

Original Research Article

Government Incentives Put in Place to Increase Maize Production: The Case of Western Province of Kenya

ABSTRACT

The introduction of SAPs (Structural Adjustment Programmes) and trade liberalisation which resulted in agricultural reforms in Kenya and other developing countries, the Kenyan government no longer gives incentives to small scale farmers. These has resulted in high production costs among small scale farmers due to high costs of inputs especially fertilisers. The study therefore sought to identify Government Incentives put in place to increase maize production in the agricultural reform era in Western Province of Kenya. The study used Ex-post facto research design via a cross sectional survey. Busia, Bungoma, Mt. Elgon and Lugari districts were purposively selected to represent Western Province. Two divisions from each of the four districts were selected by simple random sampling. For uniformity purposes 200 respondents were selected from focal areas through systematic random sampling hence ensuring that they all had been exposed to extension staff. Four key informants were sampled purposefully based on their positions of authority. The respondents were interviewed with the help of interview schedule containing open and closed ended questions. Data was analyzed using descriptive with the help of Statistical Package for Social Sciences (SPSS). The study revealed that the government's support to the small scale farmers was minimal, and that there were changes such liberalisation of the input market, National Cereals and Produce Board that did not favour the small scale farmer and this might have discouraged them from increasing maize production. The farmers in Western province did not seem to be aware of the agricultural reform policies that required them to take charge of production and marketing of their maize. Government incentives put in place to encourage small scale farmers in Western Province to increase maize production has changed over the years. However, the small scale farmers were either not aware of these changes were not able to take advantage of these changes. The study recommended that the extension staff should teach the small scale farmers on the changes that have been brought about by SAPs and market liberalisation and how to take advantage of such opportunities e.g form strong common interest groups.

Keywords: *Agricultural reforms, Government incentives, Kenya, Small-scale farmers*

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1. INTRODUCTION

Since independence the government of Kenya has placed great emphasis on agricultural production. The government aimed at improving productivity of small scale farms through incentives such as agricultural credit, extension service, and provision of training, improved input supply and improved markets (GOK, 1965, 1974, 1989). In addition annual price reviews were carried out whose results were meant to assist farmers to meet the increasing cost of agricultural inputs. Furthermore, statutory marketing boards were set up to purchase, store and sell agricultural produce in order to smooth out price fluctuations and stabilise prices to the advantage of both consumers and producers (Karigi, 1998).

With the introduction of SAPs (Structural Adjustment Programmes) and trade liberalisation which resulted in agricultural reforms in Kenya and other developing countries, the Kenyan government no longer gives most of these incentives to small scale farmers. Though the government of Kenya has put in place crops act whose objective is to accelerate the growth and development of agriculture in general, enhance productivity and incomes of farmers and the rural population, improve investment climate and efficiency of agribusiness and develop agricultural crops as export crops that will augment the foreign exchange earnings of the country, through promotion of the production, processing, marketing, and distribution of crops in suitable areas of the country (Republic of Kenya, 2013a) the reforms remain. In fact since 1990 the government has undertaken considerable macro and sectoral policy and institutional reform measures. These measures include the removal of foreign exchange controls, liberalisation of interest rates, decontrol of petroleum and agricultural commodity prices, liberalisation of imports and exports, rationalisation of tariffs, and civil service and parastatal reforms (MARD (Ministry of Agriculture and Rural Development), 2001a). These has resulted in high production costs among small scale farmers due to high costs of inputs especially fertilisers. In addition, there are poor and long marketing chains, low levels of mechanisation and high transport costs (Republic of Kenya 2010). These changes may have affected the maize production among small scale farmers. In fact currently maize production in Kenya is below the country's consumption requirements (Republic of Kenya 2010; 2013b).

