



Impact Factor 2017: 7.383

**INTERNATIONAL JOURNAL OF RECENT
SCIENTIFIC RESEARCH**

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CODEN: IJRSFP (USA)

*International Journal of Recent Scientific Research
Vol. 11, Issue, 04 (B), pp. 38094-38097, April, 2020*



International Journal of
Recent Scientific Research

ISSN: 0976-3031 Open Access, Peer-Reviewed, Interdisciplinary, Monthly, and Fully Refereed Journal

International Journal of Recent scientific Research

www.recentscientific.com

ISSN: 0976-3031

Index Copernicus IC Value: 81.25

SJIF Impact Factor 2017: 7.383

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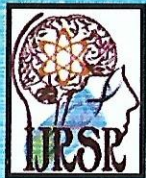
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Journal DOI: 10.24327/IJRSR CODEN: IJRSFP(USA)

Impact Factor 2017: 7.383 Index Copernicus Value: 2016-81.25

journalijrsr2020@gmail.com



Impact Factor 2017: 7.383

INTERNATIONAL JOURNAL OF RECENT SCIENTIFIC RESEARCH

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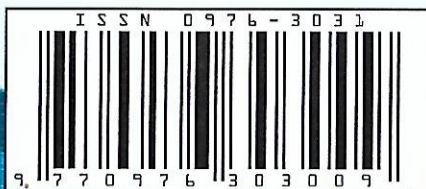
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In recognition of the publication of the paper entitled

FINANCING OF THE PROGRAMME TO COMBAT LAND DEGRADATION ON THE "PLATEAU ADJA" IN BENIN

Published in International Journal of Recent Scientific Research
(Vol. 11, Issue, 04 (B), pp. 38094-38097, April, 2020)

2020



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ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 11, Issue, 04 (B), pp. 38094-38097, April, 2020

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

FINANCING OF THE PROGRAMME TO COMBAT LAND DEGRADATION ON THE "PLATEAU ADJA" IN BENIN

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DOI: <http://dx.doi.org/10.24327/ijrsr.2020.1104.5239>

ARTICLE INFO

Article History:

Received 06th January, 2020
Received in revised form 14th February, 2020
Accepted 23rd March, 2020
Published online 28th April, 2020

Key Words:

Financing, land degradation, selection model, "Plateau Adja", Benin

ABSTRACT

Land degradation, caused by water and wind action and reinforced by human activities, reduces agricultural yield and income and lowers economic growth, especially in poor countries such as Benin¹. The objective of this research is to estimate the funding for the programme to combat land degradation on the Adja Plateau. The Contingent Valuation Method (CVM) was used to obtain the total amount of households' willingness to pay (WTP) using the probit model. Then the tobit² model was used using the two-stage³ method to control the sample selection bias of 267 households. The estimation results give an average WTP of 1557 FCFA / month / hectare. For a cropping season of 201,739 hectares in 2019, the total WTP is estimated at 3,769,291,476 FCFA/year.

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INTRODUCTION

Land degradation affects 1.5 billion people and 74% of the world's poor (Economics of Land Degradation: ⁴). It prevents agricultural production and increases poverty and vulnerability. It affects 33% of the world's land surface, affecting more than 2.6 billion people in over 100 countries. The financial and economic costs of land degradation at the global level are between 3 and 5% of agricultural GDP for US\$ 42 billion per year and a loss of ecosystem services in the order of US\$ 43,400 to US\$ 72,000 per km² and between US\$ 870 and US\$ 1450 per person per year⁴. At the level of the African continent, these costs vary from 4 to 12% of GDP, 85% of which results from soil erosion, nutrient loss and crop changes⁵.

In Benin, the economic and financial costs of land degradation range from 8.100 to 14.100 billion CFA francs and 3 to 5% of Gross Domestic Product (GDP)⁶. The Adja Plateau is one of the main agricultural production areas in southern Benin with more than 90% of its population engaged in agriculture. Unfortunately, this area of very high land pressure suffers, contrary to the theory of Boserup,⁷ the persistence of mining agriculture and the pronounced degradation of the cultural environment. With a surface area of 944 km², the Adja

Plateau, located in the Couffo department in south-western Benin, is also characterized by strong land pressure and worsening degradation of the cultural environment. In fact, despite this land pressure, the agricultural practice of the farmers of the Adja Plateau remains essentially extractive; an agriculture without concern for restoring the soil's fertility potential, i.e. mining agriculture. This state of affairs is contrary to the theory of Boserup,⁷ which states that population density is a positive factor in increasing agricultural production. In other words, the demographic pressure that this area is experiencing should favour the intensification of the production system, the increase in land productivity and, ultimately, the technical change towards agricultural practices that conserve and improve yields. This is not the case. To this end, Hougbo and *al.*,⁸ revealed that the poorer the producer in this area, the less he implements land conservation farming (LCA) practices such as natural fallow and improved fallow technologies based on *Mucuna pruriens* and *Acacia auriculiformis*.

