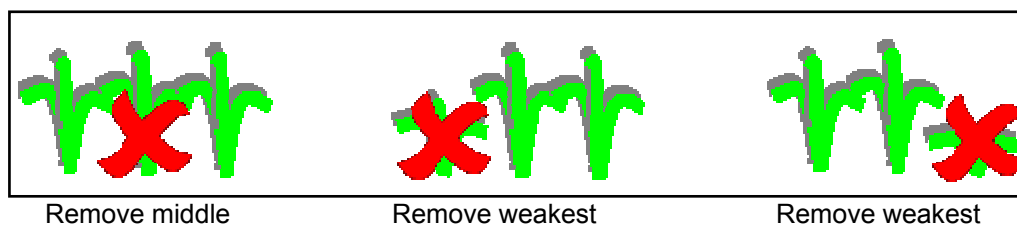
We planted 3 seeds per hole, but we actually only want 2 seedlings per hole. It has been shown that yields are best at 2 seedlings per hole that will leave 44,444 plants per hectare.

Seed is only certified to around 87 percent germination, so if we had planted 44,444 seeds, only about 38,000 would have come up, excluding losses from rats, chicken or guinea fowl, leaving probably 35,000 plants per hectare. Because of this it is impossible to get our optimal yield potential unless we plant 3 seeds per hole and thin down to 2.

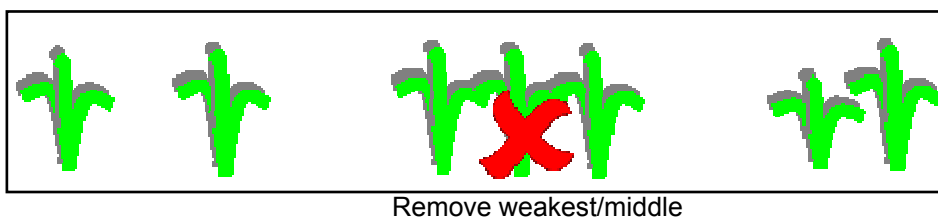
It has been proven that for every cent you spend on the 3rd seed you will get back 40 cents through the thinning process. That is a 40 times cost to benefit ratio - it's worth it.

Thin at 2-3 weeks after emergence when seedlings are around 20 to 30cm tall. You do this by uprooting the weakest plant or if they are all the same size then the middle plant of each hole emerged seedlings. Look at 3 holes at a time, not one and thin to 2 seedlings per 3 holes.

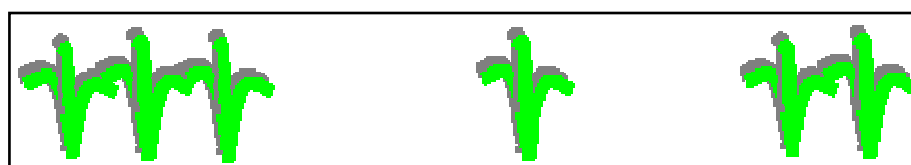
Thinning example 1 – 9 seedlings per 3 holes, so thin 1 from each hole.



Thinning example 2 – 7 seedlings per 3 holes, so thin 1 from the hole with 3 in it.



Thinning example 3 – 6 seedlings per 3 holes, so leave all.



Leave all

9.21 1st Topdress

Topdressing should be done immediately after thinning, about 2-3 weeks after emergence. Use an 8ml cup or a heaped teaspoon of ammonium nitrate or urea for the 1st topdress.

Place the topdress 7 cm away from plants, on the upslope side, to prevent burning the seedling stems. The best way to apply topdressing is to make a 3 cm deep hole with a stick, place the fertiliser in the hole and cover it with soil. If you work in pairs this process is very quick and accurate. This method prevents nitrogen losses to the atmosphere.

The most efficient way of using topdressing fertiliser is to apply 2/3rds at seedling stage and 1/3rd later at the 2nd topdress or piping stage.

On a small scale an alternative to fertiliser is urine, which has proven effective in increasing yields. However, the vast quantities required and the storage requirements prior to use prevent urine from becoming a major topdress option for the poor. Collected urine must stand for a minimum of 1 month before use. Apply 250 ml's per hole several times before tassling. 1 litre of urine is equivalent to 5 ml topdressing.

The other forms of inputs including manure, compost or anthill are not useful for topdressing as the Nitrogen is released into plant useable form too late to be of benefit to crop growth. Rather apply these inputs as basal dressing in higher volumes at the beginning.

9.22 2nd and 3rd Weeding

Weeding should be done every 10 – 14 days when weeds are just 3 cm tall, all the time continuing to build up the blanket coverage. It is really incredible to see the reduction in weed growth when you have a good blanket in place. You will most likely have to do 2 or 3 weedings before full canopy stage. Keep on weeding backwards when the weeds are still tiny at 3 cm tall.

9.23 Full Canopy

One of the great advantages of the spacing of 60 by 75cm is that the canopy closes early on, capturing the maximum amount of sunlight for good growth whilst also shading out weeds. At about 6 weeks your plants are about waist high and they will close the canopy completely giving you a rest from weeding for quite a while.

9.24 Desuckering

Suckers sometimes branch off the parent plant at ground level. Some advisors say they should be removed, but surprisingly this has not proven to make any difference to the yield. If you want to do desuckering for neatness sake, simply snap off the

suckers with a quick motion before your second topdress. Well Watered Gardens look much neater and presentable after desuckering, which should be done at about 6 weeks.

9.25 2nd Topdressing

Do your 2nd topdressing at piping, when the maize just starts to show the tassel coming through the top of the funnel, usually at around 8 weeks after emergence. Topdress with either the Ammonium Nitrate or Urea, applying 5 ml or a teaspoonful on the upslope side of the plant stems.

Place the topdressing a hand width (10cm) away to prevent burning the stems, again placing the fertiliser in a small covered hole as with the 1st topdress.

9.26 Pollination and Seed Fill

In a maize plant there is an interesting biological phenomenon. Every single ovule has an individual silk, the long golden brown coloured thread which comes through the top of the cob. During the pollination phase of the plant, a single pollen grain lands on the silk and grows down the silk until it comes into contact with the ovule, where it fertilises to form a seed. The silks attached to the bottom rows of ovules emerge first and therefore get pollinated first and the maize cob will gradually fill going upwards until the topmost seeds are filled. However, the silks need to be moist in order for pollination to take place, otherwise the pollen cannot grow through the silks tube. If the silks dry off through insufficient available moisture during this stage of the crop then significant crop losses can occur.

9.27 Pre-harvest Late Weeding

The maize plant is usually physiologically mature between 90-120 days and begins to dry off and die back. The leaves fold up and for the first time since canopy closure, light penetrates through the canopy. This stimulates weed growth under the canopy as there is still some residual moisture. Most farmers leave this last weeding and they end up harvesting in a jungle of weeds like black jacks and burrs that stick in their clothes and buffalo beans that burn their skin. The harvest, which is supposed to be a joyful experience, is now a misery.

A 4th light weeding at this time will be very useful as the harvest can be done with joy and also carry us through the off season with a weed free stand. Alternatively if there is sufficient soil moisture, plant a relay crop or broadcast a cover crop such as cowpeas or lablab at this time and then weed lightly. The light weeding will allow for good cover crop seed to soil contact and germination. See alternative crops (section 15) for more information.

9.28 Harvest Time

Harvest when your maize is physiologically mature, usually 2 months after tassling. The stalks will look very dry and the cobs will most probably be hanging down. The seeds will be well dented, glassy and too hard to scratch with your nail. At this stage the maize is at about 30% moisture content.

Harvest your cobs and store them in a safe, dry, sunny place around your house, on the roof top or on a drying rack, until they are properly dried out. The seeds will have no transparent sections in them when ready to store - that is at about 13% moisture content. Only then should the maize be shelled, dusted with chemicals and stored in bags.

9.29 Post Harvest Stalk Lodging

Stalk borer is a terrible pest in maize, but we can control it if we understand its lifecycle. It starts off as a pupa at the start of the season, it then becomes a moth which lays eggs on the stems. The eggs hatch into worms which bore through the stems, leaving their trademark breathing holes on the sides of the stalks. They then pupate after 27 days and the whole cycle starts again. This cycle happens several times during the growing season of the maize plant, but at the end of the season the pupae is formed at the crown of the plant, on the coolest shady side at the soil surface. If we knock down the maize stalks, we expose the pupae to UV radiation and heat. This dries them out and along with the opportunistic feeding of other species such as ants, birds and decomposing bacteria, can significantly reduce stalk borer infestation.

Interestingly enough, grazing alone has proven to be inadequate in the reduction of stalk borer incidence, as the crown is still left intact. This stresses the importance of not cutting or grazing down the stalks but rather knocking them down completely. Knock the stalks down backwards, by kicking them off at the crown, laying them neatly in the inter rows. These stalks are our new blanket or mulch, so don't burn them and do your best to protect them from animals. Next season we will plant into these maize stalks which would have decomposed quite significantly.

The next session called "20 reasons why we do the how" will take you on a discovery of why God's Blanket has been proven to be our soils greatest asset.

10. 20 Reasons Why We Do the How

It is really amazing to see how such a simple practise like Farming God's Way is so effective and yields such great results. By following the secrets that our heavenly Father has revealed to us as closely as possible, we will obviously reap the rewards of His ways.

Our basic technology is:

- 1) Do not plough,
- 2) Do not burn or incorporate God's Blanket
- 3) Practise rotations

Understanding exactly why God's ways are so effective is what this chapter is all about and is called **20 reasons why we do the how.**

Man has ploughed for many centuries, with the first ploughs recorded even in Bible times. The Bible records Elisha, Amos and others as those who ploughed the soil, so why do we advocate no ploughing? Even Jesus used the plough in teaching in Luke 9:62 No man, having put his hand to the plough, and looking back, is fit for the kingdom of God. Just because Jesus used the symbolism of the ploughman, it doesn't mean to say he endorses the practise.

In Bible times ploughing was done with very light spear tip tines, which did not invert the soil, but instead loosened the soil to a very shallow depth for planting. Ploughing or inverting the soil, as done in modern times, has proven to be destructive, uneconomical and environmentally degrading.

The very first ploughing tragedy occurred in the American great plains in the 1930's, after some devastating affects of ploughing caused what is referred to as the dust bowl. These farmers had decided to practise very intensive harrowing of the top layers of their soils to create a powder-type mulch for the protection of the moisture in the dry season, but they had no idea of the enormity of the wind erosion that was to come. The soil was picked up and dumped all over the USA, with some towns having houses, roads and vehicles buried in soil. Hundreds of thousands of farming families where forced to move from the great plains due to the economic collapse of the entire region.

Between 1954 to 1960, a second devastating dust bowl larger than the great wheat lands of Canada and Australia combined developed through ploughing marginal grasslands in Russia.

In January 2005 a dust storm in Central Africa was recorded stretching over 5,300km and could be seen on satellite imagery. [6 pg 4]

These dramatic examples of wind erosion are highly visible, but we should realise that our malpractise of ploughing also causes water erosion, which is far less visible, but far more devastating, with our soil ending up in rivers, catchments and oceans. Southern African agricultural lands lose between 55-250 tons or 1000 bags of soil per hectare per year through sheet erosion. [7,8]

Because of the folly of ploughing, agriculture worldwide is moving away from the plough, with over 100 million hectares currently being commercially farmed with no ploughing or no till worldwide. In fact no till has caught on so much in South America that between 60-85% of the land area is farmed this way. In the USA, no tillage has grown from 4-22% of all cropped area in the last 20 years, with 25,3 million hectares currently under no till. In 2006, the president of the FAO which is the United Nations agricultural arm, endorsed no till as the preferred method of cultivation.

Unfortunately no tillage accounts for less than 1 million hectares in Africa – so far!!! [6]

Technologically, Farming God's Way is not only about no ploughing but we are also after 100% mulch covers, which we call God's Blanket. God's Blanket is just like the love of God.

John 3:16 "For God so loved the world that He sent His only Son, so that whoever believes in Him will not perish but have ever lasting life."

Although Jesus was sent to save the world, most people rejected Him and still continue to reject Him today. He is the way the truth and the life, but only to them who receive Him and believe in His name.

Accepting Jesus' love doesn't fix everything straight away. It starts a journey of healing of our hearts and as we are faithful to walk with Him, His love creates the perfect environment for His work to be completed in us.

God's Blanket has the potential to reveal God's promised abundance in our fields, but most farmers, without this knowledge, reject this amazing gift by burning or burying it. To those that appreciate it, God's Blanket becomes a real blessing and provides the ideal environment for the healing of the land to take place.

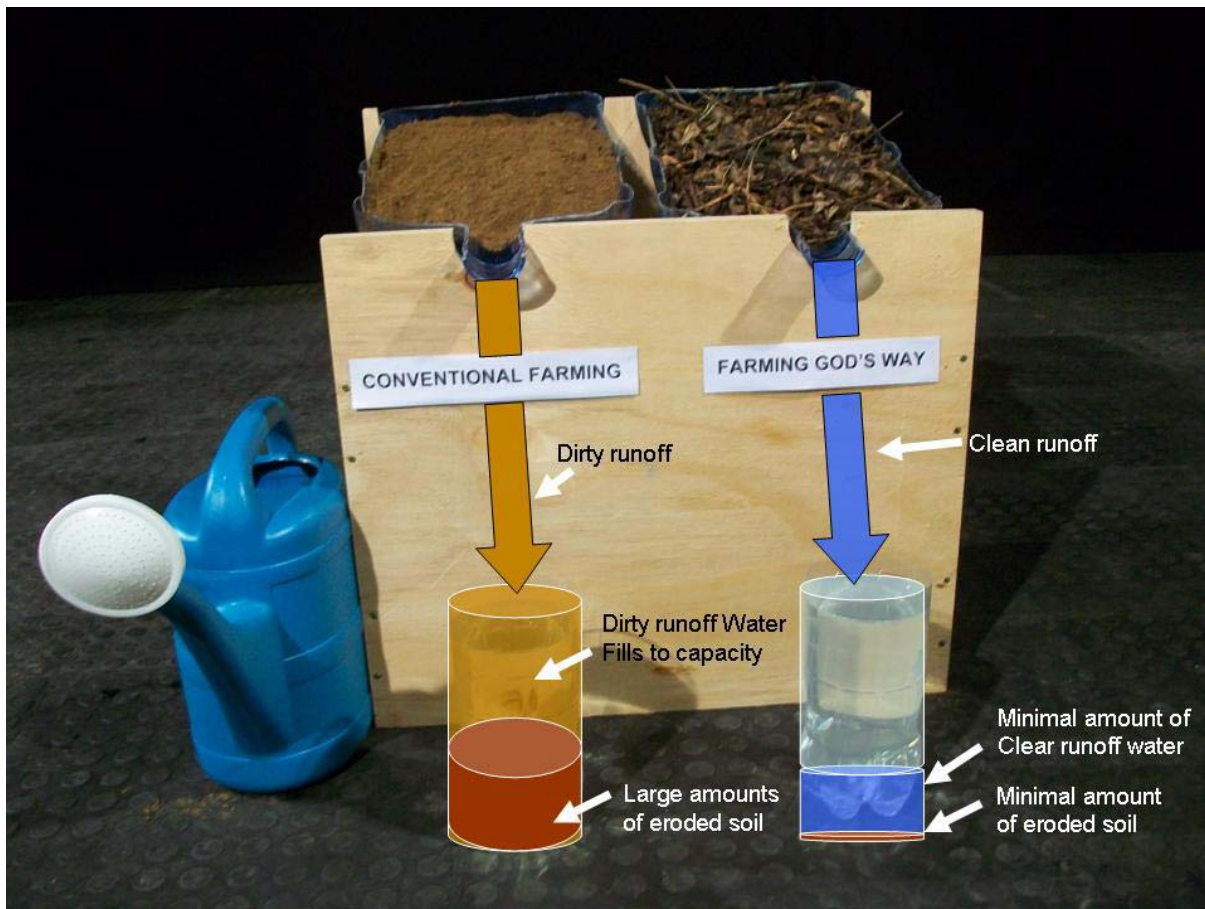
Rotations have also been shown to be crucial in maintaining healthy soil and crops and yet this seems to be one of the hardest hurdles to get people to grasp as farmers continue with monoculture. We advocate that every cropland gets divided into 3 parts and that every 3 years each part will have a rotational crop grown on it. The details of how to practise rotations were discussed in the Well Watered Garden section.

We will be comparing and contrasting conventional farming to Farming God's Way stands throughout, to demonstrate the folly of man leaning on his own understanding versus us humbling ourselves and following God's ways.

A) General Benefits

1) Minimal Runoff and 2) Minimal Erosion

Experiment 1: 2 runoff trays



Let's take a look at an experiment to show the effects of God's Blanket on runoff rates and erosion. Each small container has the same amount of soil with the difference being that the conventional farming trial has no cover and the Farming God's Way trial has God's Blanket. By pouring just 2 litres of water over each small container the results are dramatic.

You can clearly see how the runoff on a conventionally ploughed field is very high and as the water gathers momentum down the slope it erodes the soil surface firstly and then forms rills and ultimately even causes gullies to develop.

In the Farming God's Way trial even though we used the same "ploughed soil" but covered it with God's Blanket, the runoff is very low and as a result the soil erosion is also minimal.

Rainfall trials done at Cedara in South Africa, applying 68mm on a 4% slope, showed that with conventional ploughing, after 1 hour of rainfall, 90% of the applied rainfall was lost in runoff, along with 28.5 tons of soil was lost in erosion per hectare.

Whereas the no ploughing trial with 80% mulch surface cover lost only 6% of the rainfall in runoff and a mere 1 ton of soil was lost per hectare. [12]

These are incredible facts!!! On their own they should be enough evidence to convince farmers to turn to the way God has shown us.

What is the most limiting factor to yield in Africa?Rainfall, and yet we are rejecting the very gift that God has given us, losing 90% of the rainfall we receive.

What is our most precious resource to hand down through future agriculture generations? ...our soil, and yet we are rejecting God's gift to us. Conservative soil scientists suggest that the African average annual soil loss is around 55 tons per hectare per annum, but it has been proven to be as high as 250 tons per hectare in some regions under conventional tillage. This is unfaithfulness with the talents God has entrusted to us.

3) Improved Infiltration

Experiment 2: Bread crust infiltration

So why do we lose so much water through runoff when we plough?

