

ESTABLISHING A WILDLIFE PRODUCTION SYSTEM THROUGH ON-FARM RESEARCH & EXTENSION IN FRENCH GUIANA AND TRINIDAD AND TOBAGO -II: FURTHER EXPERIENCES IN ESTABLISHING FRENCH GUIANA'S WILDLIFE PRODUCTION SUB-SECTOR.

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ABSTRACT

Despite much global discussion on the management of wildlife, this knowledge as far as it pertains to Neo-tropical experiences is still in its infancy. To elucidate on any trends impacting on a wildlife production system's establishment and functioning, and fill in this gap in knowledge, one must document the parallel 'non-biological aspects' to the system for the development of the discipline. This paper seeks to achieve this with respect to the cooperation project between French Guiana and Trinidad and Tobago entitled, « *Connaissance de la Faune Sauvage de Guyane : possibilités de gestion et de domestication* » (“*Knowledge of the Wildlife of French Guiana: Possibilities for Management and Domestication*”). The project's Phase I activities revolved around: (i) activating its advisory and execution team; (ii) doing a market assessment of the animal wildlife “industry” already in place in French Guiana; (iii) surveying the farming population which demonstrated interest in participating in the project; (iv) inventorying and developing a health and reproductive status system for the project's experimental animals; and (v) selecting the project's pilot farmers. These activities provided the foundation for Phase II, the physical set up of the pilot sites, and distribution of the animals for observations to commence in November 2003, with the signing of the contracts between the executing agency, “La Chambre d'Agriculture de la Guyane” (CAG) and the project's five (5) pilot farmers. The Collared Peccary (*Tayassu tajacu*; *Pecari tajacu*) was the first species under study in the project. This experience resulted in the commissioning of the farms between July 2004 and August 2005. It was shown that this system finds favour with the farming population, and once it is given the support by the relevant technical and administrative agencies, in French Guiana, it could prove worthwhile to the French Guyanese livestock production landscape.

Keywords: Neotropical; Wildlife Management; Development; Cooperation

INTRODUCTION

In the past, project success was only considered against achievement of the stated project objective(s) – there was either achievement or non achievement. The introduction of Participation and participatory processes into projects since the 1970s has seen the human variable and its effects on other non-human variables increase in importance. FAO (1999) highlights this importance in its Programme Evaluation Report 1998-1999, noting that “people in rural communities were rarely consulted about the aims of projects and were not involved in their implementation... [r]esults of projects... were often disappointing.” This implies that if the human variable does not own, accept and believe in the usefulness and benefit to itself of the non-human

variable, then there will be little meaningful gains all around.

This is what the present paper examines as Part II of this work of the cooperation project between Trinidad and Tobago (T&T) and French Guiana (FG) entitled “*Connaissance de la Faune Sauvage de la Guyane: Possibilités de Gestion et de Domestication*”. It focuses those experiences of the human variable in the project, and the influences it exerted in establishing wildlife production as a new area of the wildlife sub sector in French Guiana (FG). This type of discourse is new to the global discussion on the management of wildlife, as far as it pertains to Neotropical experiences. However, to shed some light on any trends impacting on a wildlife production system's establishment and

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functioning, and to fill in this gap in knowledge, one must document the parallel ‘non-biological aspects’ (the human variable’s) effect on the system for the development of the discipline. Part I of the work stated that the project would study the “social, economic and agricultural aspects, “...[with] the end objective.....of satisfying the existing consumer demand ..and.. reorganizing the erratic nature of the present wildlife meat supply chain.” (Young *et al.* , 2004). So, the management of a particular aspect of agricultural development including the people is implied. Phase II of the project had to overcome these blockages, in carrying on from Phase I. This it needed to achieve the objectives of “establishing a technical-economic bulletin adapted to French Guiana’s situation and studying all of the technical components”, (CAG, 2003, translated and paraphrased), which could influence it. In exploring the human dimension’s importance in development, a Staudt’s (1991) paraphrased question asks, “[w]hat is the purpose of development if it is not for people?” Further, the project’s stated mission of “setting up pilot sites by the selected farmers, while identifying and removing areas of blockage in accompanying them for the development of a production sector” (CAG, 2003, translated and paraphrased), also alluded to this need.