Thus, when water and wind action, reinforced by human activities, can have negative impacts on the soil, there are elements of appreciation and mechanisms for its repair or restoration in a context of budgetary constraints. This is the

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main objective we are pursuing. The associated research question is: what factors determine the willingness of producers to pay for the adoption of soil conservation techniques? This main question gives rise to a series of secondary questions. Do the economic factors of the producer determine his or her attitude to financing the mitigation of land degradation effects? Do the social characteristics of the producer influence his willingness to pay for soil conservation? This research will therefore help to mobilize funding for the land degradation control programme on the Adja Plateau in Benin.

EXPERIMENTAL SECTION

The study environment

The study area identified for this research is the Adja Plateau, which includes the municipalities of Aplahoué, Djakotomey, Dogbo, Klouékanmey, Lalo and Toviklin, and is located in agro-ecological zones VI and VII of Benin. Indeed, according to FAO, an agro-ecological zone is a cartographic unit of land resources, defined in terms of climate, geomorphology and soils, and/or vegetation cover and possessing a specific range of potentials and constraints for land use. Agro ecological Zone VI includes the municipalities of Djakotomey, Dogbo, Klouékanmey and Toviklin in addition to other municipalities and is characterized because of its soil characteristics as a "clayey land" zone. The climate is marked by two (02) rainy seasons (March-July; October-November) and two (02) dry seasons (December-February; August). Rainfall varies from 1000 to 1400 mm. As for Agro-Ecological Zone VII, it includes the municipalities of Lalo and several other municipalities. It is called depression zone. It is the smallest of the eight (08) agro-ecological zones in terms of surface area. On the climatic level, it is quite comparable to the bar land zone with, however, a high relative humidity. In the two agro-ecological zones, maize, cassava, cowpea, groundnuts, peanuts, pepper and tomatoes are grown.

The study population: sampling

The field approach enabled information to be collected from farm house holds. Thus, on the basis of rigorous criteria, random sampling by municipality will be carried out. Data from the National Institute of Statistics and Economic Analysis⁹ helped to discriminate between villages. With regard to the target groups, the methodology used and the phenomena to be studied, only the heads of households were interviewed. The formula of ¹⁰ will be used to calculate the sample size (n):

$$n = \frac{t^2 \times p \times (1 - p)}{E^2}, \text{ where} \tag{1}$$

n = sample size

t = 95% confidence level (typical value of 1, 96)

p = estimate of the proportion of the specific population concerned by the study. Where it is not defined, it is equal to 50%.

E = margin of error tolerated: up to 6%. Thus :

$$n = \frac{t^2 \times p \times (1 - p)}{E^2} = \frac{1,96^2 \times 0,5 \times (1 - 0,5)}{0,06^2}, \text{ and : } n = 267$$

Table 1 Household sample structure by sex

Municipalities	Total population (RGPH 4)	Number of households	Household size	Number of households drawn by municipality	Sex	
					Male	Female
APLAHOUE	171 109	33 100 (25%)	5,2	67 (25%)	58 (25%)	9 (25%)
DJAKOTOMEY	134 028	25 106 (18%)	5,3	48 (18%)	42 (18%)	6 (18%)
DOGBO	103 057	21 199 (15%)	4,9	40 (15%)	35 (15%)	5 (15%)
KLOUKANMEY	128 597	25 531 (18%)	5,0	48 (18%)	42 (18%)	6 (18%)
LALO	119 926	17 735 (12%)	6,8	32 (12%)	28 (12%)	4 (12%)
TOVIKLIN	88 611	17 773 (12%)	5,0	32 (12%)	28 (12%)	4 (12%)
Total	745 328	140 444 (100%)	5,3	267 (100%)	233 (87%)	34 (13%)

Source: Calculated from INSAE statistics (2015)

The model of study

The data collection tool is the contingent questionnaire. The Contingent Assessment Method (CAM) empirically obtained the willingness to pay (WTP) of beneficiary households to avoid land degradation. By estimating the average WTP using the probit model, the tobit model² (Tobin, 1958) tested by the two-step method of Heckman³ (1979) to control for selection bias in the sample of 267 households. Two (02) situations S1 and S2 are proposed to the respondents:

- S1: Keep the current land degradation situation. This situation does not entail any financial burden on the households, but they will continue to suffer the nuisances related to the current degradation and infertility of the agricultural soils in their municipality.
- S2: To participate financially in the soil quality improvement programme. This entails a financial cost for households, but allows them to avoid the decline in soil fertility they are currently experiencing.

