

# **Contribution of Development of the Vetiver System in Venezuela since 2000 to 2011**

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## **ABSTRACT**

The author has participated in the development of vetiver several projects in Venezuela, in the present decade, involving more than 20.000 people, who have learnt the technology, directly from poor communities or through promotion in radio, TV and newspaper interviews. I have promoted Vetiver System to the Mountain Oasis Organization, a group was formed for small organic farmers who were preoccupied for the environment issue, especially in soil and water conservation, in the High Mountains of Miranda State, in early 2.000. I have also introduced the Vetiver System to the Yaracuy Consortium, an organization of poor farmers in Yaracuy State, in the same year.

I was the principal Director of Vetiver Polar Foundation Project, who involved more than 11.000 people, first, handicraft and when people become interested and generated money, they were induced to grow the plant for soil and water conservation; the Project was consolidated in 21 sites around the country, generated more than 3.500 employees during 7 years, and had the responsibility to convince the Venezuelan Polar Enterprise to hold the Fourth International Conference on Vetiver which took place in 2006, in which I was a member of the Organizing Committee. I played a principal role in the formation of Vetiver Antierosion Company initiated in 2001, and became the technical staff member, and has actively participated in the application of vetiver for soil conservation a reclamation in Bauxite Mine and the use of vetiver handicraft for more than 14 indigenous communities who lived in the neighborhood of the mine. I have been instrumental in the use vetiver combined with trees to protect 40 hectares at Minalba Mineral Water Springs, to prevent erosion and water conservation. Minalba Mineral Water, a company belongs to Pepsi Cola Venezuela, since 2003 until now. I participated as the PVFP vetiver staff, on International Training Course on Vetiver Handicraft in Bangkok, Thailand in 2005, and passing this experience to artisans in Venezuela. I introduced the vetiver ecotypes collection from Khao Hin Son Royal Development Study Center from Thailand to Venezuela, and made all the contact with Faculty of Agronomy, Central University of Venezuela, to make the adaptability studies around the country.

Since 2007 I have joined, The Caribe's Enterprise and their group of companies (Pavimentadora Life in Barinas, Truchicultura Moconoque in Merida, and Ceramicas Caribe in Chivacoa), are working with vetiver project in three different localities in Venezuela, all these projects are directed by me. I focused on handicraft, and to protect the land and water with vetiver barriers. I conducted an experiment to evaluate the adaptation of vetiver in Venezuelan Andes High Mountain to 2500 meter of sea level. I participated in the creation of Progress Organization (PROGRESAR) supported by Caribe's Ceramic Co., dedicated to teaching the vetiver handicraft, Vetiver System, Painting, Handmade candles, and other item related with the personal development to poor people from Yaracuy and Lara States. I participated as the organizer of three Seminars together with Latin American Vetiver Network, Vetiver Antierosion Co, Andes University, Venezuelan Central University and "Ceramicas Caribe Co".

I shared my experience with vetiver in Venezuela to a Training Course for Indigenous People in Central Panama Republic, with participation of Vetiver Antierosion Co. and an Organizing Committee: Ministry of Agriculture and Ministry of Environment of Panama in 2008.

I participated in many technical meetings with the persons who work in the Ministry of Environment of Venezuela, Miranda State, to help in the establishment of a Political forum in the area, named Miranda High Plain, and by now, all the development projects must have planting vetiver as a mitigation for protection of land and water resources. Recently in the Los Salias Municipality in the same state, I promoted the use of vetiver by teaching the communities on how to use Vetiver Bioengineering for protection and stabilization with vetiver barriers in large areas affected by very heavy rain in 2010.

I participated in the conception of the film the Vetiver, The Holy Plant, made by Polar Foundation and in the publication on Vetiver published by Polar Foundation. I was an advisor of the thesis to investigate on the vetiver to treat contaminated water, and conducted research in the same item with Polar San Joaquin Brewery in Carabobo State.

In summary, through the devotion and commitment in using VS for poverty alleviation and environmental protection in the past decade, VS has been firmly established in Venezuela as a proven solution to the above issues.

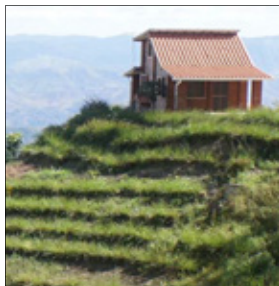
### 1.0 Introduction (2000-2001)

The Vetiver was introduced over a hundred years in Venezuela, through in the Orinoco-Apure rivers, and according to Prof Gerardo Yopez Tamayo (2005) stated that it is from 1984, when studies and research were initiated in the Faculty of Agronomy, Central University of Venezuela, and after a long outreach campaign conducted by the Faculty and NGOs, “Aragua Conservation Society” began in 1996 when many small businesses begin to apply vetiver.