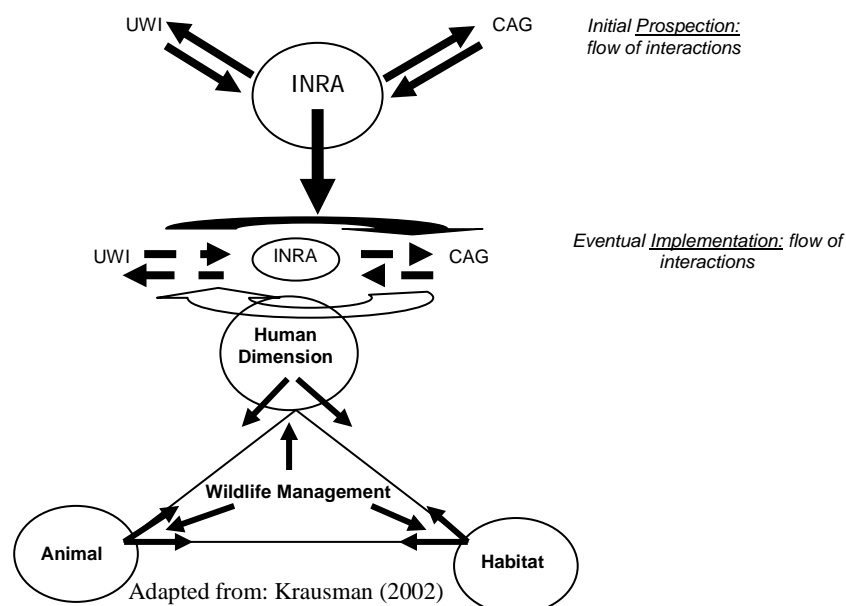
While the human variable’s importance is appreciated, an understanding of the “how does it exert its influence?” aspect remains unclear. This work therefore presents experiential data obtained during Phase II of the project to highlight those aspects affecting: (i) the physical set up of the sites

selected; and (ii) the accompanying “regularization activities” which were required to facilitate the construction process, at both the global project, and individual farmer levels. An analysis of the results obtained with respect to the source of the problems, the time taken to solve them and the consequences, as the influence that was felt and how it was rectified.

CONCEPTUAL FRAMEWORK

Global project and a individual farmer level experiences are defined as: (a) those that occurred as part of the interpersonal, communicative, administrative, financial and regulatory activities which influenced the project’s functioning and progress of itself, and its interaction with its farmers; and (b) those which the farmer had while engaging in the setting up the site. Phase I captures the essence of the “global project experience” as international project management concepts outline. This is summarized in Figure 1, the upper part of which illustrates the methodology utilized to initiate Phase I of the project. Apart from it, laying the foundation for the construction activities to commence, this interaction clearly shows that as in any other project’s initiation, the human variable is the driving force, . In the context of wildlife development research which this project embodies, this can be clearly seen from the second half of the figure which is adapted from Krausman (2002). It focuses on “Wildlife Management”, which comprises: (a) the Human Dimension ‘circle’; (b) the Animal ‘circle’; and (c) the Habitat ‘circle’, each with their associated disciplines interacting:

Figure 1. French Guiana-Trinidad & Tobago Project in the Wildlife Management Disciplines Interaction Model



Initial interaction occurred among the primary institutions, The UWI, The INRA and The CAG, commencing with prospection, through reciprocal visits between T&T and FG, which explored the possibility of launching an international cooperation project in wildlife production. Project planning began at this stage, and the role of the Institut National pour la Recherche Agronomique (INRA) was large and central in initiating this ‘sub-phase’; as indicated by the small solid arrows. Prospection evolved into Functioning – represented by the large solid arrow – the next major milestone, as Startup or Implementation activities finally commenced. This is when one of UWI’s scientific representatives arrived, as technical assistance, and the project’s advisory committee was formalized with one project leader for T&T and one for FG. This was a necessary strategy because for its management as an international project, “It is important to have two project leaders for any substantial international project” (Lientz and Rea, 2003). Since “[t]here are multiple cultures involved”, (idem), there would be significant benefits to be derived from using this approach including: (a) a “[w]ider range of knowledge is available;” (b) they “provide backup”; and (c) “[e]ach person has different contacts; (idem). Within the evolved scenario, the role of INRA contracted, though remaining central as the dashed arrows show. While it was still involved in discussions the UWI and the CAG had increasingly direct contact (the solid black curved arrow). The flow of money from the CAG to the UWI (the large outlined black arrow), was also direct. These primary actors in the project’s execution operate in the human dimension to set foundation for the establishment of the animal and habitat “circles”. This interaction provides the holistic experience which is the project under study.