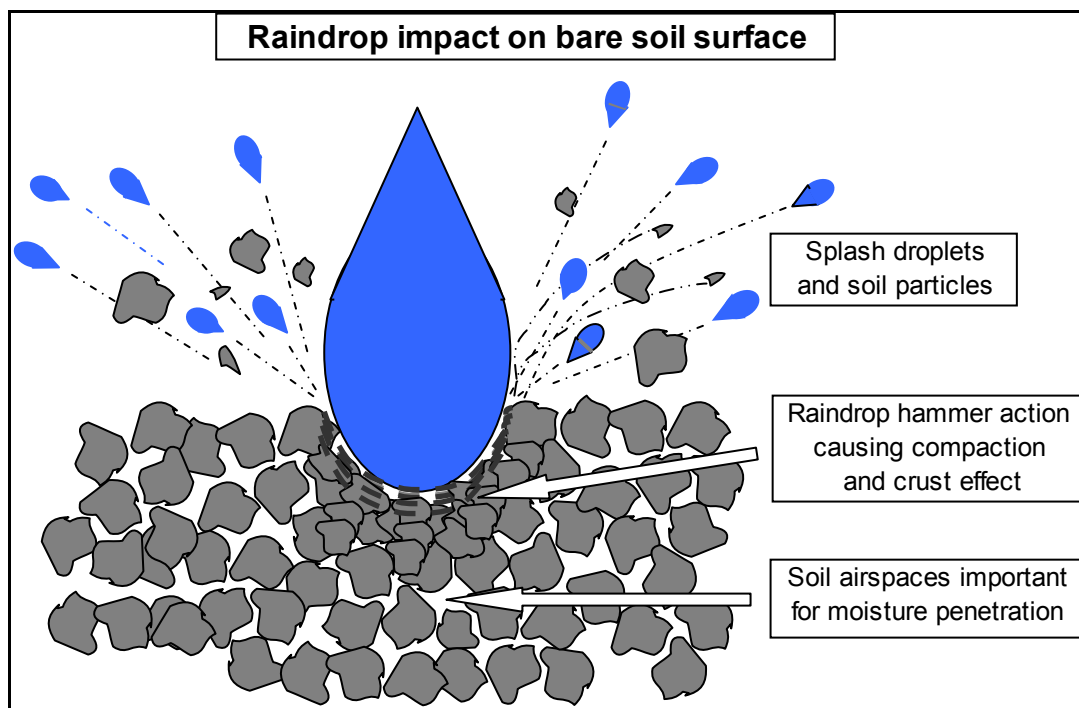
Rain drops fall at very high speed like little hammers, hitting the surface of the bare ground. Their impact causes a layer of compaction called a crust, just like that on a loaf of bread.

Let's take a look at an example of this effect with a loaf of bread.

Pouring just 250 ml of water on the crusted loaf we collect 200 ml water.

That is because the crust seals the bread and stops the water from penetrating deeper.

This is exactly what happens when we plough, the first drops of rain create a crust and this allows only 10% of the rainfall to go in to the soil and is very wasteful.



When we pour 250 ml of water on the uncrusted surface.... we collect just 50 ml water i.e. 4 times as much water penetrates the uncrusted bread. God's Blanket protects the soil from the hammer action of the raindrop by absorbing the impact like a shock absorber. When the raindrop's kinetic energy is dispersed, the water gradually moves down to the soil surface, through the blanket and because there is no crust, it is rapidly absorbed. Once the water reaches the unploughed soil it rapidly infiltrates down the many insect, earthworm and root channels, just like a sponge. In this way we receive the gift of God and very little moisture is wasted.

So the reasons why the Cedara experiment showed a 94% infiltration rate is because of the absorption of kinetic energy of the raindrops by God's Blanket and the sponge-like soil conditioning by the living organisms and from not ploughing.

4) Evaporative Loss

Experiment 3: 2 Evaporation trays

The 10% of the moisture that infiltrates ploughed soil gets exposed to very high surface temperatures as it is exposed to the sun, causing significant moisture losses through evaporation. I have measured surface soil temperatures over 65 degrees and you can imagine how much evaporation takes place under these extremes of heat!

Leave the two runoff trays used in experiment 1 in the sun for 5 hours and then compare the evaporative loss.

The soil in the conventional tray dries out quickly and becomes hard like a clay brick and cracks.

The soil in the Farming God's Way tray, with 100 percent continuous surface cover of God's Blanket which shades the soil surface, is moist and cool. The blanket significantly reduces evaporation from the soil and is a major benefit to Farming God's Way success stories, even under drought conditions.

5) Cooler Soil Temperature Better for Seedling Growth

Cooler soil temperatures can be a negative initially as this causes slower germination and early growth when compared to ploughed lands, but remember that the cropping cycle is 5 months long not 2 weeks, so be committed to the long term impacts.

Once the seedlings are established and have pushed through the blanket they flourish and overtake neighbouring fields within the first 3 weeks after emergence as they have ideal temperatures for root establishment.

6) Don't Waste the First Rain

Most farmers wait till the first rains before ploughing. After their first ploughing they then have to wait again as the soil dries out so rapidly because of the poor infiltration and evaporative losses. After receiving enough rain for planting, they then have to wait again for at least 2-4 days before they can get their workers or tractors into the fields as otherwise it just becomes a quagmire. This is an expensive and wasteful exercise. When we turn to Farming God's Way we are able to prepare our fields for planting by digging our holes well before the first rains so we won't waste any of God's precious gift. After the rains we are able to get into the fields almost immediately, with no negative effects, because the soil is undisturbed and holds its structure. So we save our first rain and are able to get in to plant much sooner after sufficient rain has fallen.

7) Improved Weed Control

Weeds are a major cause of crop losses as they compete with the crop for moisture, light, nutrients and space from the crop all the time. Ploughing actually stimulates weed germination as it exposes weed seed to light and scratches the weed seedcoat.

We have seen this season how much a 100% cover of God's Blanket has suppressed weed growth in our Farming God's Way stands. The volunteers that kept on building up God's Blanket on their stands, only did 2 pre-canopy weedings and one post harvest weeding. The weedings were light and very quick.

One of the volunteers was very busy over the season so he couldn't give the management needed to his crop and didn't put on enough blanket. As a result the weeds in his field went crazy and he really struggled to keep them in check. His crop yields suffered drastically because of the loss of moisture and nutrients stolen by the weeds. He had 3 weedings to do before canopy closure, all of which took more than double the time and were hard work.

Therefore no ploughing and 100% surface cover help significantly in reducing weed growth.

B) Soil Improvement Benefits

For the first 2-3 years the benefits, especially of moisture conservation, are the major reasons for yield and economic improvements, but thereafter there are significant benefits to Farming God's Way determined by the changes occurring as the soil regains its original crumbly structure.

8) Improved Water Holding Capacity

Experiment 4: 2 sponges

This crumbly structure greatly improves the soils sponge effect or water holding capacity. In this experiment take 2 sponges, exactly the same size, and chop one of them up finely to represent a ploughed soil and the other one keep as is to represent an unploughed soil.

Dipping the ploughed soil sponge into the water shows that it collects just 200 ml. Whereas dipping the unploughed sponge into the water shows that it collects 350 ml. This simply shows that soil with an unploughed sponge-like structure is far better at holding moisture, which in turn will result in better yields.

Experiment 5: 2 sponges

The miraculous effects of God's Blanket in preventing erosion have already been explained, but another factor is how ploughed soil is far more susceptible to erosion than unploughed soil. Recently I had a laugh with a Ugandan man who said to me "now I understand why we have been growing rocks in our lands, because our soil has been washing away each year". The same sponges can show us this fact very easily. Use a flexible container, like a coke bottle, with a hole in the lid and squeeze 10 seconds of water onto the "ploughed sponge". The result is a mess of little bits of sponge everywhere!!! Whereas a 10 second blast on the "unploughed sponge" shows no disturbance at all.

9) Improved Fertility

When we burn God's Blanket we lose most of the precious nutrients found in crop residues into the atmosphere. When we plough them in we also lose out because the bacteria break down the plant material and release the nutrients, but the organic matter gets oxidized so fast that it has no long term benefit to soil fertility. Leading soil scientists say that in the early years of ploughing you halve your soil organic carbon levels each year you plough. So it takes years to rebuild an impoverished soil.

Whereas when we start to accumulate God's Blanket, it gradually decomposes over the years through insect and other microbial activity. This is an important part of releasing the nutrients back into the soil again. God in His wisdom has placed the mulch on top of the ground, where it gradually breaks down into dark coloured humus and then into soil

organic matter. Soil organic matter is called black gold as it is such a good indicator of soil fertility. Black gold can hold a lot of moisture as well as increase the cation exchange capacity (CEC) of the soil considerably so that the soil can retain nutrients and keep them in the root zones, instead of them being lost through leaching.

10) Nitrogen Fixing through Rotations with Legumes

The soil fertility is also improved by rotating grain crops with legumes such as beans, soyabeans, groundnuts and other crops which fix nitrogen. This nitrogen will be available for the following year's crop. The yield improvements after rotations are quite substantial and are a definite part of God's plan in reducing input requirements as the soils fertility improves yearly with good management.

11) Reduced Compaction

Experiment 6: 2 clods in 2 glasses

Besides the negative effect of crusting as already explained, ploughed exposed soil is also susceptible to slumping, which is the collapse of the whole profile over time, as the structure and air spaces get pulverized making the soil much more compacted. By practicing no ploughing it is interesting to hear of Farming God's Way farmers joyfully commenting that when they walk on their fields the soil seems spongy to them!!! Collect a clod of soil from a ploughed field and another from an unploughed field, preferably under God's Blanket. Take note that the ploughed clod is hard as a rock and the unploughed is soft and crumbly.

Place the soil clod from the ploughed land in the glass and you will see an immediate collapse of the outer surface and a gradual collapse over time of the clod altogether. The clod from the unploughed field remains very stable in the water and does not collapse as it is being held together by roots, organic matter, insect glues and fungal strands. This is what we call a water stable aggregate and it clearly demonstrates how much more stable and resistant to erosion Farming God's Way soil is.

Ploughing also causes plough pans, which are hard soil compaction layers which form at 20-30 cm deep and caused from regular ploughing and heavy equipment shear lines. They can be so hard that no roots can grow through them, limiting even 10 m deep beautiful soil to a mere 30 cm deep over the years and they must be broken in order to get good yields. They can be broken using a ripper or a pick line and the pan just needs to be shattered not uplifted.

Farming God's Way soil actually increases its volume over the years and has many old root channels and insect burrows which allow for next years crops roots to move quickly down through the profile, unrestricted.

12) Improved Aeration

Experiment 7: Flick 2 glasses with clods in to show bubbles

The unploughed clod will release many more bubbles when it is flicked. The sponge effect, from not ploughing, through insect tunnels and decomposing root channels plays an important role in keeping air locked in the channels which will allow the roots to breathe even in waterlogged conditions.

13) Soil Microbiology Improvement

Soil is far more than just dust and one of the most recent advancements in soil science has been gaining an understanding about the benefits of God's creatures to the soil growing medium.

There are two basic types of soil microbes, namely aerobic which are those that need oxygen to breathe and anaerobic which are those that breathe carbon dioxide. Man in his wisdom inverts the soil through ploughing and buries the aerobic organisms in the anaerobic environment and lifts the anaerobic organisms into the aerobic environment. Yes and you guessed it – they all die as a result, leaving the soil lifeless. God created each organism for a purpose and man has upset that balance.

A soil filled with life is a healthy soil.

We must be faithful to care for God's garden and all the creatures in it, managing them in such a way that they will allow our soils to be fertile and produce good yields. By not burning the blanket we create an ideal environment, cool and moist, for an abundance of organic life. By not ploughing we allow these organisms to serve us, where insects and worms become our little ploughs, keeping our soils full of channels for good infiltration of water and allowing for good aeration. Others fertilize for us by depositing the soil organic matter or black gold right into the root zone. Others break down the organic matter to make the nutrients more available for plant uptake. They are all a part of the Lord's sovereign plan for our living in abundant life.

C) *Economic Benefits*

The economic benefits of Farming God's Way are as significant and on their own merit should suffice to cause a change from ploughing and burning.

14) Pest and Disease Control

Many farmers are fearful of pests and disease infestation when shifting to Farming God's Way, because of all the microbial life, but quite the opposite has been proven to take place. Plants under moisture or nutrient stress actually give off wavelengths of light like an attractant, which encourage infestations of pests and diseases. Our bodies are just the same. We are more susceptible to getting sick when we are under stress. So the first line of resistance against pests is a healthy plant that is not under stress. Secondly the best long term remedy against pests is actually other insect predators and so a healthy balanced soil ecosystem is the safest environment to prevent an infestation in the first place. For example root nematodes are problematical in the soil but less than 30 of the 100 types eat roots. Ploughing actually encourages the dominance of problematic root nematodes whereas no ploughing controls root nematodes by making room for their many natural predators.

Monocropping, or growing the same crops year after year, also encourages major pest and disease build up. The practise of crop rotations breaks pest and disease lifecycles and significantly reduces crop losses through their infestations.

15) Reduced Field Preparation Cost and Time

In mechanized, commercial practise farmers deep plough, inverting the soil. Thereafter they harrow at least twice and sometimes even 3 times, in order to break down the heavy clods they have created. All this is done before planting. It has been proven that commercial farmers spend three times as much on fuel, oil, tines, maintenance and

repairs of machinery compared to a no ploughing technique. Three times!!! Imagine what that does to affect profitability.

Small scale farmers are spending up to 10 weeks ploughing and preparing their holes compared to the six weeks to complete the holes ready for planting with Farming God's Way. Time is a resource not to be wasted.

16) Reduced Fertiliser Losses

Every year millions of bags of fertiliser are lost into the catchments through runoff losses, leaching and erosion. These losses account for billions of dollars wasted yearly. In the catchments, this wasted fertiliser causes environmental disasters in dams and rivers. Fertiliser is very expensive so we should use it wisely, place it accurately and preserve it in the root zone. Farming God's way accomplishes all of these objectives most efficiently.

17) Improved Drought Tolerance and Risk Spread

A soil's drought tolerance has been proven to depend on 3 factors:

- the percentage cover of God's Blanket,
- good aggregation or a crumbly soil structure and
- the amount of living organisms found in the soil.

Remember Dixon's testimony of how they had no rain from December to harvest time and yet he still harvested the equivalent of 30 bags of maize compared to his neighbours 1,5 bags from the same size land area. One year of crop failure is a significant economic loss and may lead to a family dying of starvation so take the necessary precautions as droughts and infrequent rains will come.

Having your eggs in more than one basket is regarded as good economic sense. The practise of the 1/3rd rotation also helps to spread the risk of a total crop failure in a disaster such as drought or regional pest outbreak.

18) Reduced Irrigation Costs

The number of times that a crop gets irrigated can be drastically reduced due to the moisture conservation from no ploughing and having a high percentage of God's Blanket. A 100% cover would save four waterings as compared to no cover at all. Irrigation is very expensive and so four waterings less could be the difference between a profit and a loss.

19) Improved Crop Efficiency

The most important factor to consider is the crop itself. Crops grown in burnt and ploughed fields struggle to find moisture and nutrients and are regularly under stress. The stress causes them to grow inefficiently by sending roots deep into the profile and they spend too much energy on the below ground portion of their growth and not enough on the above ground portion. We don't harvest below the ground but above!!!

Farming God's way provides a plant with the ideal environment to flourish by limiting its stresses, and so the plant grows much more efficiently and the result is greatly improved yields. The roots grow right under the blanket accessing the high fertility of the decomposing blanket and enjoying the readily available moisture in the upper levels of the profile.

20) Yield Improvements

Compare Dixon's increase to his father average yield of 3 bags. In his first year he got 5; second year 45; third year 54 and fourth year 69 bags. Joseph went from 7 to 70 bags in the first year and George had a 9 times yield improvement. These yield improvements speak for themselves.

Summary of the 20 Benefits:

1. Reduced Runoff
2. Reduced Erosion
3. Improved Infiltration
4. Reduced Evaporation
5. Cooler soil temperature better for seedling growth
6. Don't waste first rain
7. Improved weed control
8. Improved water holding capacity
9. Improved Fertility: organic matter, nutrient recycling and cation exchange capacity
10. Nitrogen fixing through rotations with legumes
11. Reduced Compaction
12. Improved Aeration
13. Soil microbiology improvement
14. Resistance to pests and disease
15. Reduced Field preparation cost and time
16. Reduced Fertiliser losses
17. Improved Drought tolerance and spreading of risk
18. Reduced Irrigation costs
19. Improved Crop efficiency
20. Yield improvements

He who has ears to hear let him hear and eyes to see let him see. You are now without excuse!!!

11. Management

Solomon in his wisdom wrote:

Ecclesiastes 2:24 "There is nothing better for a person than that he should eat and drink and find enjoyment in his work. This also, I saw, is from the hand of God."

The poor must be encouraged in the work that God has given them to do and that they should do everything their hand finds to do, as unto the Lord. However, the poor must be encouraged to progress and not just to subsist or be sustained. God is a God of increase and development. He doesn't want us to stay the same, He wants us to come out from under the yoke of poverty and walk in His promised abundant life. He is interested in our being changed daily, more and more into His likeness, being transformed from glory to glory. As we turn wholeheartedly to Him and are committed to walk in His ways it will result in a farm that is on the path of increased yields and profitability.

For the poor to come out of poverty, they need to make a profit.

If you are not making a profit you are making a loss. God's way is that we would make a profit – increase and not decrease.

If you are not making a profit you are forced to beg, borrow or steal to survive.

Making a loss and relying on handouts is not God's way. Many commercial farmers are only just keeping their debt serviced. This is futility and not a Godly way at all. And stealing is against the commands of God.

Isaiah 47:17b "I am the Lord your God, who teaches you to profit, who leads you in the way you should go."

Profit is where Income is greater than Expenditure.

Loss is where your Expenditure is greater than your Income.

God's way is sustainable profitability!!!

Sustainable profitability is farming in a way where income is greater than expenditure for an infinite time period.

There are 2 ways to improve profitability. The first is to improve your income and the second is to reduce your costs. Farming God's way does both through significantly improved yields and reduced costs.

Farming God's Way also gives the sustainable element to the equation through faithful stewardship of the land that God has given us to "care for", including conserving soil, moisture and nutrients.

The first instruction given to man in Genesis 2:15 was to "tend and care for the garden". We have to understand the importance of the "care for" element in our desire to make a profit, as much as the tending or working the land element. Luke 16:10 "He who is faithful in a very little thing is also faithful in much". God wants us to be faithful stewards

of the land, sustainably making a profit through practising Farming God's Way wholeheartedly.

In order for Farming God's Way to be sustainably profitable we must address and improve our management skills.

