

Chinchilla Shire Council

SUBMISSION TO THE INQUIRY INTO IMPACTS OF NATIVE VEGETATION AND BIODIVERSITY REGULATIONS

1 Introduction

This submission is in two parts. Part A contains an overview of relevant Local, State and Commonwealth legislation and process relating to vegetation management, and explores issues relating to efficiencies and inefficiencies in these processes and the implications for land owners. Part A also reviews land use planning and management impacts which arise from this legislative jurisdictional base.

Part A uses both the Brigalow and Bluegrass communities as examples and was prepared by W.P. Thompson¹.

Part B contains case examples of the type of impacts, which may be experienced at the land user level and was prepared by Peter Wylie².

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Part A

2 The Legislative and Functional Base

The Commonwealth legislative base is the Environment Protection Biodiversity and Conservation Act (EPBCA). The Queensland legislative base is the Vegetation Management Act (VMA). The Local Government base is largely the Integrated Planning Act (IPA) and its associated processes.

2.1 State and Local Jurisdictions

The State VMA requires that Local Government implement their vegetation management planning in such a way that outcomes are at least equal to or better than those required by the VMA. These outcomes include those Stated in the Act as well as others which the relevant minister may declare. For example the Act empowers the minister to place controls on clearing of remnant vegetation and the Minister can then specify which types of remnant vegetation would be subject to these controls. The State declares particular types of vegetation as either endangered, of concern, or not of concern and initially required that endangered vegetation be protected from clearing. Whether particular vegetation types (termed Regional Ecosystems) fall into these categories depends on the percentage of the presumed original pre clearing which remains remnant.

Whilst the State declares certain types of vegetation as worthy of protection and the Department of Natural Resources and Mines is authorised to issue permits for clearing, land use and land management which may impact on remnant vegetation is delegated to the Local Authority level. In practise, most rural local authorities adopt the mapping and classification systems used at the State level and require regulated developments under IPA to have a ‘clearing permit’ issued by the State.

The major difficulties with this process lie in three areas.

Firstly, the accuracy of the remnant vegetation mapping at the State level is unsuitable for most project/property-based developments. For those forms of development, which the shires make assessable under IPA, many areas will require remapping. The costs of this remapping are borne by the land users/applicants³ largely on a case-by-case or application-by-application basis. A small number of shires have undertaken more detailed mapping at the shire expense (some funded under NHT grants) and are therefore able to relieve land users of this cost burden. The majority of these shires are in the peri – urban areas (eg Redlands, Ipswich, Caloundra) where the rateable and development pressure can support such natural resource inventory costs. Most rural shires simply cannot afford the \$30,000 to \$100,000 cost of such remapping programs.

³ Qld has recently placed a clearing moratorium on all categories of vegetation with the Stated intention of ending clearing of all remnant vegetation by 2006. The concerns with the level of accuracy of the endangered vegetation mapping are thus increased many fold by this policy.

Secondly, IPA has a number of land management activities which are known as Schedule 8 – these are management activities which are part of an approved land use – crop rotation, soil conservation works, pasture renovation etc all fall into this category. As discussed in latter sections of this submission, what may be exempt forms of land management under the local authority process may be trapped under either the VMA if they involve clearing and more particularly under the EPBCA if they involve certain types of land management activities.

Thirdly, because local authorities through the development approvals process under IPA must have due regard to the VMA, shires are included in the regional vegetation management process which aims partly to set management guidelines and performance standards for management of vegetation. If and when these processes are effectively completed, shires will have a set of regionally specific guidelines, which they can use and adopt within their planning schemes. It remains unclear at this stage as to how effective the regional planning process will be, how easy it will be for shires to include these guidelines in their planning frameworks and whether the regional plans and guidelines will meet EPBCA requirements.

