Socio-eCO2nomix-Global

VEDA
Climate Change Solutions Ltd

IMPROVING RURAL LIVELIHOODS THROUGH CLIMATE CHANGE MITIGATION BY ADOPTING AGRO-FORESTRY PRACTICES IN ANDHRA PRADESH, INDIA

Plan Vivo

Project Idea Note

Prepared for: Plan Vivo

Prepared by: Socio-eCO2nomix-Global, an enviro-social enterprise promoted by VEDA Climate change solutions Ltd (VCCSL)

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SUMMARY INFORMATION

Project Title	Improving Rural Livelihoods through Climate Change Mitigation by Adopting Agro-Forestry Practices in Andhra Pradesh, India.
Project Location	3 Districts in Andhra Pradesh (Srikakulam, Vizianagaram, and Visakhapatnam)
Project Developer, Co-ordinator & Contact Details	Socio-eCO2nomix-Global. an enviro-social enterprise promoted by VEDA Climate change solutions Ltd (VCCSL) **Contact Person:** Dr. Satyanarayana Masabathula, IFS (Retd.) President 2-35-15/2, Perraju Pet, Kakinada, Andhra Pradesh, India, 533003. Tel: +91 884 2372430 (Off); +91 9868866419(Mobile) Email: socioeconomix@gmail.com Website: http://www.vccslindia.org/socio-eco2nomix-global
Summary of Proposed Activities	Mobilise low-income small farmers to undertake agro-forestry activities on under-utilised or not-utilised lands that are privately owned by them.
Summary of Proposed Target Groups	2159 farmer households are the primary target group of this project
Acronyms and Definitions	PES: Payment for Environmental Services NTFP: Non Timber Forest Products PRA: Participatory Rural Appraisal GHG: Green House Gases NGO: Non-Governmental Organisation CBO: Community Based Organisation FACT: Farmer's Association for Carbon Trading MoEF &CC: Ministry of Environment, Forests and Climate Change CDM: Clean Development Mechanism

Part A: Project Aims & Objectives

- Improve socio-economic conditions of low-income small farmers living in the Eastern Ghats region of Srikakulam, Vizianagaram and Vishakhpatnam districts of Andhra Pradesh, India while contributing to local as well as global environmental benefits.
- Quantify sequestration of CO2 from the atmosphere and offer these as Plan Vivo Certificates for sale in the voluntary carbon market to provide additional income from carbon credits to farmers;
- Development of institutional mechanisms for implementing the Voluntary Carbon Standard project activities;
- Promotion of local financing arrangements for restoration of degraded lands by resource-poor farmers to meet the cost of plantation and maintenance;
- Identification of resource-poor farmers and to improve their awareness to tree growing;
- Improvement in productivity of degraded lands under the project activity through a participatory approach involving local farmers, and local CBOs.
- Development, testing and dissemination of best practices in plantation and agro forestry to minimise risks (fire, pests, insects and disease) and maximise environmental and social benefits.
- Development and strengthening of the capacity of various stakeholders - resource-poor farmers, governmental and non-governmental organisations through training and technical assistance to take advantage of the international mechanisms;
- Conservation of biodiversity through reduced dependence on natural forests by producing raw material for housing, construction and industry on private lands through plantation forestry;
- Build partnerships with national and international research organisations and to promote awareness and adoption of appropriate agro-forestry models among the farmers.
- Monitor restored/rehabilitated areas, and conduct maintenance activities as required and consider possible climate-change impacts.

Part B: Proposed Project Area

The project activity shall be carried out on an estimated land covering approximately 3600.66 acres in Srikakulam, Vizianagaram, and Vishakhpatnam districts in Andhra Pradesh, India. The three districts of Andhra Pradesh have a diverse mix of 33 indigenous communities (Figure 1). The major tribes in the project area are Chenchu, Andh, Gadabas and Gond. The lush plains abruptly end with the commencement of the hill ranges of the Eastern Ghats running from Mandasa in the North-east through Pathapatnam, Palakonda and Parvathipuram to Salur in the South-West.

The 3600.66 acres of area proposed for the project is rain-fed, fallow and in some areas scrub jungles within the administrative boundaries of the three districts of Srikakulam, Vizianagaram and Vishakhpatnam in the State of Andhra Pradesh in India. The lands are either not put to any use at present or being intermittently used for rain-fed agriculture for cultivation of minor millets, cereals and pulses because of technological and financial barriers. The project is to be taken up only on private lands with clear legal title and any land that is reserved forest, protected forest or wildlife sanctuary or any other forest land is not part of the project activities. The major soil types in the proposed project area consist of sandy loams and sandy soils in Andhra Pradesh. The soils represented are slightly acidic to moderately alkaline.