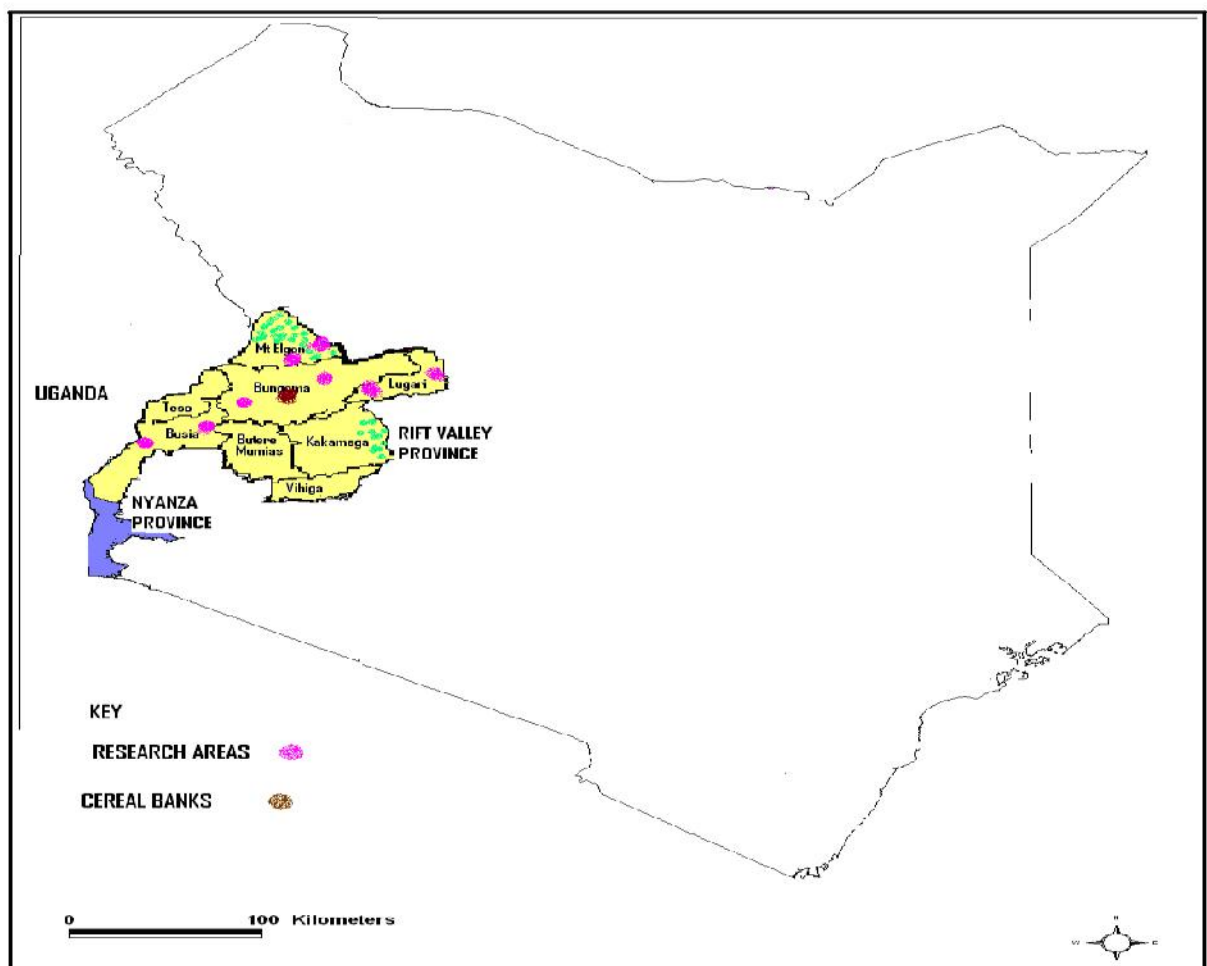
The study therefore sought to identify the Government Incentives put in place to increase maize production in the agricultural reform era in Western Province of Kenya. Comparison of how the farmers in the different districts viewed these incentives were also considered.

2. METHODOLOGY

Ex-post facto research design was used via a cross sectional survey. This was because the study used naturally occurring treatments on subjects having a self-selected level of the independent variables (Kathuri & Pals, 1993; Borg & Gall, 1993).

57 The study was conducted in Western Province which is administratively divided into eight
 58 districts as shown on Figure 1, with the following agro-ecological zones: Busia and Teso –
 59 LM1 – LM2; Bungoma: UM1- UM4 – LM3; Kakamega and Lugari: LM1 – UM3 - UM4; Vihiga:
 60 LM3 – UM1 and Mt. Elgon. These include tropical Alpine to upper highland zones and lower
 61 upper highland to lower midland zones. The Province covers an area of 8436 Km² out of this
 62 6670 Km² has potential for agriculture of which, 3591 Km² is cultivated for various crops.
 63 Rainfall is bimodal. The long and short rains come in March-May and August-November
 64 periods, respectively. Annual rainfall ranges from 900mm in Busia to 2100mm in Bungoma
 65 annually (MARD, 2002).