These difficulties raise the contentious issue of what level of jurisdiction determines and regulates land management practices at the property level. Regulating land use on rural freehold land has traditionally been the function of Local Authorities in Queensland and most shires have extensive experience in dealing with developmental forms of land use change (now called material changes of land use). However the current overlapping legislation framework at all levels of government, particularly where they involve Schedule 8 or land management activities, is or can be confusing. This confusion when compounded with inaccuracies in the basic vegetation inventory data leads to uncertainty at the property level.

2.2 Commonwealth

The EPBCA essentially empowers the Minister to declare species or communities as one of three categories (Critically Threatened or near extinction, Endangered at high risk of extinction and Vulnerable at risk of extinction in the medium term). In the case of the Brigalow community, these have been declared Endangered because the Regional Ecosystem mapping in Queensland estimates that less than 10% of original extent remains. The Blue grass communities have been declared because it is estimated that 20% of the community remains of which half does not meet biodiversity criteria. Apart from the already mentioned broadscale State vegetation mapping, there would appear to be limited other data on which this conclusion was based⁴. In the case of both communities, these geographic criteria formed the key basis of the criteria for listing. Other criteria relating to species composition, biodiversity and data on probability of extinction were not advanced as reasons for listing.

Under the EPBCA, persons undertaking an action (whether development or land management) which is likely to significantly impact on listed communities/species,

⁴ In declaring blue grass communities it was recognised that the existing mapping was most likely in error by up to 50%. This is a de facto measure of the accuracy problems with existing vegetation mapping.

must undertake an assessment and approvals process. How this process relates to the State and local processes is not specified.

Whilst there is a defined process that links local government function to State government function under the VMA and IPA, there is no such nexus for local to Commonwealth. Local government roles under the EPBCA are restricted to on-ground actions the local authority may undertake (for example clearing of roadways through listed communities). The listing process itself does not require any community consultation on what constitutes an accurate assessment of where these communities occur (as indeed nor does the VMA regional ecosystems mapping process), nor does it involve any subsequent regional or community planning guidelines to be developed (as does the VMA process at the State level).

The other major difference between the State and Commonwealth approaches is in the way in which land use impacts are assessed. Under the State and local systems, once guidelines are established, land use and land management decisions by land owners and local authorities will be assigned various levels of assessability. The highest level of these is Impact Assessable – a process equivalent to the preparation of an Environmental Impact Assessment. Lesser categories are made code assessable where such codes can be developed⁵ (for example from the regional vegetation management planning process and/or as assigned under a property vegetation management plan approved by the State department).

The Commonwealth legislation may be backed up by guidelines for land use/management. These have been promulgated for both Brigalow and Bluegrass communities. The level of community/land owner consultation in the development of these guidelines is unclear. Furthermore, whereas under the State and local systems, once approval has been granted and potentially appealed through the planning and environment court system, other stakeholders and private individuals have quite restricted opportunity to continue to challenge either the implementation of the land use change or any associated land management practises. Under the Commonwealth act, any person who believes that a land holder undertaking a land use change or management practise which affects a listed community may approach the Minister and the Minister then is empowered to request appropriate reports/responses from the landholder which may include steps up to and including the preparation of Impact Statements. This potentially allows a situation where State and local government requirements for the land use/management have been fulfilled but the landholder can still be challenged under the Commonwealth legislation. There is thus considerable opportunity for this anomaly to be abused and misused where there are significant differences between State and Commonwealth promulgated guidelines (as appears to be the case with a number of *schedule 8* land management activities as well as definitional issues with respect to regrowth).

3 The Brigalow Community

Most if not all Brigalow dominant or co-dominant regional ecosystems in Queensland are ranked endangered and clearing prohibitions apply. The State VMA includes

⁵ The recent State government moratorium effectively overrides this process as it declares all clearing or land uses which would result in loss of all remnant vegetation as incompatible land uses.

regrowth in the regional ecosystem definitions where it meets the 70/50 percentage criteria of canopy height and cover.

All areas of such RE's mapped in Queensland are listed under the Commonwealth EPBCA. The guidelines for the Brigalow community regrowth includes areas of regrowth which are more than 15 years old, but excludes areas which are over 15 years but are of poor quality.

