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Driver's of entrepreneurial opportunities exploitation by Tree Farmers in Kenya: the case of Improved Eucalyptus Trees Growing in Lari District

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The introduction of improved *Eucalyptus* trees varieties to Kenya in 1997 from Mondi Forests in South Africa by Tree Biotechnology Project (TBP) has rekindled tree-planting culture. Millions of seedlings have been distributed across the country. By administering questionnaires to a sample of 385 tree farmers in Lari District of Kiambu County, the study sort to empirically test the critical factors influencing the planting of improved *Eucalyptus* trees. The study revealed 63.6% of the farmers indicated the improved eucalyptus tree enterprises had complied with quality highly while 66.2% of them indicate that the improved eucalyptus tree seedlings enterprises had complied fairly with environmental safety.Covariance Matrix shows that although theoretically the factor scores should be entirely uncorrelated, the covariance is not zero, which is a consequence of the scores being estimated rather than calculated exactly. Hence there were factors that had no influence on the farmers' planting improved eucalyptus tree varieties in Lari District. The driver's of opportunity exploitation from this research, included risk aversion, opportunity for product differentiation, degree of control over production processes, skills to make it work and availability of ready market. These drivers are critical in any entrepreneurial process and underscore the premises that the trees farmers in pursuing the opportunity of improved tree varieties they were entrepreneurial. Policy interventions that can enhance these driver's would result in accelerated planting of more improved trees varieties.

Keywords: Improved eucalyptus varieties, opportunity exploitation, tree farmers, entrepreneurship

INTRODUCTION

The entrepreneurial process involves the identification and evaluation of opportunities, the decision whether or not to exploit it, the efforts to obtain resources, the process for organizing those resources into a new

combination and the development of a strategy for the new venture.

Since the introduction of improved eucalyptus varieties from South Africa ten years ago only about 16,000 growers have taken up the planting of the seedlings. Considering there are about 10 million smallholder farmers in Kenya the potential has not been realized in tree growing. It is estimated that from 2001 to 2011, the project had distributed 22.8 million seedlings nationally with smallholder farmers taking largest percentage. For example, in 2007 a total of 2.9million seedlings were distributed with smallholder farmers taking 73.1% (2,120,524), corporate bodies 21.9% (634,825) and organized groups 5% (144,429) (Tree Biotechnology Project communication).

The introduction of new varieties of genetically superior eucalyptus trees in Kenya was a move to support the conservation of indigenous forests from further depletion (KFMP, 1994). For Susan Mwangi of Kamuchege village in Kiambu the idea to spare more than two acres of her farm to plant trees was as a result of this new realization. Mwangi is one of the many small-scale farmers in Lari division of central Kenya who have planted the new genetically superior eucalyptus. These different activities are all influenced by individual, industry and institution level driver's.

Far-reaching changes are taking place in the social, political, and economic systems in the world with possible consequences for farm forestry and its institutional arrangements, particularly in developing countries like Kenya. These changes include an increase in the country's population and a rise in forest related activities. According to the 2009 population census, Kenya's population stood at 38.6 million people (Government of Kenya, 2010). The increasing population will continue to exert pressure on the forest resources through a growing demand for forest products, services, and land for alternative uses. It is projected that on current trends, the demand for wood in the high potential and medium potential districts will increase from 15.1 million m^3 in 1995 to 30.7 million m^3 in 2020 (Government of Kenya, 1994).

It is also glaring to note that conceptual theories on entrepreneurship have been contributed mainly by scholars from the western developed countries whose reasoning could be largely shaped by their different individual, institutional support and socio economic and cultural experiences. This could rather make their theories unsuitable to emerging economies such as Kenya as entrepreneurship or opportunity creation could not be judged in isolation of its environments. The literature review demonstrates that there is a significant gap in knowledge on issues associated with entrepreneurship and entrepreneurial opportunity. Despite the conceptual and empirical analysis, the debates on the whole idea of entrepreneurial opportunity is yet to produce a complete and fully developed alternative framework (Alvarez & Barney, 2007).