Agriculture is the main source of income for local communities living in the project area. However, due to different factors like soil erosion, drought, etc., agriculture production is suffering in the project area. The target farmers are largely subsistence farmers who practice rain-fed agricultural activities. Most of the farmers have small land holdings. Participatory Rural Appraisal (PRA) has indicated that the majority of the farmers are classified as 'poor'. A copy of this PRA can be viewed upon request.

The four major seasons observed in the project area include: monsoon (June-September), post-monsoon (October-November), winter (December to February) and summer (March-May). The climate is wet during monsoon, moderate during winter and dry during summer. The minimum and maximum temperature of the project area is 15OC and 40OC, respectively. The annual rainfall ranges from 300 to 1400 mm. The predominant wind direction is southeast to west. The relative humidity ranges from 30% to 80%.

The lands to be planted in the proposed project activity are severely degraded and comprise low-productivity lands that are under subsistence agriculture. Baseline information was collected using both primary data and secondary data sources. The primary data was collected as part of the PRA exercise in which information relating to pre-existing vegetation, land use, local ecology and socio-economic conditions in the project area were studied. Field studies were conducted using sample survey methods and the existence and non-existence of woody biomass was first assessed through PRA. The baseline surveys have indicated that woody vegetation on land parcels is either lacking or is insignificant as lands have been in subsistence agriculture for a long time. As the lands were under subsistence agriculture there were no bushes or shrub vegetation in the land parcels. Hence, it can be considered that the baseline carbon stock is zero and will not change under the baseline scenario.

Figure 1: People from the Indigenous Communities

Figure 2: Srikakulam District

Figure 3:Visakhapatnam District

Figure 4:Vizianagaram District

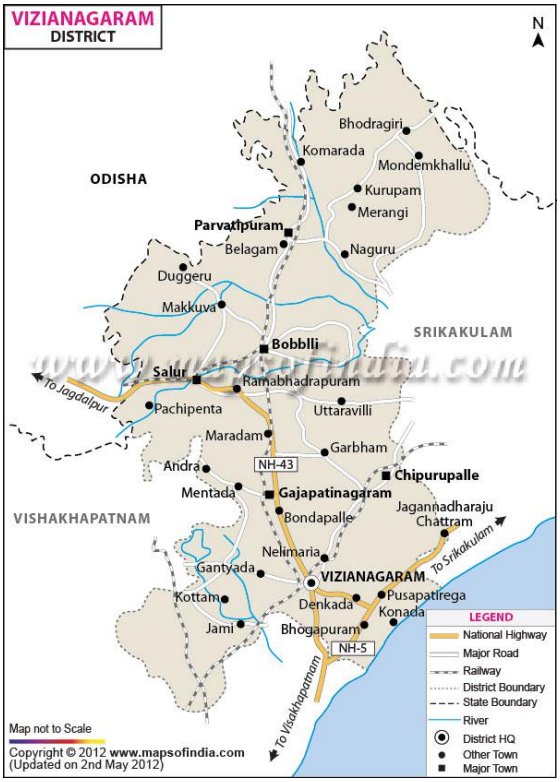

Figure 5: Participatory Rural Appraisal

District land utilisation particulars in ha. (Percent in Parenthesis)

LAND USE CATEGORY	Andhra Pradesh		
	Srikakulam	Vizianagaram	Visakhapatnam
Geographical area	5,84,290	6,30,080	11,34,284
Forest area	70840 (12.1)	111969 (17.8)	477791 (42.1)
Barren land	50410 (8.6)	77753 (12.3)	130938 (11.5)
Land in non-agricultural use	90095 (15.4)	77013 (12.2)	101048 (8.9)
Permanent pastures	930 (0.2)	4899 (0.8)	2968 (0.3)
Miscellaneous tree crops and groves	2619 (0.5)	7668 (1.2)	34779 (3.1)
Cultivable waste	470 (0.1)	3680 (0.6)	8898 (0.7)
Other fallows	4271 (0.7)	10224 (1.6)	11722 (1.0)
Current fallows	56845 (9.7)	14706 (2.3)	54977 (4.8)
Net area sown	307357 (52.6)	322057 (51.1)	311163 (27.4)

Part C: Identification of Target Groups & Communities

The project area includes small landholders spread over the districts of Srikakulam, Vizianagaram, and Vishakhpatnam in Andhra Pradesh, India. These districts have a pre-dominance of indigenous population, notified as Scheduled Tribes and Scheduled Castes in India with the majority of them being poor.