These separate State and Commonwealth definitions are a potential source of confusion for landholders and shires - for the following reasons:

- The methodology used in mapping Brigalow is not scale accurate for property level use and areas of regrowth mapped as RE's on properties may not meet one or more of the State or Commonwealth criteria. In order to rectify this inaccuracy, land holders face the costs and delays of preparing property vegetation management plans under the VMA and an approvals and assessment process under the EPBCA.
- Irrespective of the above, the State VMA criteria is simply canopy cover and height based whilst the Commonwealth EPBCA criteria is age and, by reference to quality, presumably biodiversity based.

The fact that Brigalow communities occur across such a wide range of soils, climatic zones and terrain conditions is reflected in the large number of RE's. It is unrealistic to place a generic definition of regrowth (whether structure based as in the case of the VMA, or age and biodiversity based as under the EPBCA) across all of these RE's. Land owners managing these landscapes have long recognised a wide variety of regrowth rates, forms and complexity. Regrowth responses to clearing vary widely and this is reflected in the wide variety of clearing rotation times in the pastoral areas. The frequency of regrowth clearing is largely dictated by a balance of economics and land/pasture conservation practise. For those communities found on the poorer quality soils with relatively slow rates of regrowth, clearing times dictated by declines in pasture productivity may extend to 10 years or longer where poor rainfall seasons or low commodity prices extend the time to when maximum financial benefit can be obtained. Clearing more frequently may result in decreased soil fertility benefits following clearing and a lower pasture regrowth response. Conversely in the better quality soils and RE's, unless cropping is introduced immediately after clearing, regrowth can become problematic much more quickly (normally within 5 years).

3.1 Consequences for Land Owners

Whilst the above suggests that a 15 year criteria (or for that matter the 70/50 criteria) is a reasonable approximation as by this stage most areas of regrowth will have little economic and pasture productivity value, the consequences for land owners who have regrowth areas that are trapped by either the VMA or the EPBCA are significant (refer Part B).

The impacts are rarely likely to be due to whole properties falling into this category. Rather the problem will be mainly for two types of agricultural enterprise development models:

- Landowners who undertook initial clearing of better quality Brigalow lands, developed them for pastures as required under land development strategies (such as the various Brigalow schemes⁶), and who will be unable to incorporate cropping into their business on those areas which have regrowth that meet the 70/50 or 15 year criteria. In essence, this is often a generational circumstance where the initial clearing was undertaken by a pastoral generation who were required to clear set proportions of their then leased lands, and the subsequent generation of owners or descendants will be restricted from diversifying into cropping as a means of controlling regrowth.
- Landowners who have adopted a conservative approach to clearing in the lower quality RE's (particularly the Brigalow Box communities). In these areas of lower pasture productivity, clearing rotations are longer, the benefits from clearing virgin stands are higher and many properties have extensive areas of aged regrowth as a result. This problem is compounded by the fact that seasonal conditions and commodity prices often extend the regrowth rotation period.

Typical enterprise effects for landowners falling into these categories include:

- Decline in land market values for that proportion of the holding occupied by regrowth which can no longer be productively used will affect those landowners who are in the latter stages of their property development program. In pasture productivity terms, regrowth at the State 70/50 level of criteria will have less than 10% of the carrying capacity of cleared lands and 0% cropping capacity and thus would attract a market based value equal to or less than that of lowest grade of Eucalypt forest country. This type of impact also applies to the non regrowth virgin Brigalow.
- Where land trapped by either the VMA or the EPBCA forms part of a long term conservative rotation of 10 to 25 years duration in the pastoral areas, there will be an increase in grazing pressure and a resultant resource decline in the remaining parts of the holding with an inevitable long term decline in profitability unless there is a compensatory reduction in stocking rates on the remainder of the property. Such a stocking rate reduction would produce the same effects on business income and investment returns.

Whilst the first of these can be offset by compensation packages as well as untried initiatives such as rate rebates and other forms of cross subsidisation which apply directly to the *trapped* areas, the second of these effects is far more difficult to compensate.