In a first step, the individual decides whether or not to pay for soil conservation techniques (SCTs). This decision can be represented by a dichotomous qualitative model based on a certain criterion⁴_{1,i}

$$\begin{cases} \text{If } y_{1,i}^* > 0, \text{ l' individual } i \text{ decides to pay} \\ \text{If } y_{1,i}^* \leq 0, \text{ l' individual } i \text{ decides not to pay} \end{cases} \tag{2}$$

In a second step, the individual decides how much he or she is going to spend on CHTs, after deciding to pay. We then have a model of censored data since, if we note y_{2,i} the actual payment of household i, this is defined by $\forall i = 1, 2, \dots, N$:

$$y_{2,i} = \begin{cases} y_{2,i}^* & \text{if } y_{1,i}^* > 0 \\ 0 & \text{if } y_{1,i}^* \leq 0 \end{cases} \tag{3}$$

The econometric model used to estimate the WTP of respondents falls within the domain of qualitative variables, more specifically selection models. Indeed, the variables we are trying to explain are the WTP amounts declared by households to contribute to the improvement of soil quality on the Adja Plateau. However, it is certain that this information is only available for households that have opted for S2. This is a two-stage model. In the first stage, the household chooses whether to participate in the programme or not, and then they decide how much to pay. Using the method of Heckman

(1979), our model can be formalized mathematically as follows for each household i :

Selection equation: to participate in the soil quality improvement program. Let Z be the quality variable, such that $Z = 1$ if household i participates in the program and 0 otherwise :

$$Z = w_i\beta + \mu_i \cdot \mu_i \text{ follows a normal law of parameters } N(0,1). \quad (4)$$

• **Substantial equation:** estimated willingness to pay (PAC) (observable only if $Z = 1$) :

$$Y = x_i\alpha_i + \varepsilon_i. \quad \varepsilon_i \text{ follows a normal law of parameters } N(0,1). \quad (5)$$

The w_i and x_i are observable socio-economic variables. Assuming a normal distribution $N(0, 1)$, the error terms of the two equations (selection and substantial) are therefore absolutely continuous and assume for density $f(x)$, such that :

$$f(x) = \frac{1}{\sqrt{2\pi}} e^{-x^2/2}, \text{ avec } x = \mu_i, \varepsilon_i. \quad (6)$$

RESULTS AND DISCUSSION

The results of the survey on the Plateau ADJA, present 80 heads of households, i.e. 30% who chose S1 ($y_{1,i}^* \leq 0$, thus having a CAP = 0), and 70% who made the S2 option ($y_{1,i}^* > 0$, i.e. who accepted the programme to combat agricultural soil degradation, thus representing 187 households that actually agreed to invest in soil conservation). Thus, of the 187 households, 80 agree to pay 1500 FCFA, while 55 households agree to pay 2500 FCFA. There are 36 agricultural households that agree to pay 3000 FCFA and 14 households that agree to pay 3500 FCFA. The last category of households that agreed to invest 4000 FCFA in soil conservation techniques on the Plateau ADJA, comprises only 2 households and is located in the commune of APLAHOUE. The average CAPs for the six (06) communes of Plateau ADJA that accepted the program (S2) and for the entire sample of 267 households (S1+S2) are presented in Table 2.