The autor began working with poor farmings in the Upper Basin of Yaracuy river, training 15 agricultural technician , working for the River Yaracuy Consortium, an NGO, in a program related to environmental protection. At that time, was introduced vetiver and started a nursery with plants supplied by Aragua Conservation Society. These actions were taken in early 2000. Then, from the middle of august 2000, began to training to participants from “Oasis de Montaña”, an organization made up of smallholders (fig 1, fig 2), who were to populate a geographic región known as “Altos Mirandinos” located at the Northern Venezuela, with elevations from at least 1500 meters on the sea level, and potential problems of erosion. Then they hear for the first time about vetiver to protect soil and water from springs. .



*Fig 1. August, 2000. Smallholders, Oasis de Montaña Organization”, were trained for a year with organic agriculture and vetiver . Violeta de Baute, Oswaldo Luque (Trainer), Roger Vaamonde and others.*



*Fig. 2., July 2011, Property and land of some members of the Organization Oasis de Montaña, protected with vetiver, and in between vetiver they are cropping organic aagriculture and use mulch for weed controls. .*

## 2.0 (2001-2007)

### 2.1 The Vetiver Polar Foundation Project. (VPFP)

Later on 21 march 2001, an document was prepared and release to Polar Foundation and know as Vetiver Polar Foundation Project, created a directed by the autor. The document fully stated the following general objetives: (i) Alliviate social disparities, (ii) promote vetiver handicraft as an initial step in the execution of an integral, economic ecological and social development project. (iii) to develop markets for vetiver handicraft in Venezuela. (iv) to increase participation of the poor population. (v) to stimulate the fight against the destruction of the natural resources and (vi) to enhance the spiritual and moral values trough appropriate dynamics. Luque, (2005), Pantin, *et al* (2006) . The project was expanded to 21 sites throughout Venezuela and lasted 7 years (Fig 5).

The innovative approach of the VPFP is aimed at raising interest in vetiver handicraft in participants: women, young people, children and later, to the whole family. The activities begin through the conference *Why vetiver? An economic, ecological and social project*. (Fig. 3, Fig 4) Shortly after that the training of the vetiver handicraft begins and connecting the participants to the market, setting basic principles for quality; which occurs very quickly (in some cases in a month). It provides extra income to the families, the community develops a great interest in the Project.