3.2 Land Owner/Shire Information Gaps

Irrespective of whether the Commonwealth or State definition of regrowth⁷ is the *correct* one, this ambiguity is undesirable, arguably unnecessary and provides a

⁶ The greater majority of these schemes mandated a certain percentage of the balloted virgin lands to be developed within a short space of time – irrespective of whether the owner was able to adequately manage regrowth. Inevitably, significant parts of some balloted blocks have extensive aged regrowth.

⁷ The State has commenced a biodiversity ranking process based on the RE mapping and other data sets relating to listed species/communities etc. Whilst this may ultimately bring the definition of areas of

further source of confusion to land users within the Brigalow belt. The confusion about what is classified and what is not is worsened by the manner in which information is made available to land owners.

Many areas of mapped remnant Brigalow communities which are colour coded on State maps in three basic colours, include areas of non endangered RE's⁸. From a landowners perspective, their first contact with the data that underpins both the VMA and the EPBCA, is a regional scale map, with a grossly simplified legend in three colours – each corresponding to the E N or O classes. If Regional Ecosystem names are provided, there is rarely if ever any common names supplied and there is never any indication as to whether the area is regrowth.

The ability of the public data sets to establish whether an area is accurately mapped, whether it is in fact regrowth and, if regrowth, whether State and Commonwealth criteria are met is questionable. Unlike soil and land resource maps which have an informative extension and education content as well as technical content, vegetation mapping is not reported or presented in such user accessible formats.

3.3 Land Owner Activities – Land Management Implications

Areas of 16 mapped Regional Ecosystems of Brigalow are specifically protected from clearing under both the VMA and EPBCA.

Whilst the VMA is widely believed to only prohibit the physical (mechanical/chemical) clearing of these communities, the act in fact prohibits any form of destruction. The Brigalow community is less sensitive to destruction by fire or grazing pressure than many other RE's, hence physical or chemical clearing are the primary forms of land management of regrowth likely to be affected by either the VMA or the EPBCA.

4 Queensland Bluegrass

Many of the concerns with the accuracy of mapping which apply to Brigalow also apply to the Bluegrass community. Whilst regrowth per se is not of concern, its equivalent in the Bluegrass communities is the level of weed and buffel grass infestation. As in the case of Brigalow where there is no separate mapping of regrowth, there is still no quantitative assessment of what parts of the Bluegrass community fail listing criteria. As in the case of Brigalow, listing and the preparation of management guidelines has proceeded in the absence of such critical data.

Similarly, the types of impacts listed under either the VMA or under the EPBCA which apply to Brigalow can be expected for the Bluegrass area.

The major difference is that the integrity of Bluegrass communities is quite sensitive to non clearing forms of land management. For Bluegrass communities, cultivation and pasture improvement (two traditionally land management or Schedule 8 activities) are specifically cited in the guidelines for the EPBCA as incompatible actions; whilst it is possible that these same land management strategies would also

biodiversity significance more into line with the Commonwealth presumed intention, the process will still be limited by the property level inaccuracies of the core mapping data.

⁸ This is a direct result of mapping techniques and scales used in Queensland.

meet the intent of clearing under the VMA. Overgrazing and inappropriate fire management are also considered possible threats under the EPBCA.

5 Summary Part A

Land owners with lands mapped as either Brigalow or Bluegrass communities face a number of constraints on their future land use and management options. In the first instance and at their own expense they will have to upgrade the accuracy of the regional ecosystem mapping for their properties in order to determine whether the vegetation on their properties is accurately mapped. They will need to demonstrate:

- that any virgin areas of these communities are accurately mapped
- verify the age of any regrowth, its canopy height and cover (in the case of Brigalow), the extent of weeds and exotic species invasion (for bluegrass) in order to determine whether an area can be cleared for pastures or crop (Bluegrass and Brigalow) or whether their grazing and fire management actions have to be modified to preserve the community (Bluegrass)

Prior to the recent moratorium on clearing in Queensland, a property plan once approved by the relevant State department was all that was required to conform to the requirements of the State legislation and allow the land use change (material change of land use) to be assessed by the local shire. For most other forms of rural land management actions, there is and was no requirement for shire approval. However, because Bluegrass communities are considered sensitive to fire and grazing management regimes, these forms of use may require approval under the Commonwealth legislation and possibly under the State legislation as well if such management action is considered as forms of destruction within these communities.