Studies from Kenya on the processes and critical driver's that enhance the opportunity and exploitation of entrepreneurial opportunities driver's among smallholder farmers have not been systematically researched and documented. To fill this gap, the study sought to examine the improved eucalyptus entrepreneurial opportunity exploitation driver's from the perspective of tree growers in Lari District. The key problem is why there is a slow uptake of the improved eucalyptus and the study sort to investigate the phenomenal by application of entrepreneurial theories.

MATERIALS AND METHODS

The study was carried out in among tree farmers in Lari sub-county. The collected data was entered into spreadsheets for cleaning and storage. Statistical analysis was done using Statistical Package for Social Scientists (SPSS) version 20. The descriptive results were summarized using tables and association and inferential statistics correlations and factor analysis were utilized respectively. Correlations were to test for pair wise association strength of the variable of interest. Factor analysis attempts to represent a set of observed variables X_1, X_2…. Xn in terms of a number of 'common' factors plus factors that was unique to each variable. The common factors are hypothetical variables which explain why a number of variables are correlated with each other as the variables have one or more factors in common.The study assumed that the intensity of exploitation is a linear function of set of farmer and opportunity characteristics, which may be the same or different from the set represented by the covariates x_i. Specifically, using v_i, i = 1, 2…, N to denote quantities, the intensity of exploitation is specified as:

$$q_i = x_i\beta + u_i \quad (1)$$

RESULTS AND DISCUSSION

Driver's of improved eucalyptus trees farming

Farming of eucalyptus tree seedlings has been very wide spread in most parts of Kenya especially where people have different intention's such as additional incomes to other farming activities. Hence there are different factors that influence the start-up of farming of improved eucalyptus tree seedlings. This study investigated the different driver's of farming of eucalyptus trees asked the respondents to rate them. The results are as shown in Table 1.

About 60% of the farmers felt it was fair to indicate that

Table 1: Driver's of start up farming in improved eucalyptus tree seedlings

	High	Fair	Low	Poor	Not at all	No Response
Prior knowledge in agro forestry management	142 (36.9%)	189 (49.1%)	39 (10.1%)	4 (1.0%)	8 (2.1%)	3 (0.8%)
Skills and provisions needed to make it work	129 (33.5%)	198 (51.4%)	46 (11.9%)	7 (1.8%)	1 (0.3%)	4 (1.0%)
Availability of ready markets	179 (46.5%)	111 (28.8%)	74 (19.2%)	10 (2.6%)	2 (0.6%)	9 (2.3%)
Passion for environment conversation	33 (8.6%)	132 (34.3%)	113 (29.4%)	80 (20.8%)	5 (1.3%)	22 (5.7%)
Expected future demand in wood fuel energy hence guaranteed cash flows	84 (21.8%)	231 (60.0%)	45 (11.7%)	12 (3.1%)	3 (0.8%)	10 (2.6%)
Level of initial capital outlay	5 (1.3%)	153 (39.7%)	180 (46.8%)	30 (7.8%)	6 (1.6%)	11 (2.9%)
Opportunities for product differentiation	14 (3.6%)	145 (37.7%)	144 (37.4%)	60 (15.6%)	5 (1.3%)	17 (4.4%)
Information availability	17 (4.4%)	112 (29.1%)	159 (41.3%)	71 (18.4%)	9 (2.3%)	17 (4.4%)
Individual entrepreneurial management capabilities	20 (5.2%)	166 (43.1%)	137 (35.6%)	44 (11.4%)	2 (0.5%)	16 (4.2%)
Personal degree of risk aversion	12 (3.1%)	125 (32.5%)	138 (35.8%)	100 (26.0%)	5 (1.3%)	5 (1.3%)
Availability of cheap labour from within project areas	81 (21.0%)	90 (23.4%)	117 (30.4%)	83 (21.6%)	9 (2.3%)	5 (1.3%)
Type of government regulation	10 (2.6%)	77 (20.0%)	136 (35.3%)	130 (33.8%)	15 (3.9%)	17 (4.4%)
Degree of control over production processes	15 (3.9%)	17 (4.4%)	120 (31.2%)	197 (51.2%)	32 (8.3%)	15 (3.9%)
Collaborations with support organizations such as KEFRI	3 (0.8%)	34 (8.8%)	56 (14.5%)	227 (59.0%)	58 (15.1%)	7 (1.8%)
Government support	3 (0.8%)	18 (4.7%)	59 (15.3)	245 (63.6)	50 (13.0)	10 (2.6%)