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68 **Figure 1: Map showing the districts in Western Province of Kenya**

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70 The target population was made up of small scale farmers in Western Province. The
71 accessible population consisted of 41,809 farm households in Lugari District, 158,370 farm
72 households in Bungoma District, 19,746 farm households in Mt. Elgon District and 136,736
73 farm households in Busia District (Central Bureau of Statistics (CBS), 2001b).

74

75 Busia, Bungoma, Mt. Elgon and Lugari districts were purposively selected to represent
76 Western Province because Busia District had the lowest average maize yields (7 bags per
77 acre) in the province while, Lugari District experienced the highest average maize yield (18
78 bags per acre) in the province, Bungoma (10 bags per acre) and Mt. Elgon (15 bags per
79 acre) districts were in-between in terms of maize yield (CBS, 2001b; MOA, 2006). In
80 addition, the four districts represented Western Province in terms of all the Agro-ecological
81 zones that exist in the province and therefore, results obtained could be generalised to the
82 whole province.

83

84 Two divisions from each of the four districts were selected by simple random sampling. The
85 study divisions were Bumula and Webuye in Bungoma District; Kaptama and Kapsokwony in
86 Mt. Elgon District; Funyula and Butula in Busia District and Lugari and Likuyani in Lugari
87 District.

88

89 For uniformity purposes the respondents were selected from focal areas through systematic
90 random sampling hence ensuring that they all had been exposed to extension staff. At the
91 time of data collection, the extension staff had trained the farmers in one focal area per
92 division and had moved to the next. The focal area approach which is under the National
93 Agriculture and Livestock Extension Programme (NALEP) aims at improving livelihoods of
94 the poor rural households (MOA & ML&FD, 2006). In the focal area approach the extension
95 staffs works in one area of approximately 400 farmers per year. The focal area is taken as a
96 demonstration site where farmers from the rest of the division can learn latest technologies
97 (Baiya, 2003). The key informants were sampled purposefully based on their positions of
98 authority.

99

100 The sample size was arrived at using the following formula:

$$101 \quad n = NC^2 \div C^2 + (N-1)e^2$$

102 (*note:* n=sample size; N=population size; C=Coefficient of variation which is 30%; e=margin
103 of error which is fixed between 2-5%). The study sample was calculated at 25% coefficient of
104 variation and 5% margin of error (Nassiuma, 2000).

105

106 Twenty five percent coefficient of variation was used to ensure that the sample was wide
107 enough to justify the results being generalised for the Western Province. Higher coefficients
108 of variation were not used to avoid very large samples due to limitation of research funds.
109 Five percent margin of error was used because the study was an ex-post facto survey,
110 whereby the independent variables could not be manipulated hence necessitating relatively
111 higher margin of error. The study sample is shown in Table 1.

112 Table 1: *Total Number of Subjects by Category from which the Sample was Drawn*
113

Category	Number of subjects	Sample size
House hold heads in Busia District		
Men	50,715	25
Women	86,021	25
House hold heads in Lugari District		
Men	23,831	25
Women	17,978	25
House hold heads in Bungoma District		
Men	82,385	25
Women	75985	25
House hold heads in Mt. Elgon District		
Men	8946	25
Women	10800	25
Key informants		4
Total	357,493	204

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115 The key informants included the Provincial Director of Agriculture and Livestock Extension,
116 the Provincial Crops Officer, an officer in position of authority in Agricultural Finance
117 Corporation and an officer in position of authority at the National Cereals and Produce
118 Board, Western Province.

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121 3. RESULTS AND DISCUSSION

122

123 The respondents were asked whether they thought that assistance from the government to
124 small scale farmers had changed in the past two decades under agricultural reforms. A high
125 percentage (60.6%) said that they had changed, 39% said that they had not changed while
126 0.4% said that they were not sure.

127 When asked what aspects of government assistance to small scale farmers had not
128 changed, they said that AFC (Agricultural Finance Corporation) still charged high interest
129 rates for acquired loans, demanded collateral and did not give loans to small scale farmers
130 who had less than five acres of land under maize production. The respondents also said that
131 there were few extension staff, research dissemination was still poor and that there were no
132 free inputs given to farmers. On marketing, the respondents reported that payments from the
133 National Cereals and Produce Board were still late and that the farmers were still being
134 taken advantage of by middlemen. In addition, the respondents claimed that there were no
135 markets close to them.