Given that the VMA requires shire vegetation planning outcomes to at least equal that of the VMA and that the VMA is largely to be implemented within the IPA, it may be inevitable that the shires will become embroiled in land management decision making. The potential for overlap and confusion is heightened by the fact that even after a shire has approved a land use or management practise and this has been ratified at State level, others may still appeal the use of such actions to the Minister responsible for the Commonwealth EPBCA.

There appears to be a number of reasons for why the preservation and protection of vegetation communities has become so inordinately complex and confusing:

- Much of the legislation and almost all of the guidelines appears to have been developed without close consultation with land holders or local authorities.
- The technical data on the distributions of these remnants, their regrowth forms and best practise management of them is inadequate. This data deficiency is not assisted by different definitions of regrowth at the State and Commonwealth level and communications gaps between shires/landholders and State custodians of the data sets. The data deficiency is even more serious when the main criteria under which both Bluegrass and Brigalow were listed under the Commonwealth EPBCA relate to the geographic distribution and area of remnant vegetation

- Most rural Local Governments which have traditionally been responsible for freehold land use outcomes are not sufficiently well resourced to constructively participate in these issues

There is a clear need for better information to be made available to shires as well as more R&D into the mapping and management of these communities.

Shires and landholders need to be involved in the development of management guidelines – the current Commonwealth and State guidelines when combined with the lack of clarity for schedule 8 land uses are not only sources of confusion, but probably represent unnecessary overlap and duplication of process.

At the landholder level the impacts will take a number of forms:

- The costs associated with upgrading property vegetation mapping and producing associated property management plans to conform to the requirements of the State and Commonwealth are likely to be in the vicinity of \$1500 to \$10,000 depending on the size of the property
- Areas which are removed from land development under either the VMA or the EPBCA will suffer a future loss in land values as well as loss in property enterprise income/profits as the full development potential of business cannot be realised
- Areas removed from the long term rotation sequence of pastoral land management will suffer immediate loss of income/profits and/or incur higher operating costs on the remaining pastoral areas.
- An erosion of the *as of right (schedule 8)* land management rights which, prior to the VMA and EPBCA, applied within the rural areas.

Landholder changes to their property enterprises will vary depending on the circumstances of each case. In the absence of incentives to protect regrowth areas for enhanced environmental outcomes, there will be an increase in blade ploughing and chemical control of Brigalow regrowth to ensure that areas do not become trapped under the acts. Where the effect on farm values and or income streams are sufficiently severe, there may be amalgamation of properties and/or an increase in unsustainable cropping within pastoral areas as a perceived cost neutral means of controlling Brigalow.

In the Bluegrass areas, there are few if any incentives for land holders to redress the invasion of exotic grass species in those parts of Bluegrass communities which are sensitive to this invasion. Whilst the control of noxious weeds such as Parthenium is regulated, exotic grass species are not regulated.

Until and unless incentives and, where appropriate compensation arrangements, which are workable at the property as well legislative/regulatory level are developed, it is unlikely that a genuine partnership of effort encompassing all levels of government and landholders will develop. Such a partnership cannot be forced – it has to be collaborative.

Part B

Economic effects of constraints on clearing and regrowth control

Land owners with lands mapped as either Brigalow or Bluegrass communities and who have adopted a conservative approach to clearing may find themselves in a situation of being unable to convert as much land to cultivation as they would like, or may find some areas of regrowth trapped by either the VMA or the EPBCA.

Regrowth may grow rapidly from its existing condition into a form where it is excluded from development.