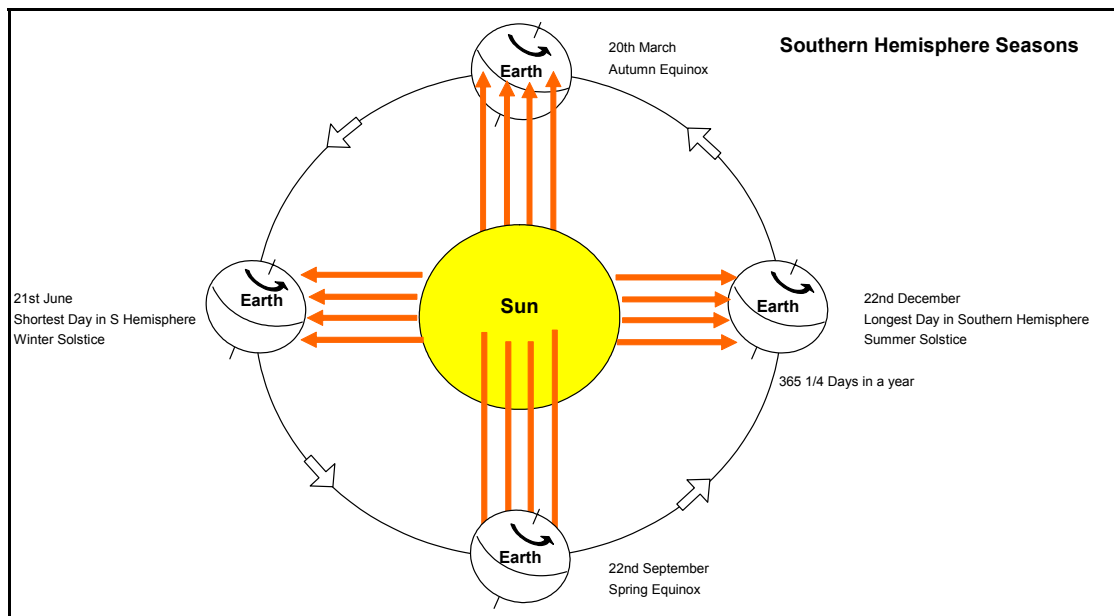
In February 2008, a delegate at one of the training sessions had an amazing vision of Farming God's Way revealing keys that had been hidden from us since creation and that these keys were going to be used to unlock His promised abundance and usher in His kingdom.

The three management keys of Farming God's Way are doing things **on time, to a high standard and with minimal wastage**.

11.1 On Time

Gen 1:14-19 "Then God said, "Let there be lights in the expanse of the heavens to separate the day from the night, and let them be for signs and for seasons and for days and years; and let them be for lights in the expanse of the heavens to give light on the earth"; and it was so. God made the two great lights, the greater light to govern the day, and the lesser light to govern the night; He made the stars also. God placed them in the expanse of the heavens to give light on the earth, and to govern the day and the night, and to separate the light from the darkness."

God's creation in the beginning gives us the platform from which we determine time. The earth spins on its axis doing a complete turn exactly every 24 hours, making day and night. The earth circumnavigates the sun exactly every 365 $\frac{1}{4}$ days, which is one year on our time calendar. The moon spins around the earth every month, giving us our 12 months and also the tides in the oceans. Interestingly, if the earth was at 90 degrees to the sun, our nights and days would be of equal time and we would not have seasons. God in His wisdom tilted the earth at 23.5 degrees giving us our seasons by allowing different hemispheres to be closer to the sun at one point of its orbit and further at the other side of its orbit. In the Southern Hemisphere the longest day falls on the 22nd December, which is the peak of summer; the shortest day is on the 21st June which is midwinter; with mid-autumn on the 20th March and mid-spring on the 22nd September.



God in His wisdom has created the days, months, years and seasons, as a depiction of His character and discipline in His timeliness. God is the beginning and the end, the creator of time itself. God is never late!!! He is always on time.

Ecclesiastes 3:11 "He has made everything appropriate in it's time."

What about us? Are we on time? Do we arrive on time for meetings? Do we keep people waiting? Is timeliness important to you?
It really should be....

A common joke in Africa is that white people have got watches but local people have got time!!!

My story of African time starts off quite funny, but ends up very seriously. It all began many years ago, after finishing teaching Farming God's Way in Malawi and Zimbabwe for 18 days. I was extremely exhausted and my body was really run down. I was due to fly out of Zimbabwe in the early afternoon and would be home with my wife Nikki and my 2 sons Benjamin and Caleb in Port Elizabeth late that evening. I was really excited to get home and to be reunited with my family as you can well imagine. I packed early as I was planning on being at the airport on time, which is 2 hours before an international flight. I spoke to my hosts who were to get me to the airport and they said "Grant, don't worry this is not South Africa it's Zimbabwe, you have plenty of time – sit down and have a meal and we will make sure we get you to the airport on time."

I was the only one to eat swiftly at the meal and jumped up to put my bags in the car so I would be ready – but there was no vehicle!!!

When the vehicle eventually arrived, I was told that the driver must just come and have his lunch and then we would go. By this time I could see trouble on the way and realized that it was going to be tight, but when we got going and "had to do a quick errand at the station", I knew I was in trouble.

We eventually arrived at the airport and yes, you guessed it! "Sir, the plane has already boarded and there are only 20 minutes left before takeoff." I begged, pleaded and spoke desperately to the manager, but there was no changing the fact that I was late and thus not able to board the flight.

I was so angry that I could have blown a fuse, but I exercised self control, walked out of the airport, threw my bags on the back of the vehicle and we drove back to town. On the way in I noticed a commercial bus standing in the main street and asked the driver to stop. I hopped out and asked the bus driver if there were any remaining seats. "Plenty", he said, "we are leaving in 10 minutes." When I went to pay at the ticket office they told me the bus was unfortunately full, but the driver called me over and said he would make a plan. So I paid him the R300, hopped on the bus and that should've been that. So far the only inconvenience was a missed flight that takes 1,5 hours and now a 16 hour bus journey!!! But I was wrong...

On approaching the first town the bus stopped and new people got on the bus and I was sitting in someone else's seat. I moved further back until we stopped at the next town and more people streamed onto the bus, along with a million nightfall mosquitoes. I shifted further and further back until there were no more places left on the bus after 4 stops. I approached the driver who looked back and then came to see if there was something he could do as he wouldn't let me sit on the floor. We walked right to the back of the bus where the toilet was and straddling two seats was the biggest man I have ever met. He was a very pleasant gentleman indeed, but he was huge. The driver

pleaded with him to give up the second seat that he had bought, which he reluctantly did. He pulled his stomach towards himself, I sat down and he lowered his stomach back onto my lap. So began my journey from hell as I got eaten alive by mosquitoes in what must be the most uncomfortable position I have ever been in!

At Johannesburg bus terminus I had to pay a further R250 for a taxi to the airport and then talked my way out of not having to buy another air ticket, finally arriving home after a 24 hour journey, which should've taken four, a great deal of discomfort and fortunately only an extra R550. But it still wasn't over....

Two weeks later I was training missionaries from all over Kenya and started getting extreme headaches, which I was trying to keep under control by taking pain killers several times a day, but to no avail. After 5 days of this I started vomiting and went to a doctor who immediately diagnosed Malaria from a blood smear. But he looked at me puzzled and said "Sir, have you been anywhere outside of Kenya and RSA recently?" When he heard I had been in Zimbabwe he smiled and said "that's it." The strain of Malaria plasmodium ovale he had discovered is not found in Kenya and he had only ever seen it while studying at university. Over the next year I had recurring malaria at least 5 times, as the ovale strain stays dormant in your liver, recurring every couple of months.

The crux of the story came when during the December holidays I came down with malaria the day after Christmas and while vomiting, I slipped a disc in my back, which was so paralysing, I was hospitalised for 7 days. I was eventually wheeled out of hospital on a stretcher bed unable to walk, sit, bend or move my legs. My wife looked after me for 2 months flat on my back. It took months before I could walk again and six months before I could travel.

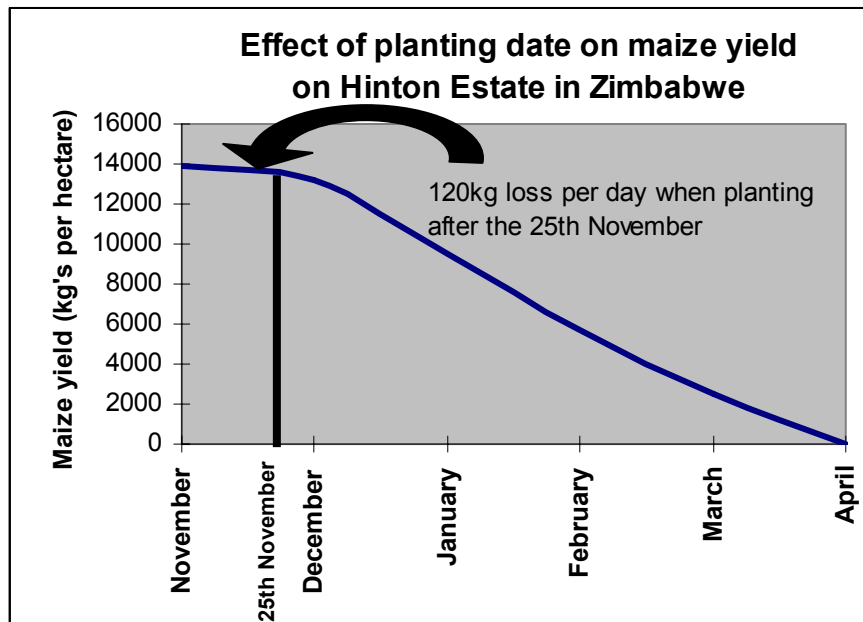
What started out as a simple "African time joke" became a nightmare of crippling consequence. Praise God I am much better 2 years later, but I still have to be careful.

I believe that God allowed me to go through this story so that the crippling consequence of being late in this continent could be told with dramatic effect.

You may be saying "how can we be crippled because of being late?"

1) Planting on Time

The seasons that God has created are His guidelines for being on time. There are many factors that determine timeliness in agriculture, including day length, rainfall, temperature etc. Let's look at the day length factor as an example. We know that in the southern hemisphere, the longest day is the 22nd December. That is the time when maize crop should be able to capture all of the available light from the sun's radiation, so that there is no wastage. We need our crop to be planted well before the 22nd December, to ensure that it will be at knee height or preferably at canopy closure by this date.



In Zimbabwe, which is in the southern hemisphere's summer rainfall region, research on Hinton Estate showed that a loss of 120 kg's of maize yield per hectare, per day, occurred when planting after the 25th November. This is simply due to the dominance of the day length factor.

The steady decline on this graph clearly displays the yield from the 25th November until the yield potential is zero in April. Leading agronomists in Zimbabwe have suggested that by moving the national planting date from late December forward by just 2 weeks that this management change alone would double the national yield.

Now consider that in South Africa, which is at a lower latitude than Zimbabwe, the subsistence farmers plant on average after the 27th December. This means that they are 33 days late, which is 33×120 kg or 3960 kg's of yield potential lost, just because of planting late. They are doomed to fail even before they have begun by not being properly prepared on time.

Planting late is crippling the poor so that they cannot have God's promised abundant Life.

In order to be ready for planting you need to know the optimal planting dates for your area and always be ready 3 weeks before that time, in case of early rains. Ready for planting means to have all your planting stations dug, inputs in and covered with 3 cm of soil. To do this you need about 6 weeks for digging your planting stations and 2 weeks for placing inputs on a hectare.

For example in South Africa, Lesotho, Zambia, Zimbabwe, Mozambique and Malawi the optimal planting date is from the 10th-25th of November, taking into account the longest day on the 22nd December and the average rainfall pattern. You should therefore be ready for planting by the end of October, so start preparing your planting stations in early September. In these areas, the factors determining timeliness are day length and rainfall combined.

Whereas, in Kenya and Uganda, the factor determining timeliness is rainfall, as they are right up near the equator and so the day length factor's effect on the crop is negligible. In these central African areas, the long rains occur from March through to July, so be ready for planting by the end of February. To be ready on time, start preparing your planting stations in January.

In all areas and climates, we do not encourage dry planting. Planting date based on day length is a factor and not a rule and therefore cannot over-rule late rainfall. Dry planting is far too risky and costly as often times you get just enough rainfall for germination but not enough to carry seedlings through a dry spell. You also get significant seed losses from rodents and birds. As a farmer you should understand what factors in your area determine you being on time and plan accordingly to be ready.

2) Weeding on Time

It takes a man working 5 hours a day just 7 days to weed a hectare when the weeds are just 1 inch tall, whereas it takes the same man 14 days to weed the same hectare, when the weeds are 1 foot tall. However the weed cycle is every 10 days, so the first timely weeding gives 3 days of rest, but the procrastinator is 4 days late after finishing his weeding and he is unable to catch up on his weeding unless he gets other labour to help him, which is costly. If we weed on time we will manage our weeds and keep them from robbing our crops of valuable light, moisture, nutrients and space. Putting off for next week, what should be done today is crippling our crops and our profits, so we need to weed on time.

Every element of our step by step procedure has an "on time" discipline in it, including preparing planting stations, placing inputs, planting, gapping, thinning, 1st and 2nd topdressings, weeding, harvest and stalk lodging – everything.

See the appendix for some rough guides to various production timelines for an area close to your climate.

11.2 To High Standards

Everything God does is done to high standards. His standards of excellence were first demonstrated in creation in Genesis chapter 1, where He created and then examined His own workmanship and proclaimed that it was good.

Gen 1:1 "In the beginning God created the heavens and the earth.

The earth was formless and void, and darkness was over the surface of the deep, and the Spirit of God was moving over the surface of the waters. Then God said, "Let there be light"; and there was light. God saw that the light was good; and God separated the light from the darkness. God called the light day, and the darkness He called night. And there was evening and there was morning, one day.

Then God said, "Let there be an expanse in the midst of the waters, and let it separate the waters from the waters." God made the expanse, and separated the waters which were below the expanse from the waters which were above the expanse; and it was so. God called the expanse heaven. And there was evening and there was morning, a second day. Then God said, "Let the waters below the heavens be gathered into one place, and let the dry land appear"; and it was so. God called the dry land earth, and the gathering of the waters He called seas; and God saw that it was good.

Then God said, "Let the earth sprout vegetation, plants yielding seed, and fruit trees on the earth bearing fruit after their kind with seed in them"; and it was so. The earth brought forth vegetation, plants yielding seed after their kind, and trees bearing fruit with seed in them, after their kind; and God saw that it was good.

There was evening and there was morning, a third day. Then God said, "Let there be lights in the expanse of the heavens to separate the day from the night, and let them be for signs and for seasons and for days and years; and let them be for lights in the expanse of the heavens to give light on the earth"; and it was so. God made the two great lights, the greater light to govern the day, and the lesser light to govern the night; He made the stars also. God placed them in the expanse of the heavens to give light on the earth, and to govern the day and the night, and to separate the light from the darkness; and God saw that it was good. There was evening and there was morning, a fourth day.

Then God said, "Let the waters teem with swarms of living creatures, and let birds fly above the earth in the open expanse of the heavens." God created the great sea monsters and every living creature that moves, with which the waters swarmed after their kind, and every winged bird after its kind; and God saw that it was good.

God blessed them, saying, "Be fruitful and multiply, and fill the waters in the seas, and let birds multiply on the earth." There was evening and there was morning, a fifth day.

Then God said, "Let the earth bring forth living creatures after their kind: cattle and creeping things and beasts of the earth after their kind"; and it was so. God made the beasts of the earth after their kind, and the cattle after their kind, and everything that creeps on the ground after its kind; and God saw that it was good.

Then God said, "Let Us make man in Our image, according to Our likeness; and let them rule over the fish of the sea and over the birds of the sky and over the cattle and over all the earth, and over every creeping thing that creeps on the earth." God created man in His own image, in the image of God He created him; male and female He created them. God blessed them; and God said to them, "Be fruitful and multiply, and fill the earth, and subdue it; and rule over the fish of the sea and over the birds of the sky and over every living thing that moves on the earth." Then God

said, "Behold, I have given you every plant yielding seed that is on the surface of all the earth, and every tree which has fruit yielding seed; it shall be food for you; and to every beast of the earth and to every bird of the sky and to every thing that moves on the earth which has life, I have given every green plant for food"; and it was so.

God saw all that He had made, and behold, it was very good. And there was evening and there was morning, the sixth day. Thus the heavens and the earth were completed, and all their hosts.

By the seventh day God completed His work which He had done, and He rested on the seventh day from all His work which He had done.

Then God blessed the seventh day and sanctified it, because in it He rested from all His work which God had created and made. This is the account of the heavens and the earth when they were created, in the day that the Lord God made earth and heaven."

Romans 1:20 "For since the creation of the world His invisible attributes, His eternal power and divine nature have been clearly seen, being understood through what has been made, so that they are without excuse."

God desires that His children would reveal His glory, but this cannot be done unless we repent from our sinful ways which have resulted in our blindness. As we submit our lives to the Lordship of Jesus Christ and walk with Him, he begins to reveal Himself to us in greater and greater ways than before. We learn to appreciate the creation of God and care for it, we discover His ways and implement them as we see Him doing, we align our times to His seasons and we follow His standards of excellence in whatever we do. When the glory of God is revealed like this, it results in redemption, transformation of lives and fruitful abundance.

One can often tell the condition of a man's heart by looking at his house. If the house is in a shambles it is an indicator of the state of his heart. On the contrary, if his house is as neat as a pin but cold and unfriendly it is also a state of his heart. As farmers, our farms are the reflection of our workmanship. If your farm is a total wreck with scrap and rubbish lying around it shows the state of your heart. If you have poor plant stands with uneven, crooked rows and weak plants, it shows you don't care about your farm. If your farm is in disorder and chaos, what is the condition of your heart?

Farming God's Way allows us to take land, which is in a state of disorder and chaos, and establish our dominion over the land, so that God's glory can be revealed through the work of our hands. God's order and building from the bottom up, line upon line and precept upon precept, are what lead us to establish God's order in our fields.

Practically, the teren rope is an amazingly simple, yet accurate tool to establish the high standards required for Farming God's Way. Teren ropes are used to mark the planting stations and give high standards for establishing plant population densities. When breaking into a community, the first practical step that trainers need to do with farmers is assist them in making their own teren ropes. Make sure the teren rope is as long as the field, or a maximum of 50 m, and made from a non stretch type of material. Take the time to ensure markers are placed at exactly 60 cm intervals. Also make sure that people go

away from trainings with a 75 cm marker stick in order to make the row intervals exactly according to the layout plan. This design allows for perfect straight rows, straight intra rows and even diagonals. These two measurements at 60 by 75 cm give 22,222 holes per hectare.