136

137 Similarly, the respondents said that they thought that assistance from the government to the
138 small scale farmers had not changed because the prices of inputs were still high. The
139 respondents added that the government had not controlled fake seed and that farmers did
140 not practice what they had been taught due to lack of resources. According to Muchoge and
141 Zziwa (2004) the Kenyan government planned to improve animal and crop protection, and to
142 improve access to quality farm inputs. These have not been realised in Western province of
143 Kenya.

144
145 A key informant from the Ministry of Agriculture concurred with the farmers that there was a
146 lot of fake seed in the market. The informant asserted that some areas had experienced crop
147 failure due to fake seed. The fake maize seed resulted from liberalisation of the input market
148 whereby Kenya Seed Company was no longer the only company providing maize seed to
149 farmers. The informant said that though the Kenya Plant Health Inspection Services
150 (KEPHIS) was expected to check the seed quality, the organisation was limited by shortage
151 of staff and other resources. For example one office made up of twenty one officers covers
152 the Western region which is made up of Rift Valley, Western, and Nyanza Provinces. The
153 Western region offices are situated at the Busia Border, Malava Boarder, Nakuru and
154 Kisumu and therefore were not able to cover the farmers adequately.

155
156 To ensure quality seed is available to farmers. All stockists have to make their application
157 through the Ministry of Agriculture. The applications are then forwarded to KEPHIS for
158 approval. In addition, in case of crop failure resulting from the fake seed, the farmers report
159 to the extension staffs who in turn inform KEPHIS, which may sue the seed company. The
160 penalty was however, too lenient, lamented the key informant. In the past the company
161 would be charged Ksh. 4,000 or one month imprisonment. This was reviewed in 2003 to
162 Ksh. 500,000 or six months imprisonment. This the key informant felt was not harsh enough
163 for a company that may have caused crop failure, maybe to a whole location and many
164 farmers may have lost thousands of shillings.

165
166 The respondents, who reported that government assistance to the small scale farmers had
167 changed, cited both positive and negative changes. Those respondents who cited positive
168 change said farmers' yields had improved and that there were improved marketing channels
169 and improved roads. In addition, the farmers had been assisted to get loans and that the
170 government had licensed more farm input stockists. The respondents further said that there
171 were more demonstrations by extension staff, more farmers were adopting recommended
172 practises and that inputs were being sold in smaller quantities, which the farmers could
173 afford to buy.

174
175 The respondents who cited negative change reported that there were few extension staffs,
176 credit conditions had tightened and the government had stopped providing inputs to farmers
177 and that the government no longer regulated prices of farm inputs. From the respondents
178 responses it was evident that the government's support to the small scale farmers was
179 minimal, and that there were changes that had occurred that did not favour the small scale
180 farmer and this might have discouraged them from increasing maize production. The farmers
181 in Western province did not seem to be aware of the agricultural reform policies that required
182 them to take charge of production and marketing of their maize.

183
184 Cross tabulations were carried out to compare the responses of the respondents from the
185 study districts as shown in Table 2. The results indicated that a relatively high percentage
186 (27.6%) of respondents from Lugari District reported that government incentives for small
187 scale farmers had not changed. They argued that this was because AFC loan conditions
188 were still tough and that no loans were granted to small scale farmers of less than five acres
189 of land under maize production. Similarly, a relatively high percentage of respondents from

190 Bungoma District (14.8%) and Lugari District (13.8%) had not received any assistance from
191 the government.

192

193 *Table 2: Government Incentives That Have not Changed as Perceived by*
194 *Respondents in the Study Districts*

195

	AFC conditions still Tough	No assistance from government	Fewer extension staff	Prices of inputs are high
Bungoma	1.9%	14.8%	1.9%	11.1%
Lugari	27.6%	13.8%	0.0%	15.5%
Mt.Elgon	0.0%	1.8%	28.1%	0.0%
Busia	7.0%	1.7%	1.7%	27.6%

196

197 The study further sought to find out whether the government had encouraged farmers in the
198 study districts to increase maize production. Most of the respondents (60.9%) reported that
199 the government had not encouraged them to increase maize production. In fact only 38.3%
200 reported that the government had assisted them in increasing maize production and less
201 than one per cent said that they were not sure if the government had encouraged them to
202 increase maize production or not.