Where landholders have suffered, and in some cases are still suffering from drought, they may not have the resources to keep all the regrowth under control, so that it does not become protected.

The economic effects for landowners falling into these categories include:

- Decline in land values for that proportion of the holding occupied non regrowth virgin Brigalow, or by regrowth which is no longer productive.
- As regrowth becomes larger, there will be a significant reduction in stocking rate with a corresponding drop in business income and profit.

Case A: A partly developed Brigalow property in the Chinchilla Shire

The property considered in this case study consists of 1200 ha of brigalow land and 600 hectares of eucalypt forest, making a total of 1800 ha.

It is assumed that 600 ha of the brigalow land type has been developed for cultivation, but that 600 ha is in pasture, with various stages of regrowth, at present in a productive form, but continuing to grow towards the stage where the regrowth may become trapped by legislation, from which point it will continue to thicken up and completely eliminate pasture production.

Table 1: Effect of brigalow regrowth on the land value of farms.

Case A	Land types			Total
	Brigalow cultivation	Brigalow pasture	Eucalypt Forest grazing land	
Ha	600 ha	600 ha	600 ha	1800 ha
\$/ha cleared	\$1625	\$1000	\$375	\$1,800,000
\$/ha trapped and unproductive		\$250		\$1,350,000
Drop in land value				\$ 450,000

The effects of uncontrolled regrowth on the 600 ha of regrowth is shown in Table 2 below. It is expected that production capacity of the pasture will decline by 85% over ten years. Profit in this scenario, where the entire regrowth is left unchecked, will decline from \$72,963 to \$27,808.

There is potential for the landholder to treat some regrowth, not currently trapped by the VMA legislation, but it can be seen from these figures that even a small portion of regrowth left uncontrolled will reduce production potential and profit.

For example, profit would decline by 25% and the property would be in danger of becoming unviable in the future, if only 30% of the regrowth was to reach protected status before the land holder was able to control it.

Table 2: Effect of regrowth on the stocking rate and profitability of brigalow farms.

Case A: A Brigalow property in the Chinchilla Shire of 1800 ha with 600 ha out of 1200 ha of brigalow cultivated

Brigalow lands of 1200 ha out of 1800 ha, with 600 ha of Eucalypt forest
All of the property is developed for pasture, with some regrowth starting

Year	Effect of regrowth	Stocking rate Adult equiv. (AE)	Property Income	Livestock Income	Profit EBIT
1	10%	413	\$403,335	\$143,775	\$72,963
2	20%	364	\$347,649	\$88,069	\$59,135
3	29%	328	\$341,024	\$81,464	\$53,813
4	37%	295	\$334,914	\$75,354	\$48,970
5	45%	265	\$329,262	\$69,702	\$44,562
6	53%	239	\$324,035	\$64,475	\$40,552
7	61%	215	\$319,199	\$59,639	\$36,902
8	69%	193	\$314,726	\$55,166	\$33,581
9	77%	174	\$310,589	\$51,029	\$30,559
10	85%	157	\$306,762	\$47,202	\$27,808

Case B : Pastoral Enterprise on Brigalow land without cultivation

In this situation it is assumed that on the same property of 1800 ha with 1200 hectares of brigalow land, the new land owner has taken over from the previous generation who did not consider cultivation during the latter stages of their farming career.

The landholder continues as is but has increasing areas of regrowth trapped by legislation.

Table 3: Effect of brigalow regrowth on the land value of a grazing property

Case B	Land types			Total
	Brigalow cultivation	Brigalow pasture	Eucalypt Forest grazing land	
Ha	0	1200 ha	600 ha	1800 ha
\$/ha cleared	\$1625	\$1000	\$375	\$1,425,000
\$/ha trapped and unproductive		\$250		\$ 525,000
Drop in land value				\$ 900,000

Any restriction on the grazing potential of the property in this scenario has serious consequences for profit and the property rapidly becomes unviable, even with as little as 20% of the land trapped by legislation preventing the control of the regrowth.