Farming communities are involved in the project; however, special emphasis is placed on resource-poor farmers in general and women in particular, and farmers having limited land holdings (average land holding size in the project area is 0.6ha); who raise plantations of tree species for livelihoods and poverty alleviation with the added element of environmental services (carbon sequestration). The socio-economic benefits of the project would include the following:

- Improvement in the quality of life of the vulnerable sections of society i.e. resource-poor farmers in the most backward regions of the country by helping them to bring their uncultivated degraded lands to productive use by fostering partnerships among farmers, industry, financial institutions and non-governmental organisations. The additional revenue in the form of payment for environmental services enables the farmers to take care of the plantations and enables the establishment of the carbon sinks in the degraded lands.

Figure 6: Identifying Farmers

- The project activity will lead to higher fodder growth within the project boundary compared to the baseline scenario. In the absence of project activity, growth of fodder occurs only during rainy season. Due to the project activity, there will be greater availability of fodder for stall feeding.
- The project will create substantial employment opportunities to the local people in the plantation activities such as nursery operations, planting and post planting, protection etc. besides long term job positions. Most of the job positions are expected to be taken up by the local farmers / communities involved in the project.
- The project will empower the stakeholders to undertake improved commercial operations based on principles of sustainable development and help in building their negotiation skills.

Part D: Land Tenure & Carbon/ES Rights

The land used for implementing the project activity is legally owned by local people and is private property. These lands are under the control of the project participants at the starting date of the project activity and are expected to remain under the control of the project participants during the project period. The participating farmers are the absolute owners of the lands and they have the right to change ownership due to unexpected contingencies which cannot be foreseen at this time. Hence, the expectation is that under normal conditions the project land parcels shall continue to remain under the project. However, in the case of exigencies the farmer may choose to change the ownership, in that case the farmer is obliged to inform the project coordinator to inform the same.

The land use prior to project activity is of subsistence agriculture. The farmers own wood and non-wood products produced on the land and therefore, the farmers have legal right to harvest and sell the NTFP and other products that are generated from the land use.

The wood and products that are generated from the plantation activity would be utilised by the farmers for generating revenues to sustain the livelihoods. The products are marketed by the farmers in the local markets at regular intervals or during harvesting season.

The project entity proposes to transfer a minimum of 60% of carbon revenue to the beneficiary farmers in order to not only ensure maximum participation but also to ensure that the interest of the participating farmers is retained in the project. This would have a dual advantage of ensuring permanence and also incrementally improving the livelihood of the participating farmers.

Part E: Project Interventions & Activities

1. Mobilise and facilitate resource poor farmers to raise tree plantations on degraded farm lands and farm bunds. Encourage them to plant species like Teak, Mango, and Cashew. Communities have clearly expressed a wish to plant such species due to their commercial value and sustainability in arid conditions.
2. Payments for ecosystem services through the creation of necessary institutional mechanisms to enable the sharing of carbon revenue with the farmers has been formalised with an agreement where a minimum of 60% of the revenue will be shared with the participating farmers. This shall ensure the meeting of the stated objective of improving the socio-economic conditions of resource poor communities living in the project area.
3. The project will establish woodlots/plantations through the provision of free seedlings/sapling from ongoing government antipoverty programmes* and training in silvicultural techniques in order to generate a sustainable supply of wood and timber and thus remove the pressure on natural forests. The small farmers do not have access to finance from banks and NBFCs as the micro-finance sector has encountered problems in recent times and is on the verge of collapse. The farmers in this situation are being encouraged to take advantage of the free distribution of seedlings under the ongoing government antipoverty programmes and the prospect of regular additional revenue from carbon credits encourage the farmers to take proper care of the plantations till their maturity. The project also enables the farmers to generate renewable income through the NTFP development.
4. Generate carbon credits and identify buyers for the Plan Vivo Certificates generated through the project. The commercialisation of carbon credits will place a greater economic value on plantations (apart from timber and fruits or yield every year) and in turn, increase incentive and interest for communities to engage in the project activity.

*Farmers are being encouraged to take advantage of this opportunity with the hope that additional income from the sale of ecosystem services will incentivise famers to take care and maintain the plantations properly. The average annual plantation rate in India under the Twenty Points Programme for Afforestation (implemented by the Government of India) is around 1.5 million hectares per hectare. Despite the impressive national plantation area, survival rates, growth rates and yields have often been poor due to inadequate site selection and site-species matching, poor planting stock, and a lack of maintenance and protection (ITTO, 2006).

5. Through the establishment of plantations with sustainable management plans, Communities restore under-utilised/not utilised lands while securing a source of future income through future timber harvests apart from the carbon revenue. In addition, technical training on plantation establishment and management will be given to the communities. This will ensure the long-term involvement of the communities, for the proper management of the timber & fruit bearing trees and to provide a sustainable income source in the long run.