Source: Field Data, 2011

expected future demand in wood fuel energy had influenced their decision to start up farming in improved eucalyptus tree seedlings while 51.4% of them noted that the skills and provisions needed to make it work had influenced their decision to start up farming improved eucalyptus tree seedlings.

On the other hand 49.1% of the farmers said it was fair and 36.9% of them it was high to note that decision was influenced by their prior knowledge in agro forestry management. This shows that although some farmers had knowledge on agro forestry this did not have much influence on their decision to start up farming in improved eucalyptus. Another group of farmers (46.5%) noted that they were highly and (28.8%) were fairly influenced to make their decision to start up farming improved eucalyptus by the availability of ready market.

It is worth noting that 43.1% were fairly influenced to make a decision to start up farming in improved eucalyptus tree seedlings by their individual entrepreneurial management capabilities. This shows some farmers ventured into farming eucalyptus trees because they were willing to have the venture as an entrepreneurial. Others farmers 39.7% noted that they were fairly influenced by the level of initial capital outlay and 34.3% of them noted they were fairly influenced by their passion for environmental conservation to start up farming in improved eucalyptus tree seedlings.

The least rated factors included the government support, collaboration with support organizations such as KEFRI, degree of control over production processes, type of government regulations and availability of cheap labour from within the project. These factors had a less

Table 2. Communalities(a)

	Initial	Extraction
Education level	1.000	0.507
Started your enterprise as a partnership with any other firms or agencies	1.000	0.823
Agro business facilitated by any government incentives or public agencies on start up	1.000	0.798
Prior knowledge in agro forestry management	1.000	0.744
Skills and provisions needed to make it work	1.000	0.773
Availability of ready markets	1.000	0.549
Collaborations with support organizations such as KEFRI	1.000	0.623
Government support	1.000	0.739
Passion for environmental conversation	1.000	0.279
Level of initial capital outlay	1.000	0.586
Expected future demand in wood fuel energy hence guaranteed cash flows	1.000	0.490
Degree of control over production processes	1.000	0.554
Opportunities for product differentiation	1.000	0.531
Type of government regulation	1.000	0.290
Information availability	1.000	0.516
Individual entrepreneurial management capabilities	1.000	0.527
Personal degree of risk aversion	1.000	0.579
Availability of cheap labour from within project areas	1.000	0.636

Extraction Method: Principal Component Analysis.
a Only cases for which Size of land = 0.1-5 acres are used in the analysis phase.

impact on the farmers' decision making to start up farming in improved eucalyptus tree seedlings. Hence the researcher observes that decision to start up farming in improved eucalyptus tree seedlings was based on the individual farmer without external forces such as the government and organizations that dealt with trees such as KEFRI. Conservation experts say fuel wood consumption in Africa has doubled since 1950 with the demand for fuel wood in Kenya outstripping the supply by at least four percent each year **(**Kenya Forestry Master Plan (KFMP), 1994). (Senelwa et al., 2004) noted that in Kenya, wood fuel accounts for about 70 to 75 percent of the total energy used, which includes both fuel wood for cooking and heating in the rural areas and charcoal for the urban areas. This would have encouraged more farmers to venture into agro farming.

Factor analysis on factors influencing opportunity exploitation of improved eucalyptus tree varieties

This study sought to identify factors that influenced opportunity exploitation for improved eucalyptus tree varieties. The results for the communalities are as shown in Table 2

The extraction column indicates the amount of variance that each of the variables Xi's can be explained by each variable. The response on farmers, who start as enterprise as a partnership with any other firms or agencies explains highest variation at 82.3%, starting up of agro business facilitated by any government incentives or public agencies accounted for 79.8% variance, skills and provisions needed to make it work 77.3%, prior knowledge in agro forestry management 74.4%, government support 73.9%. Which were the only variable that accounted for variation above 70%.