Table 2 Determination of the average WTP of the 6 municipalities of the Plateau ADJA

	S1+S2	$y_{1,i}^* \leq 0$ (S1)	WTP (S1)	$y_{1,i}^* > 0$ (S2)	WTP (S2)	WTP (S1+S2)
APLAHOUE	67	20	0	47	2351	1649
DJAKOTOMEY	48	14	0	34	2471	1750
DOGBO	40	12	0	28	2339	1638
KLOUKANMEY	48	14	0	34	2191	1552
LALO	32	10	0	22	2114	1453
TOVIKLIN	32	10	0	22	1886	1297
Total	267	80	-	187	-	-

Source : Auteur, 2020

The average WTP of the six (06) communes for S2 is then equal to 2225.34 FCFA and for (S1+S2) it is equal to 1556.47 FCFA. For the first stage, the estimation of the selection equation is carried out on all the observations that responded to the quota scenario, i.e. on a sample of 267 farm households. For the second step relating to the substantial equation, STATA uses the observations of S2, those who decided to pay. This estimate is based on 187 observations. Based on the model studied, the coefficients of the selection equation are interpreted as those of the probit model. The coefficients of the substantive equation represent the influence of the

explanatory variable on the explained variable. This is ordinary least squares (OLS). Figure 1 shows the average willingness to pay of the entire sample of 267 heads of households in the ADJA Plateau.

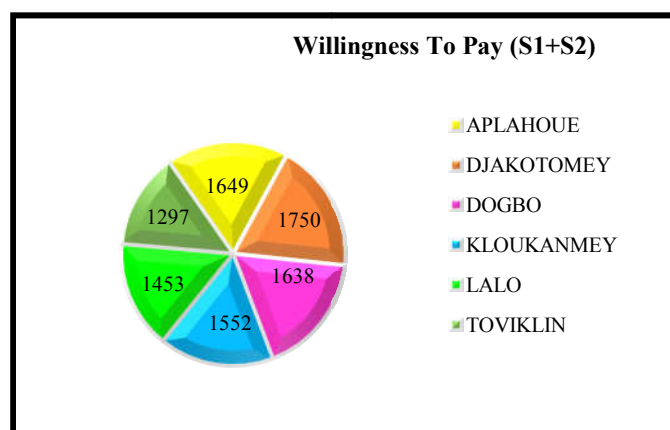


Figure 1 Les consentements à payer moyen de l'échantillon
Source : Auteur, 2020

The survey of the Adja Plateau allowed us to categorize six (06) variables from the selection equation and four (04) variables from the substantive equation (Table 3).

Table 3 Variables in the selection and substantive equations of the model

Variables of the selection equation	Variables of the substantial equation
Farming income (REVENU)	Age of the peasant (AGE)
Non farming income (NONAG)	Size of the house hold (TM)
Household size (TM)	Access to market (ACCMAR)
Age of the peasant (AGE)	Farming income (REVENU)
Level of instruction (EDU)	
Access to market (ACCMAR)	

Source : Auteur, 2020

For the significance of the coefficients of the variables in the selection and substantive equations of the model, it should be noted that for the selection model (first step), the coefficients of the variables market access (ACCMAR) and farmer age (AGE) are not significant. As for the substantive equation (second step), the age of the farmer has no influence on the amount of willingness to pay. On the other hand, the coefficients of the variables "household size" (HS) and "Farming income" (FI) are significant at 1% in both the first and second steps. Furthermore, the two-stage model of Heckman (1979) estimates the inverse of the Mills ratio. Since the inverse of the Mills ratio is not significant, there is therefore no selection bias. The results of the two-stage estimation by Heckman (1979) are presented in Table 4.

Table 4 Heckman (1979) two-stage estimation results

Step 1: Selection equation (Willingness To Pay - WTP)				
Variables	Coefficients	z	p > z	significance of the coefficients
TM	0,2282053***	6,56	0,000	1%
REVENU	-5,56e-06***	-2,61	0,009	1%
NONAG	1,689863***	5,42	0,000	1%
ACCMAR	-0,2657782	-0,70	0,483	Not significant
AGE	-0,0096559	-0,95	0,343	Not significant
EDUC	0,6898728**	2,55	0,011	5%
_cons	0,6247104	0,84	0,403	Not significant
Step 2: Substantial Equation (Willingness to PayAmount - WTP)				
Variables	Coefficients	t	p > t	significance of the coefficients
TM	-115,0171***	-10,89	0,000	1%
REVENU	0,0032173***	4,24	0,000	1%
ACCMAR	-552,5768***	-4,67	0,000	1%
AGE	11,32648	0,80	0,425	Not significant
Mills_	-119,8337	-0,76	0,451	Not significant
_cons	3132,75***	10,20	0,000	1%

Source: Realized from Probit and MCO regressions in STATA, 2020

The average WTP for households that agree to participate in the land degradation programme is equal to 1556.47 FCFA/month/hectare for the entire sample. The total areas (ST) sown during the 2018 and 2019 periods being respectively equal to 167,396 hectares and 201,739 hectares, this results in a total WTP (TWTP) of 3,127,626,864 FCFA/year in 2018 and 3,769,291,476 FCFA/year for 2019 over the entire ADJA Plateau. Details of average communal WTP for the 2018 and 2019 periods are presented in Table 5.