Once the international project began, the multi-national, multi-scope and multi-cultural agricultural development experience was immediate, as several significant activities occurred. For example, a sector analysis was conducted and potential project farmers were surveyed by the “Technicienne” from T&T; the visit was organized between counterparts in the Universidade Estadual do Santa Cruz (UESC) in Brazil, and FG and T&T representatives from the project; the process commenced for regularization of fund transfer to the T&T sub-project from FG. All situations necessitated navigation, as some threatened to derail the project before it began in earnest. For example, during the first Advisory Committee meeting the need for a “Certificat de Capacité” to farm animals in FG was revealed – a requirement that does not exist in T&T. The possibility of the project not even arriving at Phase II became a distinct

possibility. So the animals would not be farmed in a natural habitat. This problem underscores how each ‘circle’ contributes and is contributed to by wildlife management and so influences the other ‘circles’. The meeting takes place within the Human Dimension ‘circle’ of the Wildlife Management Disciplines Interaction model, but will directly affect outcomes in the animal and habitat ‘circles’. Undoubtedly therefore, there would be real consequences on the other two “circles”. Such influence would occur via the time taken to iron out those problems. One would need to factor in the opportunity cost of time of attendant delays in setting up and commissioning the pilot farms in the project. This is made more complex by the act of modifying of the habitat in which the farms will be established for the experimental period–through to the distribution of animals. Therefore, considering that, project activities include: on-farm research, development, production, extension and international cooperation, it is fitting to explore how the human dimension influences the other two circles, as this ultimately determines the success of the project. Consequences of these experiences would therefore be observable at the global project and farmer levels.

METHODOLOGY

Once the five (5) pilot farmers were chosen, agreements were signed on November 23, 2004 and construction commenced. The “Technicienne, Faune Sauvage”, visited each farmer’s site at mutually-agreed dates as well as supervised construction on the field station at Kourou. Written reports of the technical visits including photos were compiled for the sites. This covered documentation of farmers’ queries, and the technical advice provided; as well as needed technical improvements on the construction of the enclosure which were pointed out to the farmer.

Focus-group meeting were used when possible, to highlight the problems farmers experienced, while mediation on behalf of the farmers at the national level to facilitate the project progress was entered into. Finally, a short questionnaire was administered in May/June 2006 which captured, among other information, the farmers’ perception of the assistance obtained from the project during the construction phase. It is the details of carrying out these activities which provide the results of the ‘how did it influence?’ experience of the human variable that are next discussed.

RESULTS AND DISCUSSION

Table 1 summarizes the results obtained for the project level experience, while Table 2 looks at the farmer level.

Table 1: Project Level Experiences

EXPERIENCE	CONSEQUENCE AND EFFECT	WHEN & HOW RECTIFIED
In 2003 project did not have required "Certificat de Capacité"	<ul style="list-style-type: none"> * No peccary farming possible without it. * Project facing not starting at all. 	<ul style="list-style-type: none"> - 2003: CAG negotiated and obtained provisional permission to farm under experimental conditions; - 2004: CAG held discussions with Ministry of the Environment; - Application finalised in 2005 and Certificate conferred in 2006 to Project Director & Technician – non transferable
Up to June 2005, French Guiana's wild animals do not appear on the French National Game Animal List – Fact unknown to project financers and main project executor as in indicated in 2006 survey	<ul style="list-style-type: none"> * "...French Guiana is a French department, French hunting law does not apply..... As a consequencethere is currently no hunting season nor requirement for a hunting licence...." (Richard-Hansen and Hansen, 2004) Wild game laws nonetheless applied – where one pilot farmer received a court summons for the 'confinement of wild animals'. He risked being fined and/or being jailed. * Activities on 1st Pilot farm site faced being stalled * Validity of wildlife farming project called into question * Situation regarding state of wildlife and its habitat not receiving holistic attention * Hunting practices and accompanying activities poorly policed 	<ul style="list-style-type: none"> - The National Game and Wildlife Service, one of the project's accompanying partners, intervened successfully on farmer's behalf; - Letters identifying the pilot farmers sent the respective 'Gendarme' and Mayor's offices of locales where pilot farmers reside; - Regional Orientation meetings for Management of Wildlife and its Habitats began in 2003 guided by the DIREN, and are on-going. Wildlife farming is included for attention.
Up to June 2005 proposed wildlife production system not catered for in national laws with respect to slaughtering	<ul style="list-style-type: none"> * Ability to slaughter on-farm or in the regional abattoir is affected. 	<ul style="list-style-type: none"> - To date not rectified in law. - Project initiated efforts to develop protocol with Veterinary services in 2004. - In 2005 new supermarket developed with Veterinary Services, protocol for inspecting wild meat for sale
From 2003 <i>ad hoc</i> funding issuing to and from the project	<ul style="list-style-type: none"> * Late arrival of monies from project financers * Frequent 'pauses' of supplier accounts so needed materials for project activities curtailed; * Lag time re: financial and admin. decisions, e.g. farmer funds disbursements from project * Overseas fund transfer to T&T sub-project delayed; implementation rescheduled 	<ul style="list-style-type: none"> - 2003/04: Monies received from 2 of 3 financers - 2003/05: CAG held inter-department negotiations as well as with suppliers, and arrangements made - Nov. '06: T&T project received 1st monies from FG after INRA mediation; March 2006 work commenced in earnest