Variance explained

Table 3 shows the eigen values and the amount of variance explained by each successive factor.

The rest of the factor analysis is based on five factors, because five factors have eigen values greater than one. It has been suggested that over-extraction leads to less distorted results than under-extraction; (Wood, Tataryn & Gorsuch, 1996). The quantities at the bottom of each factor column are the sums of the squared loadings for that factor, and show how much of the total variance of the observed variables is accounted

Table 3. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.940	21.887	21.887	3.940	21.887	21.887	3.621	20.117	20.117
2	2.720	15.112	36.999	2.720	15.112	36.999	2.534	14.075	34.192
3	1.527	8.485	45.484	1.527	8.485	45.484	1.934	10.742	44.934
4	1.270	7.056	52.541	1.270	7.056	52.541	1.336	7.420	52.355
5	1.086	6.036	58.577	1.086	6.036	58.577	1.120	6.222	58.577
6	.959	5.325	63.902						
7	.847	4.706	68.608						
8	.828	4.600	73.208						
9	.739	4.105	77.313						
10	.677	3.763	81.076						
11	.584	3.246	84.322						
12	.560	3.110	87.432						
13	.525	2.915	90.347						
14	.478	2.657	93.004						
15	.420	2.334	95.338						
16	.414	2.299	97.637						
17	.284	1.579	99.216						
18	.141	.784	100.000						

Extraction Method: Principal Component Analysis.
a Only cases for which Size of land = 0.1-5 acres are used in the analysis phase.

for by that factor. For Factor 1, the total is 3.940, this factor analyses shows the total amount of variance is equal to the number of observed variables (the variables are standardized, so each has a variance of one), the total variation here is eighteen, so that Factor 1 accounts for (3.940/18) x 100 = 21.887% of the variance. The quantities in the communality column show the proportion of the variance of each variable accounted for by the common factors resulting to high correlation between the variables. Hence this study shows that factors were over-extracted hence less distortion of the factor tested had an influence on opportunity exploitation of farmers planting improved eucalyptus tree varieties. The correlation matrix would show whether there is any relationship between the variables.

There are certain variables such as level of education, start enterprises as a partnership with any other firm or agencies, startup of agro business facilitated by government, and availability of cheap that were related positively at a significance level of 0.05, the study also established that there is no relationship between level of education, with size of land, prior knowledge, skills and provisions needed to make it work, availability of ready market, collaboration with support organizations such as KEFRI, government support, passion for environmental conversation, level of initial capital, expected future demand, degree of control over production process, opportunity for product differing, type of government regulations, information availability and individual entrepreneurial management capabilities, personal degree of risk aversion.

This means that level of education and size of land had no correlation with factors that influence opportunity exploitation. Factors such as start enterprise as a partnership with other firms or agencies, facilitation of agro business by government or public agencies, prior knowledge, skills and provision needed to make it work, availability of ready market, level of initial capital, expected future demand in wood fuel energy , degree of control over production processes, opportunity for product differentiation, government regulations, information availability and personal degree of risk aversion had a positive relationship at a level of significance of 0.01 and 0.05 respectively. This explains the reasons as to why these farmers exploited the opportunities presented in planting improved eucalyptus tree varieties.

Factor Matrix (Table 4) shows the coefficients for 5

Table 4. Factor Matrix (a, b)