There is a wise saying that says **“you cannot manage what you don’t measure.”**

Every Farming God's Way farmer should know exactly how many holes he has got as this determines the input requirements. The numbers of holes is even more accurate than land measurements.

The next important step in land layout standards is utilising permanent pegs to ensure you plant in exactly the same planting stations year after year. Placing these pegs at the top of the field and at every 20 rows, will effectively provide the matrix you need to practise traffic control on a small scale, enabling higher standards than any commercial farmer could ever achieve.

Many trainees wonder whether the standards demonstrated at a well watered garden site can be achieved on a field size. Look at this Malawian example of the high standards on field size that have been achieved with Farming God's Way.



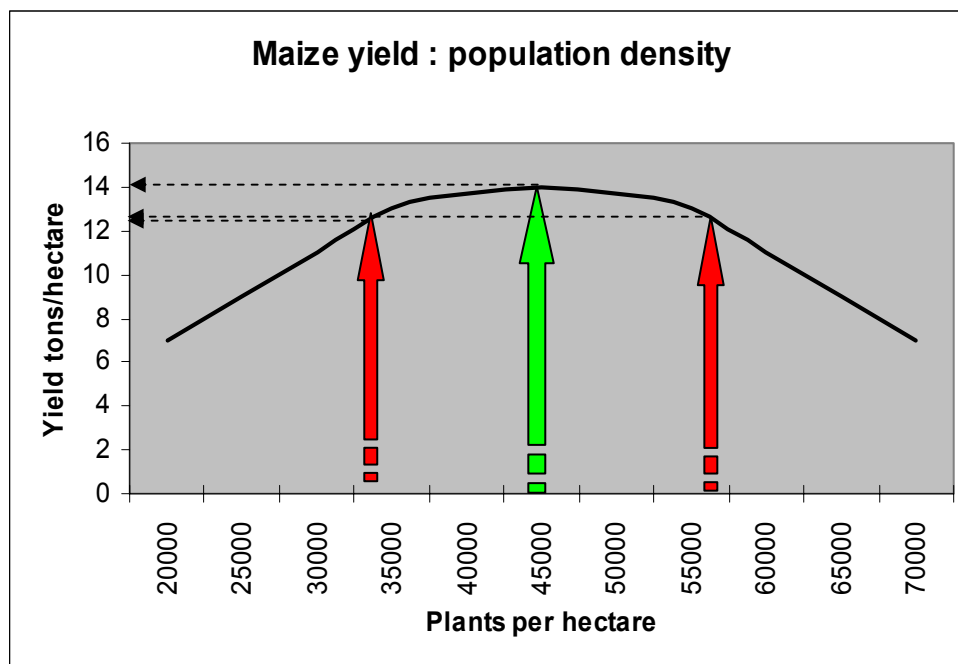


Dixon Shuwali is such an inspirational leader and he has taught me so much over the years. I have always encouraged farmers to gather into groups of 5 in an area, so that they can pray, advise and help one another in their Farming God's Way implementation. Dixon has 2 old and very frail women in his group, whom they help as a team by laying out their fields. They measure out the baseline with the 60 cm teren rope on the permanent pegs and then dig all of the first row's holes. Then they dig all the 75 cm intervals holes down the field's sides and every 10 holes across the slope they repeat this. Thereafter they lay out the teren rope again every 10 rows and dig the holes across the slope. When they are finished they have neatly laid out a matrix of holes 10 rows apart and 10 intra rows apart, and the old women just have to "fill in the blanks". The team members do not have the time to prepare their whole field, but by doing this they allow the old and frail to also walk in the blessings of doing things to high standards. This must be so pleasing to God to see how they consider the weak, and humble themselves by serving them so unselfishly in this way. This is God's way, reaching out with what we have, and giving not expecting anything in return.

Planting in the 60*75 cm high standard matrix and in the same holes every year is not for perfectionism, but for good reasons including:

- a) Left over nutrients from last years crop can be easily accessed by the next crop
- b) Soil texture gets softer and easier to work
- c) Decomposed roots from previous crops improve soil fertility and leave channels for easy root growth and improved water penetration
- d) Compaction from feet or implements only occurs between rows
- e) Minimal soil disturbance between plants reduces weeds emergence.

Besides these benefits to such high standards, the population density of maize at 44,444, after the placement of 3 seeds and thinning down to 2 seedlings per hole, is a significant advantage. It has been shown that 44,444 plants per hectare is a well balanced plant population density for most bioclimatic regions. This is where the yields are at their highest under dry land conditions. Keeping these high standards gives farmers the best opportunity to maximise yields. If you are lazy and only plant 2 seeds per hole, after germination losses and pest damage you will end up with about 33,000 plants per hectare, which is a significant yield loss. If you think thinning is too much work and leave in the excess plants, you will end up with about 55,000 plants, which also results in a significant yield loss because of too much competition.



Poor standards are causing people to suffer significant losses. Most of the poor throw seed in holes, not knowing how many seeds they plant, nor the spacing they are planting at. This is unfaithfulness and brings no glory to God at all on the farm, resulting in them remaining under the yoke of poverty.

Keeping our farms weed free throughout the year is another extremely important principle of high standards to adhere to. One pig weed (*Amaranthus hybridus*) plant can produce 900,000 seeds, so can you imagine the seed bed produced over a hectare if they are allowed to set seed. We must exercise high standards and make sure that we don't allow for the weed seed bank to develop, by weeding when weeds are small and never allowing them to set seed.

You most probably remember the testimony of how Dixon in his first year of doing Farming God's Way went through a severe drought and only got 5 bags. However, when compared to his brothers 0 bags, he had done very well and a lot of people in his area started asking questions. What you don't know is that in that first year he had zero percentage cover of God's Blanket and so

he cut reeds from the river and carried them in, covering only 20*30m or 600 m² of a total of 47,000 m² of his field. Although this was only 13% of the land area, where God's Blanket was at 100% standard, the yield was 4 bags, compared to just 1 bag from the balance of the area. The area of land where God's Blanket was did 27 times better than the area with no blanket.

I often times encounter farmers who are deliberating about their mediocre successes with Farming God's Way and when I actually go to their fields they have no blanket and come up with a myriad of excuses why it's not there. Farming God's Way isn't Farming God's Way if there is no blanket.

The standard of excellence with God's Blanket is 100% surface coverage.

In the evaluations we do of farming communities, the percentage cover of God's Blanket is given the highest ranking of all of our evaluation data, as it is of the most vital importance. If you have got 30% cover and are doing everything else right you are only half way there – carry in blanket coverage throughout the year or grow cover crops or protect your fields from animal grazing. Do what you have to do to build this percentage cover up to 100% as soon as possible. Traditionally, we have rejected this incredible gift from God and it is time that we as farmers will give this resource its rightful place on our farms again, covering our soil with God's Blanket to a high standard as God has shown us in His creation.

My encouragement to everyone training Farming God's Way is not to be judgemental in the high standards, but to be gracious and see the standards of excellence as a discipleship journey. The excellent standards we are establishing are rooted in the Grace of the Lord Jesus Christ and not in perfectionism. Just as Christ first loved us while we were still sinners, He called us to Himself and He wrote our names in the book of life. He paid the ultimate price for us so that we could know His grace and mercy and be called by His name. Nothing we could ever have done could have prepared us for these privileges. We need to be humble enough to ask God for His direction and guidance and encourage all Farming God's Way farmers to embark on this journey towards His redemptive purpose for our land.

A good example of excellence versus perfectionism is with inputs. Each farmer must give inputs bountifully as a part of God's all sufficiency. Anthill soil has a lower yield potential than other inputs, but by being faithful with the little you have, God will add to you. High standards with inputs is determined by the accuracy and volumes you put in the holes, not what input you use. It is futile to measure yields against other inputs' yield potentials. You must compare apples with apples, not oranges. In year 2 that same farmer who used anthill soil as his basal dressing, should have his compost ready, which has a much higher yield potential and is free to make. In year 3 he can again use compost as his basal dressing, and use some of the profits to buy a topdressing of urea. In year 4, he can again use compost as his basal dressing, and use some of the profits to buy two topdressings of urea. This is

a journey of excellence where faithfulness leads to improved standards and yields.

Each measure of excellent standards is there for our good and not for perfection sake. They have been carefully selected to make sure that your farm will make sustainable profits. Many farmers are too embarrassed to even call themselves farmers because in their eyes, farming is the “lowest form of occupation”. However, as they begin to farm God's Way, they begin to excel, provide for their families, make sustainable profits and lift up their heads. Their farms look beautiful and become models in their communities. They freely give and equip others and because of their servant leadership, they become more and more respected and favoured in their communities. This journey to Godly standards of excellence leads to the glory of God being revealed in the hearts of His children and on the land.

Colossians 3:23 “Whatever you do, do your work heartily, as for the Lord rather than for men,”

11.3 With Minimal Wastage

Biblically the most incredible demonstration of Jesus' practise of minimal wastage was shown at the feeding of the five thousand.

Matthew 14:14 "When He went ashore, He saw a large crowd, and felt compassion for them and healed their sick. When it was evening, the disciples came to Him and said, "This place is desolate and the hour is already late; so send the crowds away, that they may go into the villages and buy food for themselves." But Jesus said to them, "They do not need to go away; you give them something to eat!" They said to Him, "We have here only five loaves and two fish." And He said, "Bring them here to Me." Ordering the people to sit down on the grass, He took the five loaves and the two fish, and looking up toward heaven, He blessed the food, and breaking the loaves He gave them to the disciples, and the disciples gave them to the crowds, and they all ate and were satisfied. They picked up what was left over of the broken pieces, twelve full baskets. There were about five thousand men who ate, besides women and children."

This miracle story has been told many times, as a sign of Jesus miraculous power and authority and yet I wonder how many times the collection of the wastage has even featured in the story.

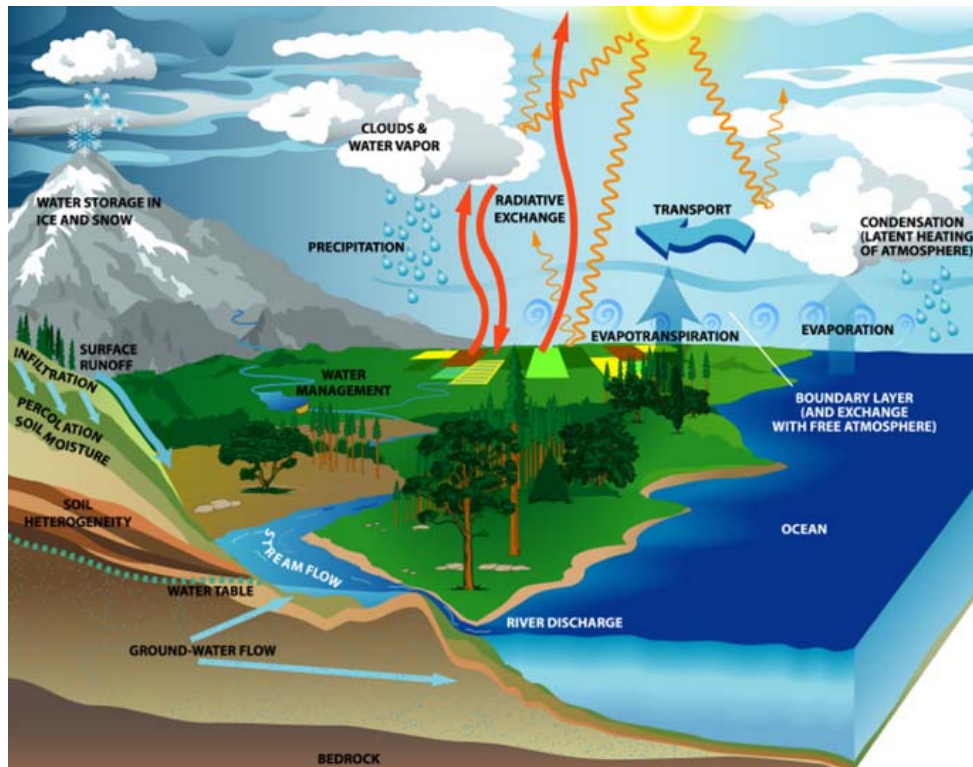
The fact that they collected 12 baskets of left over food, clearly shows that man is wasteful, casting aside the things that we don't need right at that moment, even if they come through such an amazing miraculous sign. If we look around us in the world today, we see this wasteful attribute of man clearly on display. So many of God's gifts to us, His children, are wasted and it matters to God. People don't care about wastage but God does. We need to have our character shaped by Him so that we would be transformed more and more into His likeness. We need to learn that it is important to practise minimal wastage.

Jesus said "I only do that which I see My Father in heaven doing". By collecting the wasted pieces of loaves and fishes that had been discarded and practising minimal wastage, Jesus displayed one of the secrets of His Fathers' character.

Man is wasteful; God practises minimal wastage

In creation there are so many demonstrations of this Godly attribute of minimal wastage, that it is impossible to ignore.

The energy for driving all of the cycles of minimal wastage in creation is provided by the sun. Short wave radiation enters the atmosphere, heating the oceans and the earth's surface, driving the currents and winds and forming the basis for climates. The short wave is then given back into the atmosphere as long wave radiation which provides the heat for all life forms to have a suitable environment to survive.

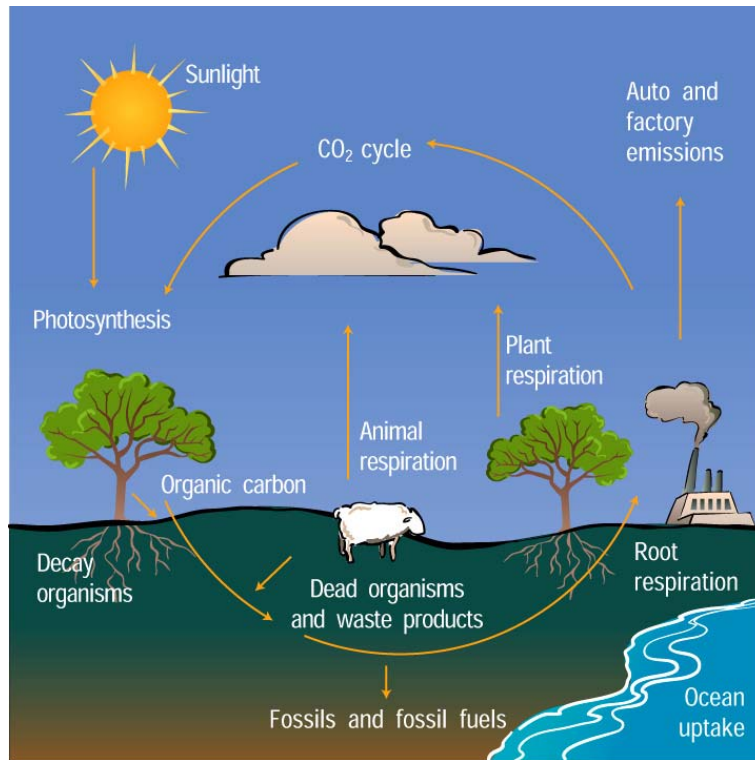


Water Cycle

[25]

The heat causes evaporation from the oceans, lakes and rivers and evapo-transpiration from plant leaves, all of which contribute to atmospheric moisture, which cools as it ascends higher to form clouds and eventually precipitation. In this water cycle there is no wastage of water. Rain that falls has its kinetic energy broken by God's Blanket and because of all the life in the soil, it permeates deep into the soil profile, with only minimal runoff losses. Even deep water storage systems like aquifers and ice fields of the polar ice caps are simply long term storage facilities for the water cycle. Nothing gets wasted out of this system. This is God's way.

Plants take up carbon dioxide and by using the energy of short wave sunlight they manufacture carbohydrates, and release oxygen as a by product. This process is called photosynthesis and is the basis for all life on earth. Without this God created production of carbohydrates from CO_2 , no other life would have the building blocks to survive. Plants get eaten by animals and birds in the food chain, which utilise the energy from the carbohydrates and give off carbon dioxide back into the atmosphere as a by product. Some of the carbon in animals gets transferred into the soil through faeces or death and this will also eventually make its way back into the cycle. Plants that die will get decomposed by bacteria and fungi and release carbon dioxide back into the cycle. Even dead plant material that was buried during flooding or earth movements from volcanoes or shifting continental plates formed the fossil fuels which we use to drive the technology of our modern world. Nothing gets wasted.



Carbon Cycle

[24]

God in His amazing wisdom has designed His creation in such a way that there are circles to all forms of life, which are all interwoven with each other in a delicate balance in which nothing gets wasted. God's glory is clearly evident in His creation. If there is any meddling in this delicate balance, the circles of life get distorted and require hundreds of years to allow the equilibrium to be brought back into balance.



Mozambiquean Deforestation

A classic example of the destruction of this equilibrium through man's greed where he takes without giving back is the large scale deforestation of the African

hardwoods. The forests are being destroyed by slash and burn agriculture, charcoal making, fire wood and timber exports. All over the African continent, the scars of what were once beautiful African forests are now jungles of exotic shrubs and weeds. These sensitive indigenous forestry areas are our national heritage and should be preserved and protected for future generations, not wasted for short term financial gain.

According to the FAO we are losing 13 million hectares of indigenous forest per year across the globe. In the last 100 years, more than half of the world's forests or approximately 800 million hectares have been deforested and the rate of deforestation is growing annually with global demand for agricultural land, timber and wood fuels.

Besides the obvious value in providing safe havens for our indigenous plants, birds, animals and microbiology, the forests have a far more important long term role. Their preservation is extremely important for the stability of our climate, both on a national and global level. Deforestation has had a catastrophic affect on the environment and the situation is worsening everyday because of man's wastage of this precious resource.

Firstly, the short wave rays of light from the sun hit the earth, instead of being intercepted by forest leaves and what was once productive light is now wastage. This wasted light bounces off the ground as long wave radiation, which is responsible for the heating of the earth's atmosphere.

Secondly, the carbon dioxide levels in the atmosphere increase as a result of less photosynthesis taking place and because of the burning of organic matter. Carbon dioxide is a greenhouse gas and absorbs significant amounts of long wave radiation, which in turn causes increased atmospheric temperatures. Carbon dioxide levels have increased by more 100 parts per million or 35%, since the onset of the industrial revolution in the 19th century. The first 50 part per million (ppm) took 200 years but the last 50 ppm increase has taken place in just 33 years. This increase is mainly due to deforestation and the burning of fossil fuels. The role that deforestation plays in global warming cannot be ignored.

Thirdly, the indigenous forests play a significant role in harvesting rainfall in association with God's Blanket and then transpire that moisture back into the atmosphere very efficiently increasing the atmospheric moisture levels and therefore rainfall again. Deforestation has been proven to be a major cause of drier climates, reduced rainfall, flash flooding and high soil erosion.