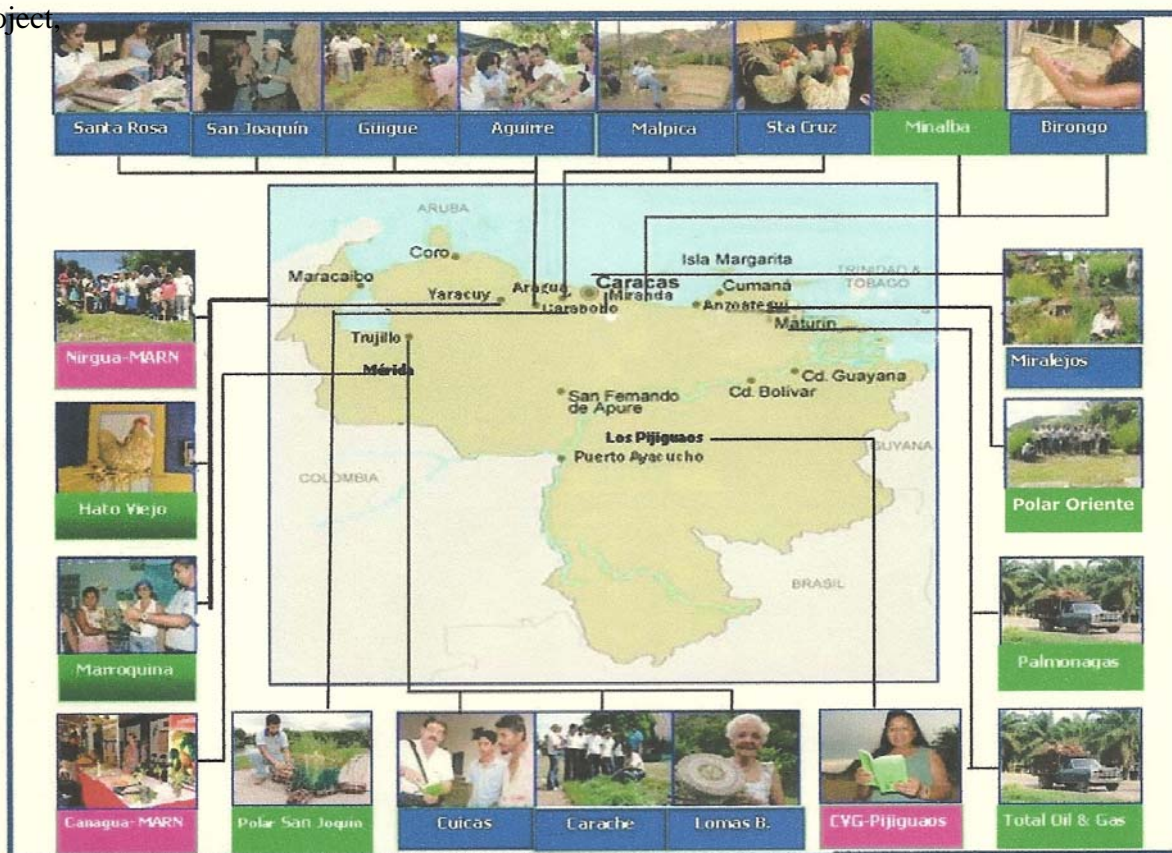


Fig. 5. The Vetiver Polar Foundation Project was expanded to 21 sites throughout Venezuela, PVPF (blue), or with strategic partnerships (blue and pink) It has promoted and supported researches jointly with the Central University of Venezuela, Romulo Gallegos University and Simón Rodríguez University, “núcleo Canoabo” and with private companies; such as Pepsi Cola Venezuela-Agua Minalba, and Caucagua, Polar Brewery C.A, “Planta San Joaquin” and Polar Brewery C.A, “Planta Oriente”. And Total Venezuela.

Photo Essay N° 1. VPFP. "HOGARES SANTA ANA" (SAH) HOME FOR OLD PEOPLE. 2001



Beginnings. March 21, 2001. SAH buildings,



VPFP, Staff, left to right, Oswaldo Luque, Grace Rivero, Prof. Jonny, Oscar Rodriguez, Ernesto Andreu, Gregoria Rivero, Ana María. issued the first conference on veti-



VPFP, First vetiver trainees from Aguirre, Bejuma, Canoaabo, Canoabito, La Sabana, Montalban Communities



Antonio Farfan (SAH) an old man (85). He collaborated in vetiver planting and maintainance plot at SAH

Photo Essay N° 2. Miralejos-La Guaira Vargas State. 2001



Disaster mitigation and vetiver planting, trainings to Communities.



Vetiver Handicrafts trainees.



Edgar Ceballos, VPFP, teaches how to prepare vetiver fiber for handicrafts



Oswaldo Luque (VPFP), teaches to children from schools at Miralejos, about the vetiver characteristics



Fig. 3. Vetiver roadside market, Bejuma –Carabobo state



Fig. 4. Vetiver and Weaving Catalog.



Fig. 5. A Vetiver Bear in Casa Alejo Zuloaga San Joaquin-Carabobo



Fig 6. A vetiver expo in Polar Foundation



Fig. 7. First handicraft and them vetiver plantings in farmers fields, Santa Rosa del Sur– Edo. Aragua-Venezuela.



Fig 8. A terciary treatment of polluted water rese-rach, at Polar Brewery –San Joaquin-Venezuela

The PVPF was focused on three areas: handicrafts, market and protection of agricultural plots.



A strong representation of participants to the Fourth International Conference on Vetiver, (ICV4) in Caracas-Venezuela 22-26 octubre 2006. The theme *Vetiver and People* and the venue were given by Oswaldo Luque and Oscar Rodriguez in ICV3 held in China in octubre 2003..