	Component				
	1	2	3	4	5
Level of education	0.154	-0.053	0.082	0.312	**0.613**
Started your enterprise as a partnership with any other firms or agencies	0.509	-0.620	0.369	0.207	0.021
Starting up of your agro business facilitated by any government incentives or public agencies	0.513	-0.593	0.339	0.259	0.033
Prior knowledge in agro forestry management	-0.161	0.618	**0.546**	0.179	-0.077
Skills and provisions needed to make it work	-0.100	**0.662**	0.544	0.169	-0.021
Availability of ready markets	-0.348	0.626	-0.119	0.127	0.072
Collaborations with support organizations such as KEFRI	0.354	0.272	0.241	-0.574	-0.191
Government support	0.073	0.016	0.223	**-0.727**	0.394
Passion for environmental conversation	0.356	-0.031	-0.333	-0.186	-0.075
Level of initial capital outlay	0.517	0.249	0.303	-0.106	0.391
Expected future demand in wood fuel energy hence guaranteed cash flows	0.152	0.595	-0.286	0.173	-0.031
Degree of control over production processes	0.681	0.246	-0.096	0.088	-0.115
Opportunities for product differentiation	0.701	0.138	-0.114	-0.058	-0.068
Type of government regulation	0.504	0.158	0.079	-0.047	-0.057
Information availability	0.412	0.005	0.313	0.063	-0.494
Individual entrepreneurial management capabilities	0.648	0.200	-0.252	0.052	-0.033
Personal degree of risk aversion	**0.752**	0.031	-0.109	-0.001	-0.033
Availability of cheap labour from within project areas	0.570	0.365	-0.259	0.176	0.281

Extraction Method: Principal Component Analysis.
a 5 components extracted.
b Only cases for which Size of land = 0.1-5 acres are used in the analysis phase.
Source: Field Data, 2011

principal components which indicate the 5 factors whose eigen values had greater than 1 value which had the highest probability of explaining sufficient variance that the 5 variable can be used in the model and explain the model sufficiently. The variables are personal degree of risk aversion 75.2% variation explained in component loader 1, skills and provisions needed to make it work 66.2% variation explained in component loader 2, prior knowledge in agro forestry management 54.6% variation explained in component loader 3, government support -72.7% variation explained in component loader 4 and level of education 61.3% variation explained in component loader 5. The five variables are the only variables when included in the model are able to explain the model variation with meaningful variation that was totaling to 58.58 in table 4

This change was brought about by rotating the whole frame, including the axes, in a counterclockwise direction. In this case the Varimax method was used for each variable, this seeks to maximise the loading on one factor and to minimise the loadings on other factors. The five variables that could explain the highest variance were availability of cheap labour from within project areas 69.5% variation explained in component loader 1, Started your enterprise as a partnership with any other firms or agencies 88.2% variation explained in component loader 2, skills and provisions needed to make it work 85.5% variation explained in component loader 3, government support 85.1% variation explained in component loader 4 and education level 68.9% variation explained in component loader 5. Table 5

A clear pattern now emerges, with items having to do enterprise as a partnership with any other firms or agencies and starting up of your agro business facilitated by any government incentives or public agencies loading highest on Factor 2 and those to do with Skills and provisions needed to make it work and prior knowledge loading highest on the Factor 3. The government support loading was highest on Factor 4, degree of control, individual entrepreneurial management capabilities, personal degree of risk aversion and availability of cheap labour from within the project areas loading highly in

Table 5: Rotated Component Matrix (a, b)

	Component				
	1	2	3	4	5
Education level	0.075	0.148	0.064	-0.003	**0.689**
Started your enterprise as a partnership with any other firms or agencies	0.159	**0.882**	-0.068	-0.034	0.117
Started up of your agro business facilitated by any government incentives or public agencies	0.182	0.856	-0.060	-0.080	0.149
Prior knowledge in agro forestry management	-0.037	-0.181	0.841	0.022	-0.041
Skills and provisions needed to make it work	0.028	-0.194	**0.855**	0.063	0.009
Availability of ready markets	-0.058	-0.640	0.338	-0.117	0.094
Collaborations with support organizations such as KEFRI	0.335	.001	0.164	0.575	-0.392
Government support	-0.056	-.011	-0.072	**0.851**	0.081
Passion for environmental conversation	0.382	-.035	-0.337	0.073	-0.111
Level of initial capital outlay	0.446	.148	0.279	0.424	0.329
Expected future demand in wood fuel energy hence guaranteed cash flows	0.430	-.486	0.184	-0.180	0.046
Degree of control over production processes	0.736	.074	0.065	-0.031	-0.043
Opportunities for product differentiation	0.707	.123	-0.060	0.100	-0.051
Type of government regulation	0.491	.132	0.110	0.129	-0.054
Information availability	0.337	.382	0.265	-0.075	-0.425
Individual entrepreneurial management capabilities	0.719	-.002	-0.093	-0.030	0.025
Personal degree of risk aversion	0.715	.229	-0.110	0.063	0.007
Availability of cheap labour from within project areas	**0.695**	-.159	0.017	-0.021	0.356