This deforestation example shows just how delicately God's creation is interwoven and how the greed of man and his wastage can destroy God's order. These sensitive forest ecosystems will take hundreds of years to recover if ever given the chance. The remaining 750 million hectares of forest all photosynthesizing every day, have a significant role to play in this delicate balance and emphasise the need for us to actively preserve them.

Many amazing organizations world wide are lobbying against deforestation and motivating tree planting. We need to get this message out as the body of Christ, so

that He will find us to be good stewards of the beautiful creation He has entrusted us with.

You might say: What does this have to with farming?

Slash and burn agriculture is currently being practised in many countries across the continent. It involves the deforestation of natural indigenous forests, either through burning or logging, with new land areas being opened up for agriculture everyday. The lands get abused and within no time at all those same lands are regarded as waste lands and more deforestation occurs. Although hard to believe, many countries suffering from food insecurity were originally completely forested, and now they cannot feed themselves. Once beautiful productive forests are now wastelands where people are desperately trying to eek out a living.

Preserving the indigenous forests at the expense of people's lives is not a solution. We have to find ways for farmers to live in harmony with God's creation. By practicing Farming God's Way, farmers can feed their families and make **profits out of smaller tracts of land**, hereby reducing the overall demand on land. Farmers are also able to make **sustainable profits from the same tract of land**, through giving in order to receive.

This way we can preserve the indigenous forests without causing the poor to suffer, simply for conservation sake. Currently the demand for agricultural land is so high that marginal lands unsuitable for cultivation, like steep slopes and erodable soils, are being farmed. By improving yields on smaller tracts of land, we can effectively eliminate the cultivation of marginal lands, which can instead be kept for forestry and pasture use.

Farming large tracts of land at low return is wastage.

Pius Muthie in Mpeketoni, Kenya, used to grow maize on 6 acres and harvested only 20 bags. After turning to Farming God's Way he now only grows maize on 2 acres and gets 40 bags. This is only the beginning for Pius, but it illustrates the minimal wastage principle exceptionally well.

Farmers can also be taught the skills of growing forestry crops on portions of their fields. This is called agro-forestry and can provide sufficient charcoal or firewood for cooking, as well as the timber needed for home construction. Replacing the thinned trees would allow for a sustainable timber supply for all of the farming family's needs. This shows that there are proactive ways for farmers to not waste the precious resource of the indigenous forests.

Another area where agriculture is guilty of significant wastage is soil erosion. Leading soil scientists in Africa estimate soil losses at between 55 and 250 tons of soil per hectare. That is between 1,100 bags and 5,000 bags of soil lost as compared to the average maize yields of 7 bags per hectare. This is wastage and unfaithfulness. The wastage all comes from man leaning on his own understanding, ploughing and burning crop residues.

The trials done at the agricultural research station in Cedara, South Africa clearly demonstrated that with just one storm trial, conventionally farmed land lost 90% of

the rainfall through runoff, taking along with it 28.5 tons of top soil per hectare through sheet erosion. Whereas the land that had no ploughing and a mere 80% cover of God's Blanket, only lost 6% of the rainfall and 1 ton of soil per hectare. Many people joke about soil being Africa's greatest export but this is testimony to our unfaithfulness with the land that He has entrusted to us. Soil erosion is an indicator that we do not appreciate the gift that God has given and shows our high levels of wastage. The wastage of soils results in them getting shallower and less fertile, until finally the topsoil is gone and only the poor lower horizons of soil remain. With this kind of wastage it is impossible to make sustainable profits. The wastage of rainfall and soil has consequences for the whole ecosystem downstream, from flash flooding to siltation of watercourses, amongst others.

God's Blanket is the primary key that God has given us to minimise the wastage of soil and moisture and has plenty of other benefits. God's Blanket is a farmer's gold and I cannot think of one legitimate reason why anyone would burn this precious resource.

Every one of the steps within the Farming God's Way sequence have been carefully chosen to ensure the principles of minimal wastage are attained. It is such a simple sequence to follow step by step, but the deeper reasonings behind this simplicity are very purposeful and complex.

For example the spacing of 60*75 cm and a population density of 44,444 make sure that the crop canopy closes early, which is important to allow the crop to capture as much of the available sunlight for photosynthesis as possible whilst utilising limited land area to best potential.

The inputs of anthill, manure, compost or fertiliser are placed directly in each hole, allowing the roots of the crop to gain quick access to the available nutrients. The traditional practise of broadcasting nutrients like fertiliser and manure, dilutes and wastes our inputs, giving the weeds a better chance of success than our crop.

Although time is a management key, it is also a resource to consider. Ploughing our fields is not only destructive, but also a significant waste of precious time. I have enjoyed many testimonies of Farming God's Way farmers spending half the time on land preparation as they don't have to plough anymore and spending triple the time on harvesting and shelling because of the radical yield improvements.

Conventional commercial farmers spend 3 times the amount of money on land preparation than those practising no ploughing. When you consider the high prices of diesel, oil and maintenance of expensive machinery, it seems like folly to continue practising such high financial wastage. This is also true for small scale farmers who pay strong young men substantial amounts to plough their fields. Instead of this wastage, even sick, weak and elderly farmers can prepare their planting stations by doing a few rows every day in their own time, well before the rains come.

God can redeem anything from waste to promise, even dongas that are 20 m deep or expansive deforested areas or degraded soils. In an area called Tomali in Malawi, a Well Watered Garden was planted into a lifeless soil which was as hard as concrete. After 1 year when replanting the garden, one could put your fingers into that same soil and after 2 years the soil colour and texture had changed miraculously. The soil was dark, crumbly and full of organic matter, with many airspaces and channels from

the insects which had been busily transforming a waste land into a land with signs of promise.

Isaiah 51:3 "For the Lord shall comfort Zion: he will comfort all her waste places; and he will make her wilderness like Eden, and her desert like the garden of the Lord; joy and gladness shall be found therein, thanksgiving, and the voice of melody."

Just outside the garden where man's way was continuing, the soil remained in a state of waste - degraded, lifeless and with no hope. The Lord is an exacting master and His word says that if we are unfaithful even with little, that He will take it away from us. God will judge each of us according to the measure He has given us and if we are unfaithful with it, He will give it to someone more faithful than ourselves.

Be encouraged to assess all areas of your life and farming practise, and to align them with the Godly attribute of minimal wastage.

Management Summary

Remember, everything in life is not only about making a profit, as many are the rich who die in their misery, so keep the balance between increase and Godliness.

Mark 8:36 "For what shall it profit a man, if he shall gain the whole world, and lose his own soul?"

Our aspirations for good management and therefore sustainable profitability are secondary to a walk worthy of being called His children. We need to do everything we do as unto the Lord, with all the fruits of the Holy Spirit evident as a witness of God's transforming power in our lives.

It is so amazing to see how when we put these 3 management keys into place that we will have exceedingly great joy in the work of our hands. You cannot have joy if you don't do things on time. You cannot have joy if your standards are low. You cannot have joy if you are wasting your resources. God wants to delight over your success as a farmer as much as you do. Remember if you sow in joy, you will also reap in joy and if you sow with a long face, grumbling and complaining, you will also reap a harvest grumbling and complaining.

2 Corinthians 9:7 "Let each man do according as he has purposed in his heart: not grudgingly, or of necessity: for God loves a cheerful giver."

Every place that farmers have wholeheartedly implemented Farming God's Way, they have made a radical God given improvement in their yields. As they continue to grow and improve their management standards yearly, they go on a journey of their land being redeemed, soils being healed, abundance revealed and lives transformed into more and more of His likeness.

12. Scale of Implementation

Farming God's Way has proven to be successful in all economies of scale including small scale, medium scale and large scale operations. Some adaptations within each scale will allow for a successful implementation.

12.1 Small Scale

Small Scale Farmer Kit for a Hectare

2-4 Hoes – sharpen the blades and repair handles

60 cm stick for making the teren rope

Teren rope (60 cm markers) preferably as long as your field – up to 50m long

2 * 75cm sticks

Downslope rope to maintain straight edge

Sheet of paper to work out a right angle

30 * Permanent pegs to be placed every 10 to 20 rows.

2 * 350 ml Tins or cups

2 * 5 ml cups or teaspoons

4 * 12 ml cups or tablespoons

Inputs required

Seed - rule of thumb 25 kg/ha for maize, for others see alternative crops for guidelines

a) Organic fertiliser

Manure - aiming at 3-5 t/ha yield put on 350 ml * 22,222 holes = 156 bags.

Or Compost - aiming for 2-5 t/ha yield put on 350 ml * 22,222 holes = 156 bags.

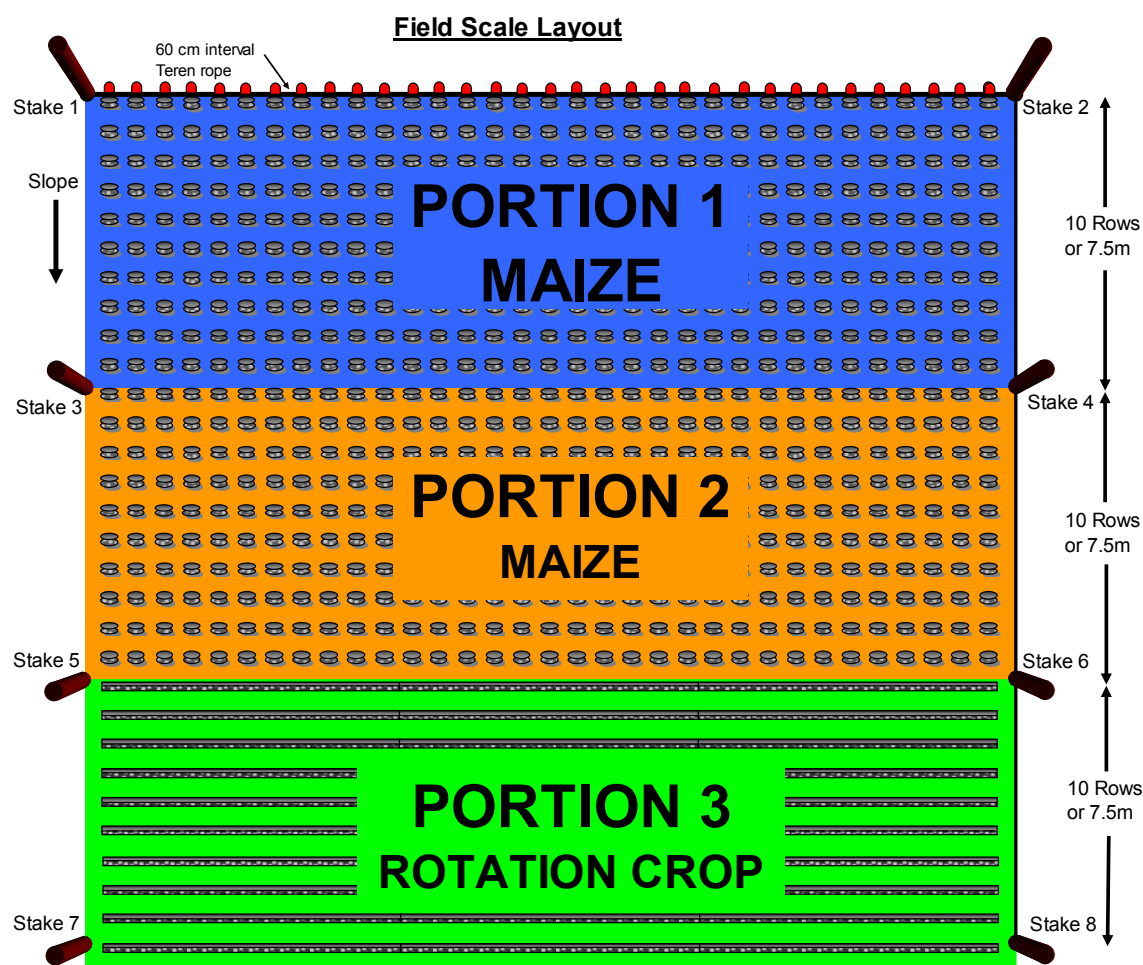
Or Anthill soil - aiming for 1-3 t/ha yield put on 350 ml * 22,222 holes = 156 bags

b) Inorganic fertiliser

Basal fertiliser e.g. DAP 12 ml*22,222 holes = 293 kg or 6 bags

Topdressing e.g. Ammonium Nitrate 8 ml 1st topdressing and 5 ml 2nd topdressing
*22,222 holes = 256 kg or 5 bags

Implement the field scale as per the Well Watered Garden teaching, just extend the teren rope and volumes according to your field size. Small scale farmer families can comfortably do up to 3 hectares utilizing a hoe.



12.2 Medium Scale

As farmers expand into larger tracts of land, then draught animals can be used to speed up the on farm processes. The draught animals can be used for the transportation of inputs and harvest to and from the lands, as well as for the land preparation process. It must be stressed that using these and other mechanised methods will reduce the accuracy of planting and traffic control, which will have obvious detrimental affects on yield in the long term. It is still preferable to plant using a hoe, as it is the most accurate of ways. If the farmer decides to use animal draught power for land preparation then the following can be done.

Use the ox drawn plough to cut a furrow as straight as possible, to the recommended planting depth, at 75 cm intervals. Do not plough, but simply aim for the furrow type of preparation that is explained under alternative crops. Thereafter, run the teren rope across each furrow and plant in the same way. This will reduce the time taken for the holing/furrowing out process, however the results have proven to be lower yielding per hectare.

12.3 Large Scale

Mechanised farmers with even larger lands can adjust their machinery to zero tillage without overcapitalising, by running 75 cm ripper/cultivator tines to 10 cm deep and then planting on those furrow lines with a conventional planter. Better still are no till drills which have become very popular worldwide as a preferred method of planting.



These zero till drills slice through God's blanket, dig a furrow, place fertiliser in a band in the furrow, place the seed at the appropriate depth and spacing, cover and press with closing wheels all in one operation. Having passed through a field these machines leave little or no evidence of them ever having been there. The principles of traffic control should preferably be employed to keep any surface compaction to a minimum. Permanent markers can be used for this, in the same way as small scale

implementations, every 15-20 rows. In 2008 there were just under 100 million hectares under zero till, most of which was large scale implementation. What we really need in the large scale sector is the implementation of the Farming God's Way management keys and biblical keys to ensure that the fullness of God's blessing is unleashed on the land.

13. Basic Budget

It is essential for farmers to gain an understanding of a basic budget in order to make wise decisions on profitability. The table below is a sample budget based on maize figures from Malawi over the past 5 years and includes a sugar bean rotation.

Farming God's Way - Maize and Sugar Beans – Dryland						
Land area		Total	1	ha	Inputs	
Portion 1		Maize	0.67	ha	Basal	Manure
Portion 2		Sugar Beans	0.33	ha	Topdress	Urea
Costs	Unit		\$ per unit	Quantity per hectare	\$ per hectare	Field size Value (\$)
Maize						
Seed	kg		3	25	75.00	50.25
Fertiliser						
Basal NPK/DAP	50 kg bag		40	0	0.00	0.00
Urea	50 kg bag		37	6	220.00	147.40
Manure	50 kg bag		0.6	156	97.50	65.33
Lime	50 kg bag		17	0	0.00	0.00
Contract Labour	Labour days		3	0	0.00	0.00
Chemicals 1	litre		0	0	0.00	0.00
Chemicals 2			0	0	0.00	0.00
Harvest transport	Cart		0.4	66	27.36	18.33
Bags	bag		0.7	66	43.77	29.33
Other			0.0	0	0.00	0.00
Sub Total						310.63
Sugar Beans -depleted soils						
Seed	kg		3	90	240.00	79.20
Fertiliser						
Basal NPK/DAP	50 kg bag		40	0	0.00	0.00
Topdress Urea	50 kg bag		37	0	0.00	0.00
Manure	50 kg bag		0.6	156	97.50	32.18
Lime	50 kg bag		17	0	0.00	0.00
Contract Labour	Labour days		3	0	0.00	0.00
Chemicals 1	litre		0	0	0.00	0.00
Chemicals 2			0	0	0.00	0.00
Harvest transport	Cart		0.4	7	2.75	0.91
Bags	bag		0.7	7	4.40	1.45
Other			0.0	0	0.00	0.00
Sub Total						113.73
Total Cost						424.37
Income	Unit		\$ per unit	Bag Yield		\$ Value
Maize (4,9 tons/ha)	50 kg bag		9.33	66		612.83
Sugar Beans (1 ton/ha)	50 kg bag		36.67	7		242.00
Other	50 kg bag					
Total Income						854.83
Profit/Loss						430.46
Return on investment						101%

Although this is very hypothetical it is really important to understand how these figures can be affected by management decisions.

Example 1 - A case for compost:

It is assumed that the farmer has to buy manure in this example, which is the case in Dixon's example.

If this same farmer used compost and urea, instead of manure and urea, he would save \$97,50 in manure costs; assuming his yields declined by 20% then his profit would still increase by \$30. This encourages farmers to prepare the compost in the first production year to be ready for use in season 2. Most farm communities have large stock piles of manure currently, but after 1 or 2 seasons use that reserve will be depleted. So it is important to start using the nitrogen source from the manure more wisely in good quality compost from early on in the adoption of Farming God's Way.

Example 2 - High cost of contract labour:

If this same farmer decided to use contract labour instead of working the field himself, then he would make a profit of just \$47, hereby making the whole farming operation non viable. This is the great benefit of Farming God's Way as it allows for the land preparations to be done by the family in stages before the rains come, so even the sick and elderly can farm profitably.

Example 3 - High yields don't mean high profits

If the farmer decided to use NPK basal dressing and he was able to increase his yield to 6,5 tons per hectare, then the profit may increase by \$40. However, if he only got 5,5 tons per hectare then he would make \$100 less profit than with manure and urea – interesting!!! Higher yields don't always mean higher profits.

Remember too that, in the event of a crop failure, from drought or flooding, the financial risk is severe due to high fertiliser costs. In some African countries, fertiliser is so expensive that it is not economically viable to use any inorganic inputs.

Understanding these figures and how they are affected by management decisions will assist farmers to become more and more profitable. However, accurate record keeping of costs, crop prices and market trends is essential to allow each farmer to sharpen his own budget and operations.

You cannot manage what you don't measure.

Besides a production budget, it is really important to have a personal or family budget that will allow you to manage your personal finances in a Godly way. This will allow your family to keep out of debt, manage your income and expenditure as well as allow you to save and accumulate wealth over time. Crown financial ministries have some excellent materials to become better equipped in this area.