Table 2: Farmer Level Experiences

EXPERIENCE	CONSEQUENCE & EFFECT	WHEN & HOW RECTIFIED
<p>Farmer #1</p> <ul style="list-style-type: none"> ➤ mid-'04: Problems of timely 2nd tranche funds disbursement ➤ late '04: Summoned to court for 'confining' animals 	<ul style="list-style-type: none"> * Construction risked stoppage * Possibility of withdrawal from project * Longer time before animal transfer; older animals 	<ul style="list-style-type: none"> - Sawmill owner with in-house wood, manpower and equipment readily available - 1st quarter '05: Project Leader-CAG Finance dept eventual mediation liberated funds - National Office of Hunting & Wildlife intervention rescinded it; Project communicated to police and mayors' offices of relevant project areas - Construction completed in May '04

Table 2 Continued...

<p>Farmer #2</p> <ul style="list-style-type: none"> ➤ mid-'04: Problems of timely 2nd tranche funds disbursement ➤ Initial problems to obtain wood and fencing material at affordable prices 	<ul style="list-style-type: none"> * Construction risked stoppage * Construction stalled * Longer time before animal transfer; animals aged 	<ul style="list-style-type: none"> - 1st quarter '05: Project Leader-CAG Finance dept eventual mediation liberated funds - Provided own manpower with occasional help - Obtained wood from Farmer #1 - Construction completed in June 2005
<p>Farmer #3</p> <ul style="list-style-type: none"> ➤ mid-'04: Problems of timely 2nd tranche funds disbursement ➤ '04: Heavy equipment & operator availability problems for initial forest clearance 	<ul style="list-style-type: none"> * Construction risked stoppage and complete withdrawal from project * Construction stalled * Longer time taken before animal transfer; animals aged 	<ul style="list-style-type: none"> - 1st quarter '05: Project Leader-CAG Finance dept eventual mediation liberated funds - Provided own manpower with wife's help - Awaited equipment & operator availability - Construction completed in June 2005
<p>Farmer #4</p> <ul style="list-style-type: none"> ➤ mid-'04: Problems of timely 2nd tranche funds disbursement ➤ Family death early in 2004 given priority ➤ early '04: Banking institution crisis at time of 1st money transfer ➤ '04: Heavy equipment & operator availability problems up to mid '05 ➤ Boundary dispute with neighbour mid-'04 to date 	<ul style="list-style-type: none"> * Construction risked stoppage * Construction start delayed * Farmer unable to access funds to start construction * Construction stalled * Construction stalled * Longer time taken before animal transfer; animals aged 	<ul style="list-style-type: none"> - 1st quarter '05: Project Leader-CAG Finance dept eventual mediation liberated funds - Time given by project to rectify situation based on farmer's assurances - 1st quarter '04: Strike ended - Awaited equipment and operator availability
<p>Farmer #5</p> <ul style="list-style-type: none"> ➤ mid-'04: Problems of timely 2nd tranche funds disbursement ➤ late '04 – mid '05: Heavy equipment & operator availability problems ➤ 2006: Ill health forced withdrawal from project 	<ul style="list-style-type: none"> * Construction risked stoppage * Construction stalled * Construction stopped 	<ul style="list-style-type: none"> - 1st quarter '05: Project Leader-CAG Finance dept eventual mediation liberated funds - Time extended for completion; then withdrawal accepted
<p>Soucoumou Field Station</p> <ul style="list-style-type: none"> ➤ late '03 Supply payments irregular ➤ '04: Project Leader chose in-house over outsourced labour for fencing job ➤ '04: Heavy equipment & operator problems to mid '05 ➤ early '04: Cultural issues 	<ul style="list-style-type: none"> * Supply accounts 'paused' * Fencing and planting of nutritive trees slowed * Slowed construction * Hindered labour available to project * Foreign project personnel demotivation 	<ul style="list-style-type: none"> - 2003/05: CAG held inter-department negotiations and with suppliers-arrangements made - Fence erected by mid '05 - Awaited equipment and operator availability - mid '04: Weekly resource use planning instituted providing small relief - Persistence to overcome situation