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations
b Only cases for which Size of land = 0.1-5 acres are used in the analysis phase.
Source: Field Data, 2011

Factor 1 and level of education loading highly in Factor 5. Passion for environmental conversation, level of capital, type of government regulations, and expected future demand in wood fuel energy and availability of information had low loadings on all the factors.

Table 6 concludes that some variables were omitted hence the factor analysis indicates on the variables that were related. Therefore there were factors that did not have an effect on opportunity exploitation for farmers planting improved eucalyptus tree varieties in Lari District. The factors that influenced opportunity exploitation included risk aversion, opportunity for product differentiation, degree of control over production processes, skills to make it work and availability of ready market.

CONCLUSION

The exploitation of seedlings by the small scale farmers is majorly due to self-initiative as a result of friends talking about the benefits from the entrepreneurial tree farming

Table 6: Component Transformation Matrixes (a)

Component	1	2	3	4	5
1	0.898	0.409	-0.065	0.141	0.045
2	0.357	-0.716	0.594	0.085	-0.016
3	-0.239	0.536	0.743	0.320	-0.038
4	0.063	0.163	0.292	-0.860	0.381
5	-0.073	-0.078	-0.076	0.363	0.923

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a Only cases for which Size of land = 0.1-5 acres are used in the analysis phase.
Source: Field Data, 2011

from the farmers who have experience in planting improved Eucalyptus trees varieties. Hence the study conclusion that self-initiative was as result of self-persuasion for future gains.

The aspect of entrepreneurial exploiting by small scale farmers have resource challenges for innovation compared to larger farms farmers who have higher notch on access to risk bearing financial resources to invest in innovation. Credit facility for the small scale farmers and more so women are marginalized to plant economical woodlots compared to men. The main source of financing for farming of improved eucalyptus tree seedlings as revealed in the study was personal saving: the front running farmers in the past, have a higher probability to be a frontrunner at present and farmers that were laggards in the past are likely to remain so. It is critical to train one of entrepreneurial farming groups who in turn offer basic improved Eucalyptus tree farming varieties services training and most likely the community can meet their cost within private sector development.

The Principal Component Analysis calculated that only five of all the factors in the model were sufficient to explain the variation 58.58% and this are demonstrated in factor matrix as education level, prior knowledge in agro forestry management, skills and provisions needed to make it work, government support and personal degree of risk aversion.

REFERENCES

Ajayi, O. C., Place, F., Kwesiga, F., & Mafongoya, P. L. (2007). Impacts of improved tree fallow technology in Zambia., *International Research on Natural Resource Management* (pp. 147-168): CAB International.

Alvarez, S. A. & Barney, J. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, 1: 11-26.

B. Kanyi, C. Ngamau, J. Epila-Otara, P. Mwangingo &S. Wakhusama (2004) Tree Biotechnology Project: Kenya's Experience. (Eds.) *Towards Optimizing the Benefits of Clonal Forestry to Small-scale Farmers in East Africa.* Workshop Report 26-27 January. The Windsor Golf and Country Club, Nairobi, Kenya.

Government of Kenya (2007). *Sessional Paper Number 1 of 2007 on Forestry Policy*. Nairobi: Government Printers.

Government of Kenya (2010). *2009 population & housing census results*. Nairobi, Government Printer

Kenya Forestry Master Plan (KFMP), (1994). Development Programmes, Ministry of Environment and Natural resources, Nairobi: 123-149.