14. Extension – Getting the Message Out

As Farming God's Way gets extended widely through the nations, our encouragement to you is this - never forget that the POOR are the target audience. They have a special place in God's heart and we must ensure that we keep focussed on serving them wholeheartedly.

1) It Starts with You

If you are going to become a Farming God's Way farmer then go through the teachings thoroughly and ensure that you start small and expand with faithfulness. Keep on studying the resources and go to frequent training sessions.

If you are interested in training Farming God's Way then you need to commit yourself to going through the equipping and relational accreditation process.

This includes:

- Attending at least 3 training events
- Planting and managing your own well watered garden for a season
- Participating in the in-field mentoring mission trips.

When one of the senior Farming God's Way trainers feels that you are ready, then we will relationally accredit you as a Farming God's Way trainer.

Remember that Farming God's Way is not an organisation, but a tool given to the body of Christ. We are not trying to build you into Farming God's Way, but rather to equip you to use Farming God's Way. We want to release thousands of trainers to be able to extend this message of hope under their own covering of church, mission or NGO.

2) Commitment of 5/6 year Repeats

When breaking into a community really enquire of the Lord and ask Him where you should deliver this message of hope. It requires great commitment and determination to go through the 3 stage process of loosening, removing and breaking the yoke. In the team of trainers that I oversee, we have a policy to practise 5 or 6 years of repeat training in a poor community. This commitment comes at a high price but we do it in obedience to what the Lord has spoken for us to do and this has borne much fruit over the years. It is not good to do a once off training, as this can often do more damage than good. Poverty cannot be broken through one training session.

In my experience, in the first year of training only the real agents of change in the community will be prepared to fully implement Farming God's Way, although some others may test it out on a Well Watered Garden size within their fields. So use wisdom and encourage new prospective farmers to put in a Well Watered Garden trial on their fields. I wish they would change immediately as they lose out on a years advantages, but this is a process in communities, so like I have learnt – be patient.

In the second and third years, spend lots of time encouraging the farmers that tried it, giving them the individual attention they need to get them to follow through with their persuasions. These farmers will bring the testimonies that you need to get the whole community to change ultimately.

After 5 or 6 years of training, a solid base of farmers should have developed, who are fully persuaded to continue without your presence being necessary. The practising numbers in the community continue to swell, even after you are no longer there, eventually even extending this message of hope to neighbouring communities. This is why you need to carefully select where you are going to train Farming God's Way.

3) Finding the Man of Peace

When starting in a community first find a man of peace. You cannot serve a community unless you have a man on the ground that is trustworthy and will carry the torch in your absence, preferably displaying the equivalent of an elder's qualities. He should be contactable and be able to help you facilitate in gathering the people for the training times, so he needs to be a man of influence.

4) Free Giving to All – no preferential treatment

In your extension ensure that the training is available to all and not just for a select few. You may get wonderful results with one disciple, but they can get ostracised and persecuted because of jealousy by their communities and as a result the broader extension will suffer in the long run. Even if you do discipleship one on one, invite the community to attend teaching times and include them in farm visits.

5) Size of Extension Sites

Many senior Farming God's Way trainers have tried using large scale implementation sites, in order to get communities to buy in to Farming God's Way. They get good results on the model site, but the actual knock on effect into the community is limited as it is regarded as a project rather than a method. It also ties the extension in to an individual's land which causes problems of jealousy to arise. I tried a 1 hectare extension in Kenya, which cost a fortune to manage and the knock on effects into the community were poor. It is far more cost effective and empowering to train using the model of the 6*6m Well Watered Gardens. Here the whole community can come and get all the training they need to be faithful with what God has put in their hands.

6) Multiple Hits in a Community per Season's Effectiveness

It is a great advantage if you live in or nearby to the community you are going to train, as you can break the training sessions down into smaller portions, taking the farmers through a production timeline from land preparation and planting, to weeding and topdressing right through to harvesting and post harvest stalk lodging. You must just ensure you give sufficient lead time to the farmers so that they can implement on their lands what has been taught at the Well Watered Garden site. You can also break up the biblical and management keys, so that the community goes on a journey of acquiring knowledge of the deeper truths in smaller portions, rather than all together in one batch.

Whether you train into a community more than once per season or not, try not to give an information overload. For example, if I train a community once per season, I won't deliver all 6 of the biblical keys at one sitting, but rather 2 at a time and bring the fullness of the keys over a number of years.

7) Timing of Training

The timing of training is very important for effective implementation of Farming God's Way. Too early in the season and people will be unsure of what you taught by the

time it comes to dig the planting stations; too late and you won't give them enough lead time to actually prepare their fields on time or they would have already burnt and ploughed or ridged their fields.

For a November planting region, set a training time between August and early October, with September being prime time.

For a March planting region, December-February training is best, with January being prime training time.

8) Importance of Small Groups

I have been surprised about how effective the placing of farmers into small groups is. Encourage a list of trained farmers to get into groups of 5. These groups are extremely powerful and should not be underestimated for the peer to peer discipleship and competition aspect. Each group has a representative who will in turn report to the community Farming God's Way representative. When training is to be arranged by a trainer, the community representative gets the message to the group leaders who in turn communicate to their members. They get together to pray every week, alternating between members fields and discipling each other in godliness and Farming God's Way.

9) Incentives or Handouts of Fertiliser and Seed

Many NGO's and even church based initiatives endorse the use of incentives such as seed and fertiliser, however we do not advocate this. Unless a farmer is persuaded in his or her heart first, they will not continue in the practise of Farming God's Way when the incentive is finally withdrawn, as they believe it was the inputs and not Farming God's Way that caused them to succeed. We also have to search our hearts to discern whether our incentives are putting a yoke on the community by making them dependant upon us. God has given to every person, according to their measure, what they need to succeed and if we truly believe this then we can serve the poor by taking them on a journey of being faithful with the little, so that when they have much they can manage the increase properly.

10) Field Evaluations

Although field evaluations are not mandatory, they are very useful for discipling of farmers, reinforcing all the valuable attributes of Farming God's Way and exposing the reality of the standards. They also provide accountability and help identify areas of weaknesses that need extra training.

If the farms are not too far apart, we select 10 farmers as representatives of the community including pastors, good and average farmers, the elderly, widows and orphans.

It is best to evaluate the farmers in their own fields during and at the end of the season. The first time to evaluate is after thinning and again at harvest time. Evaluate the same farmers for the duration of the 5/6 years of your repeat training. The manual contains an example evaluation form for monitoring the selected farmers.

11) Prayer

One must not underestimate the importance of prayer. Bring the area before the Lord in prayer and ask Him for His Word to be clearly given you, so that you can know where to teach, and who the man of peace is that you must work alongside. I encourage prayer to be done at regular intervals such as the start and finish of the Well Watered Gardens, before and after training sessions and even more

importantly, as you disciple individual farmers. I have found that taking the time to do farm visits and praying for individual farmers and their fields has been very effective at winning over many people to whole heartedly change to doing Farming God's Way. The poor are incredibly relational and the personal touch of a field visit and individual prayer goes a long way to establish a relationship based on sincere love.

Remember to ask your friends, family and colleagues to cover you in prayer as you go and keep on putting on the full armour of God as your protection, as you are going into enemy territory. He does not want the yoke of oppression lifted off the lives of the poor.

Summary

Let's take this message motivated by obedience to the Word of God, rooted in Christ-like compassion and deliver it with much love for the poorest of the poor to be set free from the yoke of poverty.

15. Biodiversity Through Alternative Crops

A part of God's revelation through His creation is the diversity of species that exists under natural conditions. In Farming God's Way we encourage farmers to adopt this diversity by practising rotations, relay cropping and growing green manure cover crops. Farming God's Way is not only applicable to the maize crop and this section will give you some guidelines on how to grow some of the alternative crop types.

15.1 Rotational Cropping

In Farming God's Way we advocate that rotations should occur every 3rd year. Divide lands into 3 equal proportions and allocate the 1st two to the staple crop, example maize, and 3rd portion to the rotation crop, example green beans.

Year	1	2	3	4
Portion 1	Maize	Beans	Maize	Maize
Portion 2	Maize	Maize	Beans	Maize
Portion 3	Beans	Maize	Maize	Beans

(see Field Scale Layout – Section 12: Small Scale Implementation).

Rotations have great advantages over monocropping systems, including

- providing for protein and vitamins in family diets,
- fixing of nitrogen by legumes, which result in cost savings and yield improvements for the following seasons crops,
- breaking disease and pest cycles,
- improving soil structure,
- and spreading of financial risk.

Rotational crops are many and the variations thereof are innumerable, however here are some general guidelines:

- The rotation should have a change from a monocotyledonous to a dicotyledonous species
- Rotational crops should preferably include a legume such as beans, soybeans, pigeon peas, cowpeas, sugar beans or groundnuts but can include sunflower, sweet potato and vegetables.
- The 3rd rotation portion can also be subdivided further to include a variety of vegetables for a family's nutritional supplement.

Select the rotational crop based on your climate, soil and objectives. Prepare and manage the land according to the selected alternative crop specifications, adjusting fertilization, spacing, seeding rates, depth of planting, thinning and topdressing etc.

If you don't practise rotations you are going to encounter problems typical of a monocropping system, such as an increase in pest and disease incidence and a decline in soil fertility. Rotations are a significant part of the delivery of the "sustainable profitability" mandate of Farming God's Way.

15.2 Relay Cropping

Mixed cropping is a common African practise, especially with beans between maize rows, however neither of these crops reach their yield potentials with this system. We do not encourage a mixed cropping practise for manageability and best crop performance reasons.

However, we do encourage relay cropping if the climate allows for this or there is enough residual moisture towards the end of the season. When running a relay race you pass the baton from one runner to the next. In the same way relay cropping is planting the second crop when the first one is tiring and dying back. Relay crops are different to double crops which get planted after harvesting the first crop.

Be careful not to plant the relay crop too early as then you will cause your first crop yield to suffer drastically when the grain fill stage is happening.

Relay crops can be planted in holes in the row or broadcast under the dying canopy. An example is how Dixon plants Pigeon Peas when the maize plant leaves start to die back, usually at the end of February or March. In April, he harvests his maize and knocks down the stalks. Then in September he harvests the relay crop of Pigeon Peas. The benefits of this system include 2 crops in a climate with one rainy season, fixing of nitrogen because Pigeon Peas are a legume, increase in God's Blanket cover, good weed control through shade effect, as well as giving him the right to protect his blanket from burning by rat hunters and grazing by animals. In the past 3 years his Pigeon Pea average harvest has been 750 kg's or just under 2 tons per hectare, which is incredible in their dry non rainy winter season for a second crop.



Pigeon Pea relay crop at maize harvest time

15.3 Green Manure Cover Crops

Green manure cover crops are also an amazing part of God's all sufficiency and given the right climates and management, can become integrated into the cropping cycles. Green manure cover crops would be well suited to the climates of Central and West Africa, as well as where there are extended rainy seasons. A suggestion is to grow green manure cover crops in the short rain periods in order to recondition the soil for the main cropping season.

Green manure cover crops have been used commercially for many years to build up the percentage cover of God's Blanket, fix nitrogen, improve soil fertility, control weeds, prevent erosion, provide high protein animal fodder, additional income and human food. They are just like growing compost in the fields and their advantages over compost are they don't need watering and are far less labour intensive.

Some excellent legume varieties include dolichos lablab, mucuna/velvet bean, cowpeas, alfa alfa, peas and hairy vetch. Examples of suitable monocots include wheat, rye and oats. Some species of cover crops such as cowpeas, peas and wheat are also well suited to relay cropping and can be broadcast under the canopy before the last weeding at leaf die back, serving both the second cash crop as well as the green manure cover crop benefits.



Lablab purpureus

15.4 Alternative Crop Guidelines

1. Soyabeans – dicotyledonous, rotation crop

Soyabeans are relatively easy to grow and are an excellent rotational crop. They have a complete protein composition and are an excellent substitute for meat and eggs in the diet. For best results with soyabeans in Africa, you should inoculate them with Rhizobium bacteria and plant the seed within 6 hours to have the optimal nitrogen fixing effect.

Spacing	Rows	75 cm	
	In Furrow	5 cm	
Furrow depth		Organic 8 cm	Inorganic 5 cm
Fertilisation per meter		350 ml Organic	8 ml Inorganic NPK
Seed rate per hectare		160 kg	
Planting depth		1,5 cm	
Topdress		None	
Yield		2 tons per hectare	

2. Sunflower – dicotyledonous, rotation crop

Spacing	Rows	75 cm	
	In row holes	60 cm	
Hole depth		12 cm Organic	8 cm Inorganic
Fertilisation per hole		350 ml organic	8 ml Inorganic NPK
Planting depth		2 cm	
Seed rate per hectare		6 kg	
Seeds per hole		3	
Thin to		2	
Topdress		5 ml Urea	
Yield		1,5 tons per hectare	

3. Cotton – dicotyledonous, rotation crop

Spacing	Rows	75 cm	
	In row holes	60 cm	
Hole depth		12 cm Organic	8 cm Inorganic
Fertilisation per hole		350 ml organic	8 ml Inorganic NPK
Planting depth		2 cm	
Seed rate per hectare		25 kg	
Seeds per hole		5	
Thin to		2	
Topdress		5 ml Urea	
Yield		1,5 tons per hectare	

4. Sorghum - monocotyledon

Spacing	Rows	75 cm
	In Furrow	10 cm
Furrow depth		8 cm
Fertilisation per meter		350 ml organic
Seed rate per hectare		10 kg
Planting depth		2 cm
Topdress		8 ml Urea per meter
Yield		2 tons per hectare

5. Pigeon Peas – dicotyledonous, Rotation or Relay legume crop.

Spacing	Rows	75 cm
	In row holes	120 cm
Hole depth		12 cm Organic 8 cm Inorganic
Fertilisation per hole		350 ml organic 8 ml Inorganic NPK
Planting depth		3 cm
Seed rate per hectare		50 Kg
Seeds per hole		3
Thin to		1 or 2
Topdress		None
Yield		1,5 tons per hectare



6. Cowpeas/Beans – dicotyledonous, Rotation or Relay legume crop

Spacing	Rows	Split to 37,5 cm
	In Furrow	10 cm
Furrow depth		8 cm Organic 5 cm Organic
Fertilisation per meter		350 ml organic 5 ml Inorganic NPK
Seed rate per hectare		60 kg
Planting depth		2 cm
Topdress		None
Yield		1,5 tons per hectare



Photo – Danny Blank Echo farm

If you are going to use cowpeas as a relay crop then you can broadcast at maize die back and do your last weeding to allow for good seed to soil contact.

7. Groundnuts – dicotyledonous, rotation legume crop

Spacing	Rows	Split to 37,5 cm	
	In Furrow	4 cm	
Furrow depth	8 cm Organic		6 cm Inorganic
Fertilisation per meter	350 ml organic		5 ml Inorganic NPK
Seed rate per hectare	80 kg		
Planting depth	3 cm		
Topdress	None		
Yield	2 tons per hectare		

8. Winter Wheat – monocotyledonous, relay or double crop

Spacing	Rows	15 cm
	In Furrow	Dribble in furrow
Furrow depth	1,5 cm	
Fertilisation		
Seed rate kg per hectare	100 kg in rows or 120 kg broadcast	
Planting depth	1,5 cm	
Topdress broadcast	100 kg AN	
Yield	2 tons per hectare	

If you are going to plant wheat as a relay crop then you can broadcast at maize die back and thereafter do your last weeding to allow for good seed to soil contact.

9. Cassava– dicotyledonous rotation root crop

Spacing	Rows	75 cm	
	Holes	120 cm	
Input hole depth downslope of teren rope	10 cm Organic		5 cm Inorganic
Fertilisation	350 ml Organic		12 ml Inorganic NPK
Plant cuttings on upslope of teren rope	20 cm long with 5-8 nodes and 1.5-3.5 cm thick		
Planting depth	Push 2/3 ^{rds} or 13 cm deep		
Yield	20 tons per hectare		



Cassava can be grown effectively on flat ground. Cut the plants that are ready for harvesting, leaving a base of 40 cm behind as a pullout handle. The roots must be harvested within 2 days after taking cuttings. Select cuttings from disease free plants, using only the mid portion of the parent plant not the base or top leafy sections. Store the cuttings in the shade standing upright, preferably transplanting every day but never store for more than 5 days. Plant stakes vertically with the correct orientation, so that the topside is on top. If using inorganic fertilizer, prevent burning of the cuttings by placing 12 ml of balanced NPK in a small punched hole, 10 cm on upslope side of the cutting, 5 cm deep. High blanket coverage helps to keep the soil moist and crumbly for easy uprooting at harvest time. Cassava is a very drought resistant crop and produces a high starch root which has been the survival mechanism crop for many poor communities.

10. Sweet Potato – dicotyledonous rotation root crop

Spacing	Rows	75 cm	
	Furrows	30 cm	
Furrow depth		15 cm Organic	12 cm Inorganic
Fertilisation per meter		500 ml compost	12 ml Inorganic NPK
Plant cuttings	30 cm long, flat for 20 cm and then last leaves out the ground		
Planting depth	10 cm deep		
Yield	12 tons per hectare		

30 cm long cuttings should ideally be kept moist in a cool, shady place for 3 days to stimulate root growth before transplanting. The cuttings should come from parent plants that are about 3 months old and disease free. Sweet potato has a high nutritional value and should become one of the staples grown by all farming families, even if it is only for home consumption.

Summary

God has shown us the importance of diversity in His creation and we should be following closely what we see our Father doing in all areas of farming.

It is however vitally important, to consider the poor and take them on a journey of faithfulness with the small things, before embarking on these slightly more advanced technologies.

The first step is to encourage 3 part rotational cropping and then build on that to incorporate relays and thereafter green manure cover crops.

16. Composting

Darryl and Hazel Edwards are composting specialists, who have been great champions in the Farming God's Way team for many years and this section is mostly a compilation of their efforts.

Compost is an exceptional alternative to fertiliser, which builds up not only the organic nutrient levels in the soil, but helps to restore the natural biotic balances which occur in the soil profile.

2 Corinthians 9:8 "And God is able to make all grace abound to you, that always having all sufficiency in everything, you may have an abundance for every good deed."

God's Word is true. He has made a way for everyone to have the best quality soil supplement... Compost. By putting back good quality compost into the soil, farmers can reap the same, if not better, profitability in the long term when comparing to fertiliser usage.

What is Compost?

Compost is simply decomposed organic matter that has been broken down by micro organisms, especially bacteria and fungi.