The Fourth International Conference on Vetiver (ICV4) was held in Caracas-Venezuela, from 22-26 october 2006, it was the opporunity tho share the latest innovation that VS offers to contribute with solutions in differet areas and facilitate the participation of Latin America technicians, scientists and promoters, who had no Access to the previous conferences for differents reasons. The Theme, *Vetiver and People*, evokes the necessity to involve communities to participate in the managemen of practical and effective solutions. It was organized bu Polar Foundation, Faculty of Agronomy, Central University of Venezuela, Soil Science Society of Venezuela, The Vetiver Network, Latin America Vetiver Network, Venezuelan Vetiver Network, Aragua Coservation Society, Chaipattana Foundation with the Honorary Commitee, HRH Maha Chakri Sirindhorn, Mrs. Leonor Giménez de Mendoza, Richard Grinshaw, Government representative, Antonio Paris and Franklin Chacin. The National Organizing Committee was from Polar Foundation: Graciela Pantin, Alicia Pimentel, Alejandro Reyes, Oswaldo Luque. Juan Seijas, Pepsicola Venezuela (Agua Minalba), Evelyn Cabrera de Bisbal, Venezuelan Society of Soil Science, and Diana Vilera, Total Venezuela. Under the Narong Chomchalow responsibility as Continuing Committe of ICVs, Thailand. From TV, N: Paul Troung, Jonh Greenfield and others.

With the General Aim: To demonstrate the most recent technical and scientific advances in the world related with the use and especially the social application, enhancing its productive benefit like to contribute to eradicating poverty and promoting communit development, with economical and ecological contirbutions to sustainable devolopment with the economic and ecological contributions to sustainable development derived from this multifunciotnal plant.

TVNI has been published. *Oswaldo Luque from Venezuela had a major role in the development of VS (Vetiver Systems) in Venezuela both in research and in practice (his brother has a vetiver company). Oswaldo can be credited for persuading Polar Foundation to host the Fourth International Conference in Caracas in 2006. He has prometed the use of vetiver for handicrafts and the involmement of women.* <http://www.vetiver.org/g/personalities.htm>



This publication guide the PVPF at the beginning. The PVPF was formed at the Bureau of Cottage and Handicraft ind. Development.



This Poster was presented by Oswaldo Luque, Grace Rivero, Edgar Ceballos, Oscar Rodriguez P. Ernesto Andreu *The Handicraft in Venezuela. From Tailand to Venezuela.* ICV 4. Poster Area.

## 2.2. The Vetiver Antierosion Company.



Oswaldo Luque was a promotor of the creation of Vetiver Antierosion Co, in 2001, and the co-author of the work in the reclamation areas affected by Bauxite mine exploitation, with vetiver. Jointly carried out the project of CVG with 14 indigenous ethnic groups in the vicinity of the mine. With his brother Rafael Luque, principal owner of the Company carried out a lot of research at the Carmen Teresas's Farm related to the behavior of vetiver under flooding conditions, and other topics related with the vetiver fiber production for handicrafts.



2.3 “Pepsi Cola Venezuela-Planta San Pedro-Agua Minalba (Mineral Water)



Mineral water bottle wrapped in woven fabric of vetiver.



Volunteers planted trees in between vetiver barriers



Oswaldo Luque welcomes to the participants.



Every year artisans sell their vetiver handicrafts

Pepsi Cola Venezuela-San Pedro Plant, Mineral Water Agua Minalba (product). The lands where springs are being protected Each year, since 2003 more than 300 volunteers with his family, come to the site to participate in this environmental program. The autor of this paper, oriented the Company to combine vetiver and trees to reduce the problems of erosion, increase water infiltration and promote conservation of water sources.

## 2.4 Introduction of Eighth Vetiver Ecotypes Collection to Venezuela in November 2005

The autor brought from Tailand eighth ecotype of vetiver, donated by Royal Kho Hin Son Development Study Center, who gave free pest certificate. Then made all contacts with the Faculty of Agronomy, Central University of Venezuela, to conduct studies of quarantine and adapability. Arcana, E. and O. Rodriguez, 2010. Reported that the eight ecotypes were successfully established in eighth different growing climate conditions around Venezuela, and were evaluated for fifteen months, the development was good and showed differences in growth rate. It was demonstrated the noninvasive character and all were infertile.

### 3.0 (2007-2011)

#### 3.1 Vetiver Ceramicas Caribe Projects (Directed by Oswaldo Luque M)

##### 3.1.1 Ceramicas Caribe( CECAR)

Since 2007, Ceramicas Caribe are working with a vetiver project at Chivacoa-Yaracuy State. More than 100 people have been trained with the objectives to development a system for economic, social and environmental sound, through the contribution of the vetiver system to sustainable development and natural resources conservation, watershed management, effluent treatment and slope stabilization in rural areas. First Vetiver Handicraft as initial step to promote planting of this plant. Establishing quality control schemes, mass production, promote the vetiver fiber production and people training in market through exhibition and direct sales to help consolidation of cottage industry. Set up research in wastewater treatment, and slope protection.