Kenya Forestry Service, (2009). www.kenyaforestryservice.org, Report used "A Guide to On-Farm Eucalyptus Growing in Kenya December 2009", accessed February 01, 2012

Kenya Land Alliance (KLA). (2002). Land Use in Kenya: The case for a national land-use policy. Kenya Land Alliance, Nakuru, Kenya.

Leakey, R.R.B. & Tentchou, J. (2009).*Consultants Report, Mid-Term Evaluation, Agricultural and Tree Products Program, Food For Progress 2006,* 26 Jan – 13 Feb 2009. Report to World Agroforestry Centre, Yaoundé, Cameroon, 86pp.

Lengkeek, A.G. (2003). Diversity Makes a Difference, Farmers Managing Inter and Intra Specific Tree Species Diversity in Meru Kenya. PhD Thesis, WUR.

Lombard A., & Leakey, R.R.B. (2010). Protecting the rights of farmers and communities while securing long term market access for producers of non-timber forest products: experience in southern Africa *Forests, Trees and Livelihoods*

Mallikarjun P., A. Bheemappa, J. G. angadi & Y. N. Hawaldar, (2010). *Karnataka Journal of Agricultural Science,23 (3) : (530-532)*

Mendes, A.M.S.C., Stordal, S., Adamczyk, W., Bancu, D., Bouriaud, L., Feliciano, D., Gallagher, R., Kajanus, M., Mészáros, K., Schraml, U. and Carbone, F. (2006). Forest owners' organizations across Europe: Similarities and differencies. Issues affecting enterprise development in the forest sector in Europe. Faculty of Forestry, University of Joensuu. Research notes 169. Pp. 84–104.

Mercado, A.R. Cadisch, G. Pailagao, C. Arcinal, G.

Loma & L. Pagalan, E. (2003). Potential of timber based hedgerow intercropping systems as smallholder agroforestry option on sloping acid upland soils. Paper presented during the First National *Agroforestry Congress held at LSU Baybay, Leyte on Nov. 19-20.*

Petrin, T. (1992). *"Partnership and Institution Building as Factors in Rural Development".* Paper presented at the Sixth Session of the FAO/ECA Working Party on Women and the Agricultural Family in Rural Development, Innsbruck, Austria, 13-16 October.

Plummer L., Haynie J.M.& Godesiabois J., (2007). An Essay on the origins of entrepreneurial opportunity. *Small Business Economics,* 28

Rametsteiner, E. (2000).*Sustainable Forest Management Certification: Frame Conditions, System Designs and Impact Assessments*. Ministerial Conference on the Protection of Forests in Europe, Liaison Unit Vienna

Rametsteiner, E, & Weiss G. (2004). Assessing Policies from a Systems Perspective: Experiences with Applied Innovation Systems Analysis and Implications for Policy Evaluation Designs and Methods. *Journal of Forest Policy and Economics.*

Rametsteiner, E, Weiss, G. & Kubeczko, K. (2005). Innovation and Entrepreneurship in Forestry in Central Europe, *European Forest Institute Research Reports*.

Senelwa, K., D., Ogweno, D., Okwara & F. Mburu (2004). East Africa's Regional Forestry Needs: Wood Requirements and the Dimensions of Deforestation. *Towards Optimizing the Benefits of Clonal Forestry to Small-scale Farmers in East Africa.* Workshop Report 26-27 January. The Windsor Golf and Country Club, Nairobi, Kenya

Shane, S. (2000). Prior Knowledge and the Discovery of Entrepreneurial Opportunities. *Organization Science*, *11*, 448-469.

Singh, A. P. (2013). Factors influencing entrepreneurship among farming community in *Uttar Pradesh International Refereed Research Journal*, 4 (3).

Shane, S. & S. Venkataran (2000). The Promise of Entrepreneurship as a Fieldof Research. *Academy of Management Review,25* (1), 217-226 Available Internets: (www.darden.edu/batten/pdf/) 7 May 2011

Wood, J. M., Tataryn, D. J., & Gorsuch, R. L. (1996). Effects of under- and over extraction on principal axis factor analysis with varimax rotation. Psychological Methods, 1, 354-365.