To ensure that our compost is of the highest quality we must follow strict standards and stick to the recipe. We suggest a compost pile size of 2m long by 2m wide by 2m high. This is small enough for a single person to work in a few hours, while allowing for adequate internal temperature of the pile. This compost volume will easily be enough for an acre or half a hectare of maize. It is not recommended that you reduce the size below 1.5 m cubed.

When to make Compost

Start collecting compost materials at the time of the main crop's canopy closure, which is when farmers have a break from weeding. This is when there is plenty of green material around and also gives the compost enough time to fully mature before the next season. For example in a November planting area, make your compost in February, finish turnings in April and allow for a few months curing so that it will be ready for use in October.

Ingredients

Compost is made of three main ingredients nitrogen, green and a woody/dry component.

1) Nitrogen Component

Nitrogen is the fuel of the compost pile and gets the bacteria going. The Nitrogen component should make up 10% of your pile and you can use 15 bags of manure. If there is no manure in your area then you can use 4 m³ of legumes for this and just adjust your green and woody/dry components accordingly.

2) Green Component

Green leaves are the source of sugars, which are necessary for good quality compost. The green component should make up 45 % of your pile and anything that is cut when green, even if it has dried, is classified as green.

3) Woody Dry Component

The woody material really helps to encourage the fungal growth in the pile because it breaks down so slowly and keeps the pile aerated, while the dry material adds bulk. The woody dry component equals the green component and makes up the balance of 45% of the pile. Woody materials include maize cobs, stalks, branches, cardboard and wood shavings, while dry material includes thatch grass, leaves and weeds.

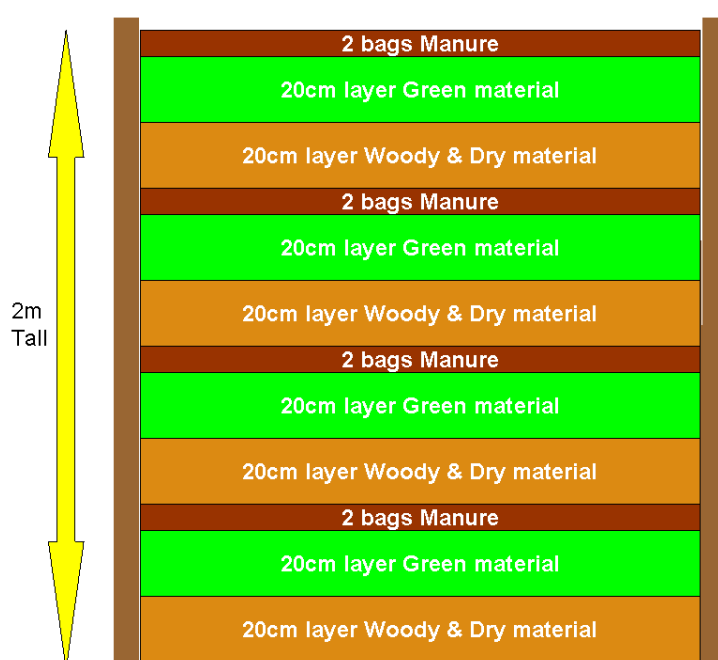
To summarise the ingredients we need:

15 bags of manure and an equal split of 45 % green to 45% woody dry.

The materials should be piled separately until such time as enough of each material has been accumulated. Collecting enough material to build a pile takes time, so you must just plan properly. Farming God's Way farmers should get themselves into groups of five to pray, disciple and help one another. If these groups get together after canopy closure, when there is sufficient green material around, then they can do their piles together in community and fellowship.

Building the Pile

When building the pile, it is very important that the right ratios are maintained. The simplest way to achieve this is to build using alternate layers of the 3 main ingredients. Dunk the green and woody/dry materials in a container of water before you place them, so that you wet the layers thoroughly. A good wetting at the outset will mean you will probably only need to add water maybe once or twice in the 2 month process. Start with 20 cm of woody dry, then place 20 cm of green, then 2 bags of well wetted manure on top of that. Continue repeating the layers until you get to the 2m height.



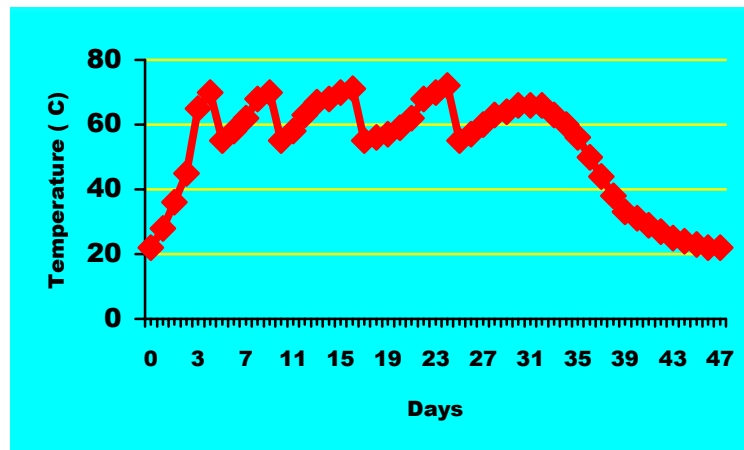
Turning the Pile

Within 3 days, the compost pile will have heated up and needs to be turned. The best way to do this is to mix the pile into the adjoining 2m *2m position, using a fork or a hoe. The turning process maintains the correct temperature, mixes all the ingredients, brings material on the outside to the inside, aerates the pile with oxygen and allows for moisture levels to be checked and adjusted if necessary.

If the pile is not turned it will become anaerobic, have a bad smell and result in poor quality compost.

Temperature

The compost gets hot very quickly because of all the bacterial activity. The ideal temperature of the compost should be maintained between 55°C to 68°C for 3 days, to kill all seeds and unwanted pathogens. If you don't turn your compost, the temperature can easily reach well over 70°C, which is too hot and kills off the desirable microbes, as well as burning up and wasting carbon.



The most accurate way to determine the temperature is by using a temperature probe. Turn the pile before the temperature reaches 70°C. A cheap alternative would be to use an 8 mm steel rod. After inserting it for a few minutes see if you can hold on to it for 5 seconds. If you can, the temperature is less than 70, if not it's ready for another turn.

Considering we are working with the poor, a really simple guideline is to turn the compost pile every 3 days for the first 3 turns and every 10 days for the next 4 or 5 turns.

The temperature goes down after each turn and rises again until the next turn. This cycle will continue until all the nitrogen in the pile has been utilized. If you followed the guideline ingredient volumes of 15 bags of manure, then the compost will get hot enough for adequate decomposition and also will be maturing and cooling after 6-8 weeks.

Mixing

Mix the different materials thoroughly and bring the materials on the outsides into the centre so that it also gets exposure to high temperatures.

Moisture Content

When turning the pile, test to see whether it is moist enough, as a lot of moisture is lost as steam and this needs to be replaced. Try to keep the moisture content of your compost at 50%.

You can test this by squeezing it in your hand.

If moisture drips out, it is too wet.

If no water drips out, but on opening your hand the material does not hold its shape, then it is too dry, so add water.

If squeezed, no extra moisture drips out and on opening the hand the material holds its form, then it is close to the desired 50% moisture content.

Leave a gentle slope on the top of the pile and place thatch grass or grain bags on top to keep excess rain water off the pile, which can cool the pile too much.

Indicators of Good Compost

After 2 months the turning process is complete, but leave it to cure thoroughly for another 4 months before you use it. When complete, your compost should be a dark brown colour, smell sweet and rich, have a crumbly structure and you should be able to see thick fungal strands.

When mature, the compost can be stored as is for years without degrading or losing its nutrients. You then don't need to turn it anymore, but remember to check the moisture levels regularly. At this stage your compost will be in the form of stable organic nutrients and inoculum.



Utilising the Compost

For maize, dig the holes to 15 cm deep, then place 350 ml per planting station and cover with soil to a 5 cm remainder. The yield potential with good quality compost is well over 5 tons per hectare and the cost of producing it is only labour. The record yield with Farming God's Way using compost only on virgin soils has been 8 tons per hectare!!! Where soils are very depleted and farmers can afford it, then I encourage that you topdress with Urea or Ammonium Nitrate for the first 2 years to boost the nitrogen levels.

Compost is the input that we should see on every farm field as we teach farmers faithfulness with what God in His all sufficiency has put in our hand.

17. Steep Slopes

God expects us to care for his creation and faithfully steward everything He has entrusted to us. Steep slopes are not suitable for cultivation, but because of the land pressure from over population and food insecurity, even marginal lands are used to grow crops. These lands are very sensitive to erosion and far from ideal to cultivate and must be managed as “care-fully” as possible. The high runoff rates also result in poor moisture penetration and the loss of plant available nutrients, so it is vitally important, both to the environment and to sustainable profitability, to slow down the runoff.

We have shown throughout the series the vital importance of God’s Blanket in preventing crusting, erosion and runoff and this is our most important way to achieve this. However, it is strongly recommended that slopes with a drop of 1m every 6m or 15% and soils that are highly erodable, should also be protected by contour barriers of some form. Large scale earthmoving contour barriers are costly, impractical for the poor and often ineffective in the long term.

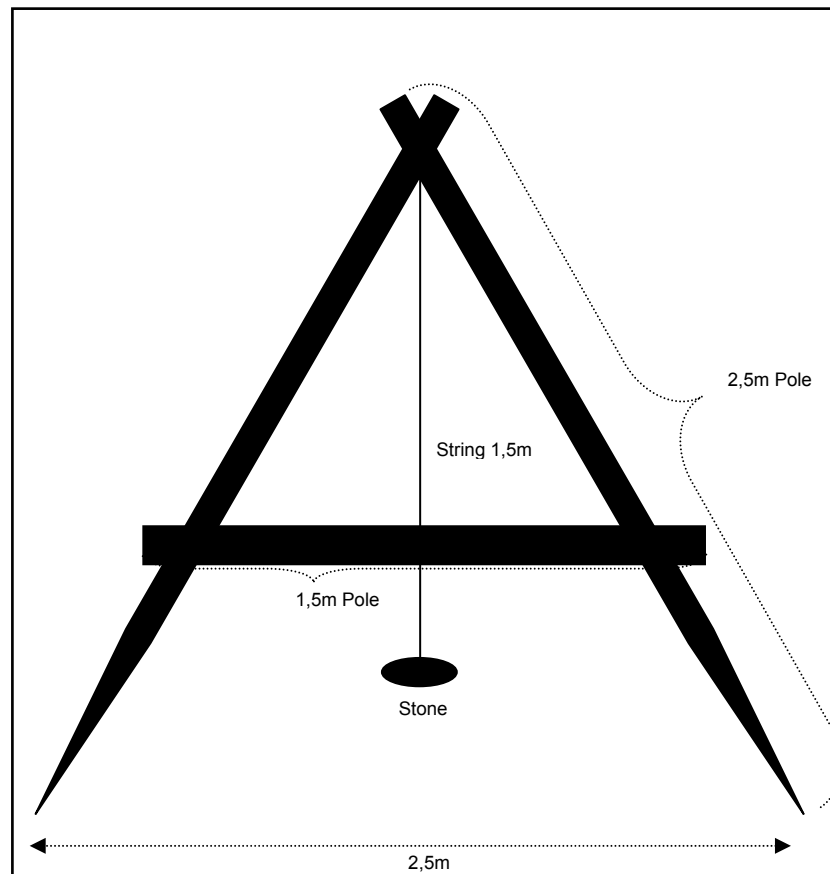
Living barriers are such an amazing natural way for the poor to achieve excellent results in preventing erosion, improving rainfall penetration and reducing nutrient losses. Living barriers are strips of permanent plants that are grown close together on the contour. Before we can plant a natural living barrier on steep slopes, we need to first establish the contour lines. The most practical tool to make a contour line is an A frame.

The materials needed to make an A frame are:

- 2 thin straight sturdy poles 2.5 metres long
- 1 thin, straight, sturdy shorter pole 1.5 metre long
- 2m of string
- a stone
- Nails
- Bucket full of pointed sticks

Making the A Frame

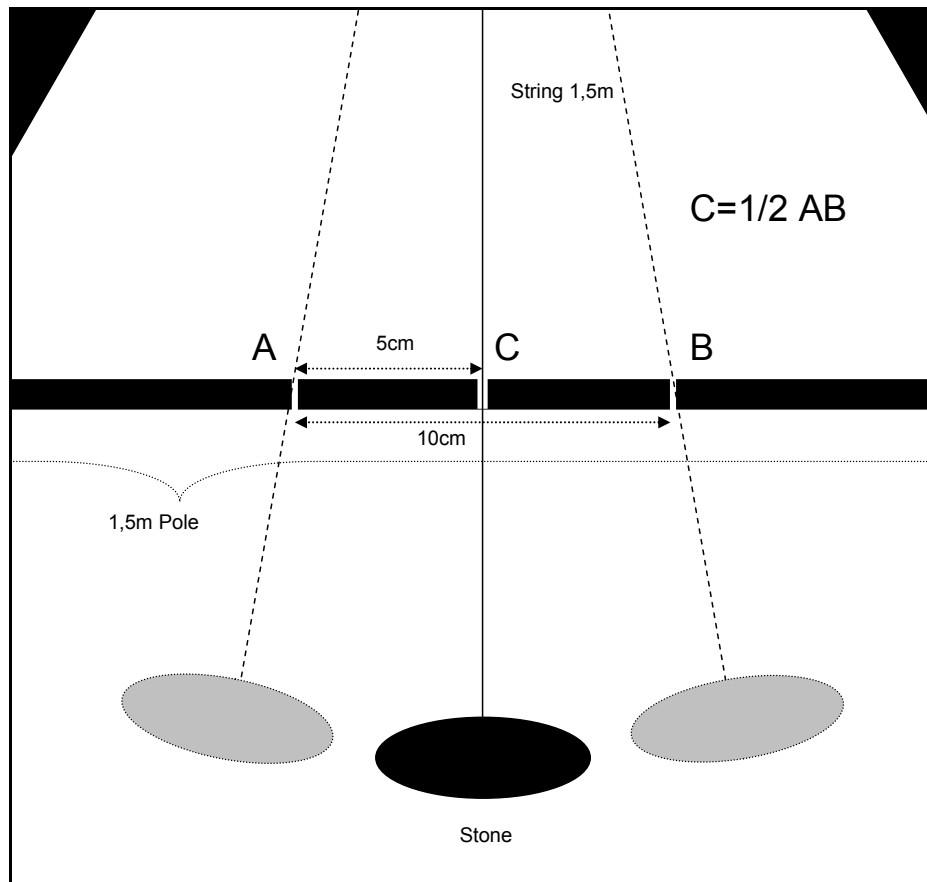
First nail the two 2.5m poles at the one end to make an upside down V shape. Then nail the 1.5m pole onto the 2 uprights on either side, to make the shape of an A, about 1.5m from the top of the A. Tie the 2m string onto a nail at the top of the A frame and then tie the rock onto the other end of the string making sure that it hangs below the cross bar.



Calibrating the A Frame

Before the A frame can be used, it needs to be calibrated. Place the A frame on a slope with one leg higher than the other. Place a peg on the outside of each foot to mark these positions. Allow the string to hang freely from the top and once it has come to rest, mark the position (A) on the crossbar with a pen.

Then reverse the whole A frame, placing the feet in alternate positions. Again let the string come to rest and mark that position (B) on the cross bar with a pen. The midpoint between these two marks is the calibration or level mark (C). Measure the distance between the two marks and divide this by two and then mark C on the crossbar.



Whenever you pivot the one foot of the A frame up or down slope, the string will move one way or the other across the crossbar. When your string comes to rest at the calibration or level mark (C), this is when the two feet are on level ground.

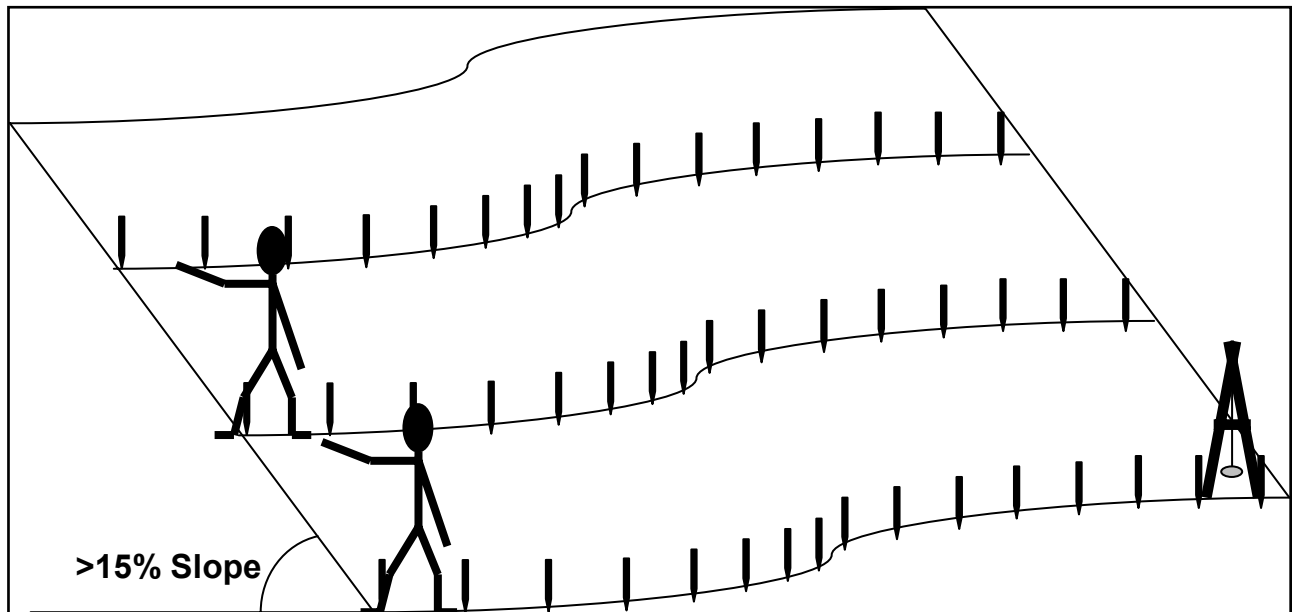
Establishing the First Contour

Start at the top of your field and walk backwards down the slope with your hand outstretched at eye level in front of you. Once your hand eye level is in line with the top of the field, at about 1,75m, this is the point to start the first contour. If you have neighbours that farm upslope from you, then start by making your first contour at the very top of your field as their runoff will already have gathered considerable momentum.