203

204 The responses on whether the government had assisted farmers in Western province to
205 increase maize production varied from district to district. A high percentage (58.6%) of
206 respondents from Mt. Elgon District said that they had been assisted by the government to
207 increase maize production while half the respondents from Bungoma District indicated that
208 the government had assisted them. On the contrary , most of the respondents from Busia
209 District (66.1%) and Lugari District (87.1%) argued that they had not been assisted by the
210 government to increase maize production.

211

212 The respondents who reported that the government had assisted them to increase maize
213 production said that the government had done so through provision of extension service and
214 provision of loans through the Agricultural Finance Corporation (AFC). In addition, they
215 reported that the government had improved marketing channels through the National
216 Cereals and produce board and provision of a variety of farm input stockists. Few
217 respondents (1.3%) claimed that there were improved roads.

218 The highest percentage (31%) of respondents who alleged that the government had assisted
219 them by providing extension service were from Bungoma District . It is interesting to note
220 that few respondents from Lugari District (5.0%) and Mt. Elgon District (8.6%) viewed the
221 deployment of the extension staff in their area as assistance from the government as shown
222 in Table 3.

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234 *Table 3: Responses on Assistance given by the Government to Encourage Increased*
235 *Maize Production in the Study Districts(%)*

	Bungoma	Lugari	Mt.Elgon	Busia
Provision of extension servc	31.0	5.0	8.6	22.4
Provision of AFC loans	12.1	1.7	3.4	0.0
Improving marketing channels	1.7	11.7	13.0	6.8
Provision of farm input stockists	1.7	1.7	36.2	0.0
Improved roads	0.0	0.0	5.2	3.4

236
237 This could be as a result of new approach taken by the ministry of Agriculture Livestock and
238 Fisheries that farmers have to demand for services. Hence the extension staff rarely visited
239 farmers' farms but the farmers were expected to visit the extensions staff's offices, or the
240 farmers may form groups which the extension staff would visit to advice the farmers. If
241 farmers did not take the initiative to visit the extension staff in their offices or were not
242 members of farmer groups then they may not receive the services of the extension staff.

243
244 The results further revealed that 11.7% respondents in Lugari District and 13.0%
245 respondents in Mt.Elgon District reported that the government had improved the marketing
246 channels as shown in Table 3. This could be because a high percentage of respondents in
247 Lugari District (51.7%) and Mt.Elgon District (22.4%) realised more than sixteen bags of
248 maize per acre and therefore, they sold to National Cereals and Produce Board, which was
249 a government institution. On the other hand, respondents from Bungoma District and Busia
250 District realised low maize yields and therefore, did not sell their maize to the national
251 cereals and produce Board.

252
253 In addition, the results revealed that a higher percentage of respondents from Mt.Elgon
254 District (36.2%) said that the government had assisted in encouraging them to increase
255 maize production by providing farm-input stockists. This could be as a result of the
256 government liberalising marketing of farm inputs, resulting in many farm-input stores being
257 opened up in various districts. One of the reasons why farmers in Mt.Elgon District viewed
258 provision of farm inputs as an encouragement from the government could be because more
259 respondents had access to farm input stores. According to CNFA & AGMARK (2005)
260 population per permanent stockist in Mt.Elgon District was as low as 1:4,333 as compared to
261 1:5,252, 1:7,272 and 1:12,625 in Bungoma, Lugari and Busia districts, respectively.

262
263 The respondents who claimed that the government had not assisted them to increase maize
264 production were asked how they would like the government to assist them .A high
265 percentage of respondents (31.5%) suggested that the government ought to reduce the
266 price of farm inputs, 28.3% said that the government should provide soft loans to farmers or
267 simplify AFC conditions. In addition, 10.3% said that the government needed to assist the
268 farmers in marketing their maize, 4.3% proposed that the government should post more
269 extension staff in the area , while 25.6% did not respond to the question.

270
271 In further attempting to understand the influence of agricultural reforms and the government
272 incentives on maize production in Western Province of Kenya, the extension staffs were
273 asked about the changes that had taken place in the agricultural sector and how these
274 changes had affected maize production. The results revealed that lack of government
275 incentives had resulted in factors that had hindered maize production in Western Province of
276 Kenya as shown in Table 5.