Table 5 Determination of annual municipal WTP and totals

	WTP municipal annual resources	Total area sown(hectare)		Totals WTP(FCFA)	
		2018	2019	2018	2019
Aplahoue	19 788	50 056	64 180	990 508 128	1 269 993 840
Djakotomey	21 000	35 101	33 228	737 121 000	697 788 000
Dogbo	19 656	14 750	21 038	289 926 000	413 522 928
Klouekanmey	18 624	34 487	43 326	642 285 888	806 903 424
Lalo	17 436	18 330	23 567	319 601 880	410 914 212
Toviklin	15 564	14 672	16 400	228 355 008	255 249 600
Plateau Adja	18 684	167 396	201 739	3 127 626 864	3 769 291 476

Source: Based on statistics from the Departmental Directorate of Agriculture, livestock and fisheries of Couffo (DDAEP, 2020)

Table 5 shows that total AACs are an increasing function of the total area sown. In other words, the greater the area sown, the greater the total WTP.

CONCLUSION

The survey work on the ADJA Plateau led to two (02) categories of results: descriptive results from the survey on the determinants of willingness to pay (WTP) and econometric results from Heckman's (1979) 2-stage estimation. This work made it possible to express in monetary terms what farmhouse holds in the six (06) communes on the ADJA Plateau are willing to pay for an improvement in the quality of their soils in order to avoid fertility losses, which can lead to risks of food insecurity and poverty. The results obtained made it possible to draw methodological, analytical and practical conclusions. It was found that farming households in the ADJA Plateau attach importance to improving the quality of their soils and are willing to contribute financially to this effort. The study also revealed the significant influence of socio-economic variables on the decision of farmers to pay for improving the quality of their soils. The calculated values will constitute basic references for future research aimed at

understanding the economic value of agricultural soils in general and will help to inform public decision-makers in agricultural policy in Benin.

Bibliographic References

1. Dossa, A., (2016) ; *Evaluation et financement des dépenses environnementales : cas du consentement à payer pour la conservation des sols agricoles à Kérou au Bénin*. Thèse de Doctorat en Economie de l'Environnement et Développement Durable, UAC. 303 p.
2. Tobin, J., (1958); Estimation of Relationships for Limited Dependent Variables. *Econometrica*, Vol. 26, No. 1, pp. 24-36.
3. Heckman, J. (1979); Sample Selection Bias as a Specification Error, *Econometrica* 47(1), pp.153- 162.
4. Economics of Land Degradation: ELD (2015); « *La valeur des terres* ». Terres prospères et résultats positifs grâce à une gestion durable des terres. Rapport principal de l'ELD, septembre 2015. Disponible sur www.eld-initiative.org. 180 p.
5. Berry, L., Olson, J., Campbell, D., (2003); Assessing the Extent, Cost and Impact of Land Degradation at the National Level: Findings and Lessons Learned from Seven Pilot Case Studies. *Commandée par le Mécanisme Mondial (MM) avec l'Appui de la Banque Mondiale*. 203 p.
6. Banque Mondiale, (2010) ; *Analyse environnementale, République du Bénin*. Département du Développement Durable. Rapport N° 58190-BJ, Région Afrique, Washington, 70 p.
7. Boserup, E., (1970); *Evolution agraire et pression démographique*. Paris, Flammarion, 222p.
8. Hougbo, N.E., Sinsin, B., Floquet Anne, (2008) ; Pauvreté chronique et pauvreté transitoire sur le plateau Adja au Bénin: caractéristiques et influence sur la mise en œuvre des pratiques agricoles de conservation des terres ; *TROPICULTURA*, 2008, 26, 3, 186-189
9. INSAE (2015); *Quatrième Recensement Général de la Population et de l'Habitation (RGPH4) : Que retenir des effectifs de population en 2013 ?* Juin 2015, MDAEP/RB, 33 p.
10. Schwartz, D., (1995) ; *Méthodes statistiques à l'usage des médecins et des biologistes*. 4^{ème} édition, Editions médicales Flammarion, Paris, 314 p.