Start at the one end of the field and place the first peg in the ground. Place the first foot of the A frame in line with the peg and pivot it until the string comes to rest on the level mark C. Place another peg at the second foot. These two pegs are now on level ground and are the basis for the whole contour. Swivel the A frame on the second foot until the string comes to rest at the level mark again, and place another peg at the new foot placement. Continue to swivel the A frame from foot to foot all the while marking off the contour as evenly as possible. Once the whole contour is laid out then go back to the start of the field and adjust any pegs that make minor kinks, to allow for a more manageable, smoothed contour line.

Establishing the Second Contour

Steep slopes need more contour barriers than gentle slopes, but by using a rule of thumb of the eye extended hand level, farmers can easily and safely lay out their contours with minimal risk of soil erosion. Again walk backwards down the slope with your hand extended in front of you until your eye is level with the last contour line you just completed. Start making your next contour at this point and continue as you did before, by pivoting and marking the individual foot placements of the A frame. After completing each contour line, keep on moving down the slope all the way to the end, until your whole field is neatly laid out with contours at regular intervals.



Living Barriers

Once the pegs have been laid out and the contours have been smoothed, you are then able to lay out the living barriers. There are many living barrier plant species however we do not advocate the use of invasive alien species because of the environmental damage they can cause.

A very successful living barrier plant species is Vetiver grass, which is a perennial, upright and deep rooted grass, tolerant of drought, water logging, high and low pH, heat and cold. Importantly it is not invasive and doesn't produce viable seed, so it must be planted from side tillers. It grows up to 2 m tall and can be cut and used to add to mulch material on the upslope side. The roots are very deep and dense and make an impenetrable layer for soil to move through, making its erosion control exceptional. Vetiver living barriers are one of many plant types that are cheap, safe, and effective at slowing erosion and retaining soil moisture.

Dig a furrow 10 cm deep on the newly established contour line. Dig out a clump of Vetiver grass from your seedbed and separate the individual tillers. Trim each tiller leaving 10 cm of root and 15 cm of stems. Plant Vetiver grass tillers in threes, 10 cm apart in the furrow with some compost. The Vetiver will quickly bush out to make an impenetrable soil erosion barrier. Leave one

meter of undisturbed vegetation on the downslope side of the Vetiver row until it is fully established. [26]

Another excellent method is to leave indigenous grass strips as living barriers.

During the years of the accumulation of God's Blanket, these living barriers will serve to protect your soil from erosion. Soil will be trapped and build up on the top slope side of the living barrier, and the tillers will push through this fertile soil and stabilise it further. Over the years this will create a natural step or terrace effect and reduce the slope of the lands between the contour barriers, assisting in reducing erosion, increasing deep water penetration and preventing nutrient losses.

Be a good steward of the land that God has entrusted to you.



Gracious, a Farming God's Way farmer in Malawi, with his Vetiver grass living barriers on the steep slopes of his farm.



Tall Vetiver on Farming God's Way fields in Malawi.

18. Appendix

18.1 How to Facilitate the DVD Series

The Farming God's Way Training DVD series is made up of 3 DVD's. Disc one consists of the 3 and 15 minute overview, history and the six biblical keys.

Disc two consists of the technological sections and includes the well watered garden, 20 reasons why we do the how, composting, managing steep slopes and alternative crops.

Disc three consists of management, extension and testimonies.

It is recommended that the series be facilitated over 2, preferably 3 days with breaks after each session to encourage group discussion and participation. The series order is as follows:

1	Overview	15 minutes
2	History	15 minutes
3	Introduction to the Biblical Keys	10 minutes
4	Acknowledging God and God Alone	25 minutes
5	You are the Temple of the Living God	25 minutes
6	Bring the Tithes and Offerings to God	25 minutes
7	Taking Hold of His All Sufficiency	25 minutes
8	What you Sow you will Reap	25 minutes
9	Stake your Claim!!!	25 minutes
10	Well Watered Garden	60 minutes
11	20 Reasons Why we do the How	30 minutes
12	Management - On Time	20 minutes
13	Management -To High Standards	20 minutes
14	Management - Minimal Wastage	20 minutes
15	Extension	25 minutes
16	Composting	10 minutes
17	Alternative Crops	10 minutes
18	Managing Steep Slopes	10 minutes
19	Testimonies	15 minutes
	Total	7.17

Suggested layout for a three day facilitated seminar

Day 1

1	Overview	15 minutes
2	History	15 minutes
3	Introduction to the Biblical Keys	5 minutes
4	Acknowledging God and God Alone	25 minutes
	Discussion	30 minutes
5	Well Watered Garden	80 minutes
	Questions and Answers	30 minutes
	Practical – Making Teren Ropes	90 minutes
6	20 Reasons Why we do the How	40 minutes
	Questions and Answers	20 minutes
7	Testimonies	20 minutes
	Total	6.5 hours

Day 2

1	You are the Temple of the Living God	25 minutes
	Discussion	30 minutes
2	Taking Hold of His All Sufficiency	25 minutes
	Discussion	30 minutes
3	Alternative Crops	10 minutes
	Discussion	20 minutes
4	Management - On Time	20 minutes
5	Management - To High Standards	20 minutes
6	Management - Minimal Wastage	20 minutes
	Discussion	30 minutes
7	Composting	10 minutes
	Practical – Composting	120 minutes
	Total	6.11 hours

Day 3

1	What you Sow you will Reap	25 minutes
	Discussion	30 minutes
2	Bring the Tithes and Offerings to God	25 minutes
	Discussion	30 minutes
3	Stake your Claim!!!	25 minutes
	Discussion	30 minutes
4	Managing Steep Slopes	10 minutes
5	Extension	25 minutes
	Discussion	30 minutes
6	Well Watered Garden Implementation	150 minutes
	Total	6.33

Suggested layout for a two day facilitated seminar

Day 1

1	Overview	15 minutes
2	History	15 minutes
3	Introduction to the Biblical Keys	5 minutes
4	Acknowledging God and God Alone	25 minutes
	Discussion	30 minutes
5	Taking Hold of His All Sufficiency	25 minutes
	Discussion	30 minutes
6	Composting	10 minutes
7	Bring the Tithes and Offerings to God	25 minutes
	Discussion	30 minutes
8	Well Watered Garden	80 minutes
	Questions and Answers	30 minutes
9	20 Reasons Why we do the How	40 minutes
	Questions and Answers	20 minutes
10	Testimonies	20 minutes
	Total	7 hours

Day 2

1	You are the Temple of the Living God	25 minutes
	Discussion	30 minutes
2	What you Sow you will Reap	25 minutes
	Discussion	30 minutes
3	Stake your Claim!!!	25 minutes
	Discussion	30 minutes
4	Managing Steep Slopes	10 minutes
5	Management - On Time	20 minutes
6	Management - To High Standards	20 minutes
7	Management - Minimal Wastage	20 minutes
	Discussion	30 minutes
8	Alternative Crops	10 minutes
9	Extension	25 minutes
	Discussion	30 minutes
10	Well Watered Garden Implementation	150 minutes
	Questions and Answers	30 minutes
	Total	8.5

18.2 Well Watered Garden Check List

What you need to take with you

- ☐ 7.2m teren rope with 60 cm markers
- ☐ 6m teren rope with 75 cm markers
- ☐ 4 permanent pegs
- ☐ 25 * 4 inch nails
- ☐ 3 * 5 ml teaspoons
- ☐ 3 * 12 ml tablespoons
- ☐ 3 * 350 ml cups or tins
- ☐ 1 Cup of good quality maize seed about 350 seeds
- ☐ 1 Cup of good quality bean seed about 180 seeds
- ☐ 1 kg lime
- ☐ 2 kg of basal fertiliser - Compound D, DAP or NPK 2.3.2.
- ☐ 1 kg of topdress fertiliser - AN or Urea
- ☐ 2 * Runoff trays
- ☐ 2 * Clear 2 litre containers
- ☐ Loaf of bread
- ☐ 1 * Pulverised sponge in stocking
- ☐ 1 * Standard Sponge

Items to get on site

- ☐ 5 hoes
- ☐ 1*50 kg bag of manure
- ☐ A large heap of God's Blanket
- ☐ 200 litres of water
- ☐ Watering can

18.3 Recommended Production Timeline – Southern Africa

Maize timeline		
Date	Production	Time
01 September	Holing out	6 weeks
15 October	Liming, Basal dressing	
31 October	Land Preparation finished	
10-25 th November	Optimal Planting date	After good rains
01 December	1st weeding	7 days
08 December	Thinning then Topdress 1	@ 2/3 weeks
15 December	Weeding	7 days
22nd December	Longest Day - crop at full canopy	
01 February	Topdress 2	@ Tassling 2 days
February	Compost Making	49 days + 4mnths curing
Mid March	Last weeding	7 days
April, May	Harvest	2 Weeks

18.4 Recommended Production Timeline – Central Africa

Maize timeline – Long and Short Rains e.g. Kenya		
Date	Production	Time
01 Jan	Holing out	6 weeks
15 Feb	Liming, Basal dressing	
28 Feb	Land Preparation finished	
1-21st March	Optimal Planting date	After good rains
End March	1st weeding	7 days
	Thinning then Topdress 1	@ 2/3 weeks
	Weeding every 10-14 days	7 days
Mid April	Mid point of rainy season - crop at full canopy	
01 May	Topdress 2	@ Tassling 2 days
May	Compost Making	49 days + 4mnths curing
Mid June	Last weeding	7 days
July	Harvest	2 Weeks
August, September	Plant Short cycle crops or Green Manure cover crops	

18.5 Farming God's Way Budget Template

Farming God's Way -					
Land area	Total		ha (100*100m)	Inputs	
Portion 1			ha (A)	Basal	
Portion 2			ha (B)	Topdress	
		C	D	E	F
Costs	Unit	\$ per unit	Quantity per hectare	\$ per hectare (C*D)	Field size Value (\$) (E*A)
Portion 1-					
Seed	kg				
Fertiliser					
Basal NPK/DAP	.....kg bag				
Urea	.....kg bag				
Manure	.....kg bag				
Lime	.....kg bag				
Contract Labour	Labour days				
Chemicals 1	litre				
Chemicals 2					
Harvest transport					
Bags	bag				
Other					
Sub Total					G
Portion 2-					
Seed	kg				
Fertiliser					
Basal NPK/DAP	.....kg bag				
Topdress Urea	.....kg bag				
Manure	.....kg bag				
Lime	.....kg bag				
Contract Labour	Labour days				
Chemicals 1	litre				
Chemicals 2					
Harvest transport					
Bags	bag				
Other					
Sub Total					H
Total Cost					I=G+H
Income	Unit	\$ per unit (C)	Bag Yield (D)		\$ Value (C*D)
Portion 1 -	.....kg bag				
Portion 2 -	.....kg bag				
Other	.....kg bag				
Total Income					J
Profit/Loss					K=J-I
Return on investment					L=K/I*100 %



18.6 Farm Evaluation Form

Farmer First Name: _____ FGW Overseer: _____ Village: _____
 Farmer Surname: _____ Pastor: _____ District: _____
 Farmer Group: _____ Church: _____ Country: _____

Year					
Evaluator Name					
Evaluation Date					
FGW Trainer Name					
Witchcraft History	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Born Again	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Church Attendance (%)					
Prayer over Farm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal Witness (%)					
Farming Practise	FGW Conventional <input type="checkbox"/>	FGW Conventional <input type="checkbox"/>	FGW Conventional <input type="checkbox"/>	FGW Conventional <input type="checkbox"/>	FGW Conventional <input type="checkbox"/>
Crop					
Land Shape (Draw)					
Dimensions (clockwise)					
Yield					
Cob Length (cm)					
Pip Size (mm)					
Stalk Height (m)					
Stalk Diameter					
No Burning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No Ploughing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rotations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Last Rotation (Yrs)					
Land Preparation	Poor <input type="checkbox"/> Average <input type="checkbox"/> Good <input type="checkbox"/> Excellent <input type="checkbox"/>	Poor <input type="checkbox"/> Average <input type="checkbox"/> Good <input type="checkbox"/> Excellent <input type="checkbox"/>	Poor <input type="checkbox"/> Average <input type="checkbox"/> Good <input type="checkbox"/> Excellent <input type="checkbox"/>	Poor <input type="checkbox"/> Average <input type="checkbox"/> Good <input type="checkbox"/> Excellent <input type="checkbox"/>	Poor <input type="checkbox"/> Average <input type="checkbox"/> Good <input type="checkbox"/> Excellent <input type="checkbox"/>
Spacing (cm)					
Hole Width (cm)					
Hole Depth (cm)					
Liming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liming Vol (ml)					
Basal Dressing Type	Fertiliser <input type="checkbox"/> Manure <input type="checkbox"/> Compost <input type="checkbox"/> Anthill Soil <input type="checkbox"/>	Fertiliser <input type="checkbox"/> Manure <input type="checkbox"/> Compost <input type="checkbox"/> Anthill Soil <input type="checkbox"/>	Fertiliser <input type="checkbox"/> Manure <input type="checkbox"/> Compost <input type="checkbox"/> Anthill Soil <input type="checkbox"/>	Fertiliser <input type="checkbox"/> Manure <input type="checkbox"/> Compost <input type="checkbox"/> Anthill Soil <input type="checkbox"/>	Fertiliser <input type="checkbox"/> Manure <input type="checkbox"/> Compost <input type="checkbox"/> Anthill Soil <input type="checkbox"/>
Basal Dressing Vol (ml)					
Adequate Rainfall Month					
Planting Date					
Seed Type	Hybrid <input type="checkbox"/> OPV <input type="checkbox"/> Local <input type="checkbox"/>	Hybrid <input type="checkbox"/> OPV <input type="checkbox"/> Local <input type="checkbox"/>	Hybrid <input type="checkbox"/> OPV <input type="checkbox"/> Local <input type="checkbox"/>	Hybrid <input type="checkbox"/> OPV <input type="checkbox"/> Local <input type="checkbox"/>	Hybrid <input type="checkbox"/> OPV <input type="checkbox"/> Local <input type="checkbox"/>
Seed Variety (e.g. SC513)					
Planting Depth (cm)					
Number of Seeds / Hole					
Thinning Done	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number Seedlings Remaining					
Num. of Topdressings (0,1,2)					
Topdressing 1 Type	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>
Topdressing 1 Vol (ml)					
Topdressing 2 Type	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>	AN <input type="checkbox"/> Urea <input type="checkbox"/> Manure <input type="checkbox"/>
Topdressing 2 Vol (ml)					
Number of Weeding					
Weeding Depth (cm)					
Winter Weed Control (%)					
% Cover Pre-planting					
% Cover Post-Harvest					
Post-Harvest Stalk Lodging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decomposition Rate	Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/>	Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/>	Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/>	Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/>	Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/>
Fence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Animal Grazing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extenuating Circumstances (e.g.Drought, Floods, Animals)					

18.7 Life Expectancy Chart

This chart provides the 2000 and 1998 average life expectancies for both sexes in each of the following countries. The data comes from the U.S. Census Bureau's International Data Base. The top and bottom three countries are highlighted.

Country	2000 L.E.	1998 L.E.
Algeria	69.7	68.9
Angola	38.3	47.9
Benin	50.2	53.6
Botswana	39.3	40.1
Burundi	46.2	45.6
Cameroon	54.8	51.4
Central African Republic	44.0	46.8
Chad	50.5	48.2
China	71.4	69.6
Congo, Republic of the	47.4	47.1
Congo, Democratic Republic of the	48.8	49.3
Cote d'Ivoire	45.2	46.2
Djibouti	50.8	51.1
Egypt	63.3	62.1
Equatorial Guinea	53.6	53.9
Eritrea	55.8	55.3
Ethiopia	45.2	40.9
Gabon	50.1	56.5
The Gambia	53.2	53.9
Ghana	57.4	56.8
Guinea	45.6	46.0
Guinea-Bissau	49.0	49.1
India	62.5	62.9
Kenya	48.0	47.6
Lesotho	50.8	54.0
Liberia	51.0	59.5
Libya	75.5	65.4
Malawi	37.6	36.6
Morocco	69.1	68.5
Mozambique	37.5	45.4
Namibia	42.5	41.5
Niger	41.3	41.5
Nigeria	51.6	53.6
Rwanda	39.3	41.9
Senegal	62.2	57.4
Sierra Leone	45.3	48.6
Somalia	46.2	46.2

South Africa	51.1	55.5
Sudan	56.6	56.0
Swaziland	40.4	38.5
Tanzania	52.3	46.4
Togo	54.7	58.8
Tonga	67.9	69.5
Tunisia	73.7	73.1
Uganda	42.9	42.6
United States	77.1	76.1
Zambia	37.2	37.1
Zimbabwe	37.8	39.2

19. Other Resources

Farming God's Way Website: www.farming-gods-way.org

DVD - Comprehensive Training set: www.farming-gods-way.org

Manuals (in several translations): www.farming-gods-way.org/resources

Posters: www.farming-gods-way.org/resources

Video Downloads: www.farming-gods-way.org/resources

Technical Documents: www.farming-gods-way.org/resources

[Decomposition and God's Blanket - Grant Dryden](#)

[Making good quality compost - Darryl Edwards](#)

[Basic information of fertiliser composition and types - Grant Dryden](#)

[Stalk borer remedies - Brian Oldreive and Grant Dryden](#)

[The termites are coming!!!](#)

[Rotations - Grant Dryden](#)

20. Recommended Reading

- No-Till Farming Systems: World Association of Soil and Water Conservation No.3
- Educational Concerns for Hunger Organization (ECHO):
<http://www.echotech.org>
- Zambian No Till Manual:
http://www.fao.org/ag/AGS/AGSE/agse_e/3ero/cases1c.htm
- FAO Conservation Farming:
http://www.fao.org/ag/ags/AGSE/agse_e/general/CONT1.htm
- Alternative Farming Methods:
<http://www.nal.usda.gov/afsic/afspub.htm>
- The Overstory – the Agroforestry ejournal – living fences # 38
http://ppathw3.cals.cornell.edu/mba_project/livefence.html
- Echonet – Green Manure cover crops – Roland Bunch
- Managing Cover Crops Profitably – Sustainable Agriculture Network
- Vetiver Network International: <http://www.vetiver.org/>

21. Glossary of Terms

Acre: 0.405 hectares

Hectare (ha): 100 meters by 100 meters i.e. 10,000 square meters

Hectare: 2.47 acres

kg/ha: kilograms per hectare

Ton (t): 1,000 kilograms

CAN:	Calcium ammonium nitrate
DAP:	Diammonium Phosphate
LAN:	Limestone ammonium nitrate
NPK:	Nitrogen Phosphorus Potassium

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- 26) Vetiver Network International - <http://www.vetiver.org/>
- 27) New Hope for Africa's Farmers. Nov 23, 2009. AllAfrica.com
- 28) Aids Epidemic Update Sub-Saharan Africa, March 2008. UNAIDS, World Health Organisation