Tables 1 and 2 share the following underlying commonality – the purview of the human dimension, once not treated on time, generally through inappropriate decision-making, significantly influenced the non-human variables of the project. A concrete example of this is the construction of the enclosure at the field station at Soucoumou, Kourou. It illustrates the point made about previously about lag-time which occurred. Decisions made regarding the type of manpower used also affected the time taken to complete the enclosure, as technical suggestions of outsourcing a

company to do this in the short term (to enable early transfer of station animals to the new enclosure on the station and therefore reduce feed costs), gave way to administrative and financial long-term considerations. This resulted in the utilization of in-house manpower not sufficiently proficient for the task, as well as available on a part-time basis only. The operation took some 12 months to complete. During this time, high feed costs resulted from animals being retained and reproduction did not increase in the confined space and limited diet available.

Long lag-time in decision-making from mid-2004 reached from the project to farmer level, as delays in transferring needed funds stalled construction on two pilot sites particularly. Only in the first quarter of 2005, did the Project Leader successful mediation of the issue result in disbursement. It was reported that the CAG's Accounting Dept. had concerns about high project costs, especially of feed, in view of the *ad hoc* availability of funding to the project, and decided instituted restrictive measures. So disbursements to the farmers were affected by the overall decision of restricting of what appeared to be over-spending. The Project Leader indicated that the following argument was used to encourage disbursement to the farmers: the faster the money gets to the farmers the faster they would finish their enclosures. Then the transfer of animals can occur sooner, and so reduce the field station's herd more quickly and by extension the feed cost to the project. Following disbursement, by mid-'05 enclosures were completed and animals transferred shortly thereafter.

The influence of this overall decision rather than choosing another option was felt overseas by the T&T sub-project as it received promised funds in November 2005. The financing contract had been signed since December 2004. Lacking the required start-up funds obliged a rescheduling of project work which commenced realistically in March 2006. Further, during the time of the project start-up in 2003 to date, changes in the status of some key T&T pilot farmers have precipitated project modifications at this end also.

Finally, at the national level, the effects of inappropriate laws which are outputs of the human dimension and the lack of critical information sharing, risked the project being a non-starter as well as precipitating the withdrawal of the project's best-performing farmer during that stage. The possible effect of laws on the future of marketing of farmed peccary meat was also outlined as resulting from inappropriate existing laws. To its credit some were being worked on by the CAG, for example the "Certificat de Capacité", being conferred, while others are still being rectified at the level of meetings of the Regional Orientations for Management of Wildlife and its Habitats led by the

DIREN. The above enables some conclusions be drawn which are presented below.

CONCLUSION

An analysis of the results show how the human variable exerted influence at the:

- (a) Global Project level through a lack of adequate laws and knowledge of laws; and poor in-flow and out-flow of project funding. Due to the fact that the CAG's Accounting dept. had to stringently manage their meager funds, and direct administrative decision-making was based on this alone, and not considering the non-human variable, project accounts were often frozen and delayed project progress. Even the T&T sub-project, started some 2 years later than planned due to this. Other instances of influence occurred where the non-human variables like construction were stalled and stopped on some pilot sites and inappropriate laws were applied to the project situation;
- (b) Farmer level, through trickle down effects at global and project level, and by their dependence on others for construction progress and for administration and financing timeliness. These interactions proved costly to the point where two farmer risked abandonment of the project, another is yet to complete and another withdrew due to illness. Even the farmer who completed the pilot site first experienced some level of disbursement delay but due to his having ready construction material equipment and labour, he was much less affected than the others.

Despite this however, farmers through Focus-group discussions and interviews, expressed satisfaction with the assistance given during the construction phase, particularly the technical aspect. They look forward to "pending profits", "see results as [the system] develops" and "starting a production system corresponding to ...[their] agricultural vision". They see future benefits once the relevant agencies accompany – a view unanimously expressed for the new sub-sector by the project's financiers and executors alike. The consequences of the human variables' influence are clear though, when one considers the cost – here not quantified as this is an opportunity for further research into this area, commencing with the T&T sub-project.

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