The estimated farm profit from livestock of \$21,067 has declined to a loss of \$9,739 with a reduction in stocking rate of 20% (See table 4, below).

Table 4: Effect of regrowth on the stocking rate and profitability of grazing properties.

Case B: A Brigalow property in the Chinchilla Shire of 1800 ha with no land developed for cropping

Brigalow lands of 1200 ha out of 1800 ha, with 600 ha of Eucalypt forest
All of the property is developed for pasture, with some regrowth starting

Year	Effect of regrowth	Stocking rate Adult equiv.	Property Income	Livestock Income	Profit EBIT
1	10%	593	\$197,026	\$197,026	\$21,067
2	20%	494	\$147,711	\$147,711	-\$9,739
3	29%	437	\$135,011	\$135,011	-\$17,869
4	37%	387	\$122,311	\$122,311	-\$25,999
5	45%	342	\$109,611	\$109,611	-\$34,129
6	53%	303	\$96,911	\$96,911	-\$42,259
7	61%	268	\$84,211	\$84,211	-\$50,389
8	69%	237	\$71,511	\$71,511	-\$58,519
9	77%	210	\$58,811	\$58,811	-\$66,649
10	85%	186	\$46,111	\$46,111	-\$74,779

The profitability from beef production in this case is less than for cultivation and if in fact the landholder, wished to, but is not able to convert 600 ha of the brigalow land to cultivation, it can be seen by comparing the year 1 positions of the beef only with the same property with 600 ha of farming land (Table 2 and Table 4), that an amount of \$207,309 of income and \$51,000 of profit is foregone by this constraint.

Appendix 1: Profit target for Partly developed Brigalow Property – Case Study A.

PROFIT TARGET #BRIGALOW PROPERTY							
Partly developed, with 600 ha of cropping, 600 ha grazing and 600 ha eucalypt forest							
	AREA		YIELD		Price	Gross	RETURN
	Acres	Hectare	bags/ac	t/ha	\$/t	\$/ha	\$
Wheat SF	618	250	13.6	2.80	180	504	126,000
Chickpea SF	296	120	8.2	1.68	350	588	70,560
Sorghum SF	371	150	14.6	3.00	140	420	63,000
Oats - Forage	198	80	0.0	0.00	0	0	0
	0	0	0.0	0.00	0	0	0
	0	0	0.0	0.00	0	0	0
	0	0	0.0	0.00	0	0	0
	1482	600		1352	192	499	259,560
Cattle Sales			221 hd @		\$651 /hd		143,775
TOTAL							403,335
COSTS:	ha	\$/ha	Costs				
Grain Crops							
Fallow Herb	600	25	14,992				
In Crop Herb	600	24	14,140				
Seed	600	25	14,890				
Fertiliser	600	42	24,921				
Insecticides	600	7	4,500				
Fungicide	600	2	1,440				
Fuel	600	35	21,000				
Repairs & Maint	600	42	25,200				
Contracting	600	35	21,300				
Miscellaneous	600	5	3,110				
	600	0	0				
		242					
Cattle							
Costs	413	76	31,368				
Stock Purchase, Int	107		35,310				
Overheads:							
Administration, rates insurance etc			30,000				
Labour		1.3 labour units	42,000				
Depreciation/Replacement		12%	43,200				
Miscellaneous			3,000				
			118,200				
TOTAL OPERATING COSTS			330,372				
SURPLUS AFTER CASH COSTS			72,963				
RETURN ON CAPITAL	Land & Imp	Plant	Livestock	Total	Equity	2.8%	
	2,100,000	360,000	140,000	2,600,000	90%		
Bank Loan	O/Draft	Balance	Interest				
		50,000	8.0%assume av. 1/2 limit			2,000	
	Term Loans	200,000	9.7%interest only			19,400	
		0	9.0%interest only			0	
Total Loans		250,000				21,400	
TOTAL COSTS						351,772	
SURPLUS / DEFICIT						51,563	