277
278 Currently, in Western Province, like in the rest of the country, the government does not
279 control prices or marketing of fertilisers and has abolished state controlled price levels on
280 agricultural products. In addition, the government has restructured state controlled
281 marketing boards (World Bank, 1994; Kodhek, 2005). The findings show that maize
282 production responds positively to its output price, development expenditures in agriculture,
283 maize sales to marketing boards, inflation, growth in per capita GDP, liberalisation,
284 governance reforms of 2003-2008, favourable weather and availability of cheap fertilisers.
285 Output of the crop responds negatively to increase in average fertiliser price.
286

287 *Table 5: Factors Related to Government Incentives Hindering Maize Production In*
288 *Western Province of Kenya as Reported by extension Staff*

Factors Hindering maize production	Percentage
Poor marketing prices	33.3
Lack of organised markets	51.2
Fake inputs	27.4
High input prices	61.9
Poorly managed credit facilities	71.4
Unfriendly credit conditions	9.5
Lack of subsidies	7.1

289
290 Similarly, a high percentage of extension staff (84.5%) argued that either poor prices were
291 offered or that there were no organized markets for maize. This was because the
292 government did not set the price at which maize was bought nor did the National Cereals
293 and Produce Board buy the maize from the farmers. These resulted in the farmers being
294 forced to look for their own markets which most of the time was made up of middlemen who
295 came to the farm gate. In addition, farmers sold their maize to the local market which usually
296 was flooded with maize during the harvesting time.
297

298 Furthermore, due to liberalisation of trade the government allowed maize to be imported
299 from neighbouring countries, which was sold at low prices, hence, giving maize farmers stiff
300 competition for the maize market. The situation was made worse when farmers sold their
301 maize immediately after harvesting because they needed the money due to their high
302 poverty levels and could not afford to stock their maize and wait for higher prices
303

304 It was worrying to note that a relatively high percentage of extension staff (27.4%) reported
305 that there were fake inputs such as seeds and fertilisers in the market as shown in Table 5.
306 This was a problem that should be taken seriously by the government.
307

308 About 41% of the extension staff interviewed suggested that poor roads also hindered maize
309 production in Western Province. This was because poor roads meant that farmers would
310 spend more money on transport, thus resulting in low profits. Farmers are usually
311 discouraged from indulging in enterprises with low returns as indicated by Guerin and Guerin
312 (1994), and Lawrence, Rhodes, Grimes and Hayenga (1997). Furthermore, 32.5% of the
313 extension staff reported that the farmers were demoralised by the changes that had taken
314 place in the agricultural sector, including the presence of middlemen whom farmers felt were
315 exploiting them.
316

317 Though the extension staff cited a number of factors that hindered maize production from
318 agricultural reform era, they also reported a number of factors that had favoured maize
319 production in the same era. This is as shown in Table 6.

320

321 *Table 6: Factors that encourage Maize Production in Western Province.*

Factors that encourage maize production	percentage
Farmers are able to choose from various maize varieties	28.6
Farmers are able to sell green maize	14.3
Farmers are seeking out extension staff	6.0
Farmers can sell their maize anywhere	15.4
Farmers Can afford to buy inputs	9.0
Focal area approach has promoted maize production	7.7
Provision of extension staff	12.2
Revived AFC,NCPB and KFA	18.9

322

323 It is important to note that there were a number of negative effects of agricultural reforms on
324 maize production as seen in Table 5. These results are supported by Kodhek (2005) who
325 pointed out that though market liberalisation is not complete, a number of sectors are not
326 finding it to their liking. Damon (1999) further argued that though the proponents of trade
327 liberalisation promised cheaper foods and food security, this has not been the case. The
328 changes that have taken place in the agriculture sector due to SAP and trade liberalisation
329 have also affected the efficiency of extension staff in assisting farmers.

330

331 **4. CONCLUSION AND RECOMMENDATIONS**

332 **CONCLUSION**

333 Government incentives put in place to encourage small scale farmers in Western Province to
334 increase maize production has changed over the years. For example, de-subsidisation of
335 input prices, and liberalisation of input and product markets, among other changes. These
336 were meant to improve the maize market therefore enabling the farmer to realise higher
337 profits. However, the small scale farmers were either not aware of these changes were not
338 able to take advantage of these changes. As a result maize production in the country has
339 continued to decline and more small scale farmers whose livelihood is mainly maize
340 production have continued to be impoverished.

341

342 **Recommendations**

343 The government should increase the number of extension staff and facilitate them to
344 reach more farmers with improved agricultural packages and make follow ups .

345

346 The extension staff should teach the small scale farmers on the changes that have
347 been brought about by SAPs and market liberalisation and how to take advantage of
348 such opportunities e.g form strong common interest groups.

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