These actions are carried out at Chivacoa-Progresar-Yaracuy State; Pavimentdora Life: “La Mulita”, rural area, and “Liceo Militar Gral. José Antonio Paez, Barinitas, all in Barinas state, in cooperation with the Barina’s Ministry of Environmental (“Ministerio del Poder Popular para el Ambiente). The third one is “Truchicultura Muco Vetiver Project”, located at 2.500 meter above sea level, with communities, around the trout farm (Truchicultura). This region belongs to Venezuelan Andes, and very import tourist development pole.

#### Vetiver-Cecar Project-Progresar. Chivacoa.



1rst Vetiver Group-”Ceramicas Caribe –sept 2007



Mrs. Daniela Febres Corde-ro, Project Leader, planting vetiver plant , as a simbol of the company police, related with a sustainable project, who connected the comm-nities, in the promotion of a cottage industry to fight poverty and promote the personal development.



1rst Vetiver Group-”Ceramicas Caribe –sept 2007



Vetiver Exhibition-CECAR PROJECT

### 3.1.1 Vetiver CECAR Project. Chivacoa-Progresar



Progresar, a building for Vetiver Cottage Industries teaching



Neighbors to the Carribbean Ceramic Plant, in a field day with vetiver a planting trees.



Participants received personal development and leadership course.



Vetiver plants for toalet treatment wastewater treatment



Fiber harvested for project participants.



3.1.2 Vetiver Project Pavimentadora Life-Ministry of Environmental-Military Liceum. José Antonio Paéz.



Oswaldo Luque (OL) present a Conference Why vetiver?.



O.L, talking to children in Rural Area La Mulita.



Vetiver and Teca Association . Barinas State



Vetiver Handicraft Training– La Mulita



Vetiver Planting for flooding protect rural house



Vetiver wetland to clean water from a rural house



Slope protected with vetiver barriers-Rural Area



Vetiver Handicraft made by participants

**3.1.3 Muco-Vetiver Project Truchiculture Moconoque** The essay above showed the Vetiver planting research to protect the slope and infrastructure, at Moconoque area. 2500 meters above seal level, with low temperatura some time of the years. The vetiver planting was done with the traditional planting system in the Andes región: “Plowing with oxen.” This activity was undertaken by Forestry Science Faculty “Facultad de Ciencias Forestales de la Universidad delos Andes. Merida-Venezuela”



Vetiver Technology Transfer From Venezuela to Panama. January 2008



Participants to the Training Course at IDIAP, Panamá 2008



Oswaldo Luque in the Opening Ceremony



Rafael Luque delivers the Welcome address



Oswaldo Luque, Rafael Luque, Angel Carril from Vetiver Antierosion Co., Ministry of Research and Agricultural Development (MIDA) Panamá organized a training course on Vetiver during a week, to technical and indigenous people at Panama, for a week. We performed a field trip to observe various erosion problems and control methods used around the country.

## Muco-Vetiver Truchicultura Moconoque Project. Vetiver Seminar.

June 2, 2010



University and Community: Practical and Scientific experience on Vetiver was the title of the Seminar Organize by the Faculty of Forestry, Merida. 2-3 June 2010. Organized by Faculty, Truchicultura Moconoque, Vetiver Antierosion and others. It was attended for around 200 participant. The Handicraft artisans from Muco Vetiver Truchicultura Project made a nice exhibition.



## Jun 3, 2010. Field trip to Muco-Vetiver Truchicultura Moconoque Project



The participants to the Seminar visited the vetiver planting at 2500 above sea level, at Moconoque site, and noted the slow development, a violet combined with green leaf, and at least 1 meter high. 15

## Other Activities

Oswaldo Luque participated actively in several lectures to the Ministry of Environmental (Ministerio del Poder Popular para el Ambiente) y was the autor of the Monte Sinai Posadas, at that time the Ministry considered to incorporated the vetiver planting as a mitigation measures for project has been conducted in the area know as “Altos Mirandinos” Miranda State, in such cases, establishing a performance bond to protected water and land with vetiver.

Actively participated in the Movie “ Vetiver The holy Plant” from Polar Foundation, 6 hours of programs in Victoria FM, five television programs (Venevision, Televen) as well in countless interviews in newspapers and national magazines all of them from Venezuela.

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