Part F: Identification of Any Non-Eligible Activities

- Participating communities in the target areas should be equipped with the knowledge on the importance of carbondioxide and its relationship with global warming and climate change.
- Acquaint farmers with a brief knowledge on the methods of measuring carbon sequestration under different management practices, introducing simulation modelling tools and carbon management research protocols under Voluntary Carbon Standards including Plan Vivo.
- All the stakeholders should be trained on the challenges and opportunities in agriculture and forest carbon markets and the additional revenue they can earn through carbon credits / Plan Vivo Certificates.
- Plantation management committees have to be set up by training them in all the above mentioned concepts to access the capacity-building needs and plan for the necessary training by acting as the bridge between the implementing organisation and the communities.
- Awareness activities are to be held on carbon sequestration through agroforestry to mitigate the impacts of climate change.

Figure 7: Capacity Building

G: Long-Term Sustainability Drivers

The project activities are designed to establish sustainable land management practices that will provide goods and services that are valued by the local communities. Support from the sale of Plan Vivo certificates will be used to establish these systems and develop them to a stage where external support is no longer required for them to be maintained for the long-term.

The species planted in degraded areas will provide marketable products after establishment. Therefore income from the sale of these products will provide sufficient incentive for participating farmers to maintain the plots. The long-term sustainability of plantation activities will depend on the local communities realising greater benefits from horticultural plantations than they could from alternative land uses. Land use decision making is often based on comparison of perceived economic benefits of different land uses, and other benefits from ecosystem services that do not have direct economic benefit are often undervalued. Awareness raising and participatory land use planning are therefore being used to highlight the less tangible benefits of planation activity such as maintenance of water quality and quantity, and incorporate these into decision making. In addition to this, livelihood activities will be developed to maximise income from sustainable land management in the short- to medium-term.

Part H: Application Organisation & Proposed Governance Structure

Project Sponsor and developer: The project is being sponsored and developed by Socio-eCO2nomix-Global (www.socioeconomix.org) which is an enviro-social enterprise promoted by VEDA Climate change solutions Ltd (VCCSL) to provide social, economic and environmental benefits both locally and globally on a sustained basis through integration of business, development and environment.
Legal status: Socio-eCO2nomix-Global is a not for profit company established under Section 25 of the Indian Companies Act, 1956.

Project partners:

- VEDA Climate Change Solutions (www.vccslindia.org) is a Knowledge Processing organisation established to design, develop and implement projects that are capable of generating carbon revenues to improve livelihoods of rural communities would provide the necessary technical assistance to the project. It provides technical assistance to the project through baseline setting, development of Project Design Document, monitoring, verification etc,.

History, achievements and current activities: In the year 2003, the project "Improving Rural Livelihoods through Carbon Sequestration by adopting environment friendly technology based agroforestry practices" was conceptualised in collaboration with JK Paper Ltd which has been identified by Bio-Carbon Fund of the Carbon Finance Business of the World Bank for purchase of carbon credits.

VCCSL is now implementing one of the few AR CDM projects registered (Project No. 4531) with the UNFCCC to connect the poor with the international carbon markets. It is one of the 22 pioneering projects selected by the Bio-CF established by the Carbon Finance Business of The World Bank for purchase of CERs from around the world. It is demonstrating best agro forestry practices with carbon credits for replication both within and outside India and would provide economic, social

and environmental benefits both locally and globally. The IRL project benefits more than 1500 small and marginal farmers in Odisha and Andhra Pradesh by addressing about 1600 hectares of degraded land. VCCSL has entered into an Emission Reduction Purchase Agreement (ERPA) with The World Bank and the 1590 participating farmers of this innovative project received carbon revenue from the World Bank for the first time in India after first verification in 2012. The second verification was commissioned by The World Bank in 2018 and the participating farmers are expected to receive the second tranche of carbon revenue later this year as the UNFCCC CDM Board has already issued 62,756 CERs on 18 March, 2020 and the World Bank has also released the carbon revenue.

Figure 8: Carbon Sequestration in AR CDM Project

Figure 9: Carbon Revenue Distribution

The project mobilises and encourages small and marginal farmers to raise plantations of tree species with high rates of carbon sequestration in their farmlands. It focuses on women but not be limited to women. It links, facilitates and coordinates with international organisations, carbon financing companies, financial institutions, Government and nongovernmental organisations, plantation material suppliers, agronomists, micro-irrigation experts, end users of the wood products (paper and construction industry etc.) to optimise the overall returns to the small and marginal farmers besides supervising and monitoring to ensure the compliance of commitments made to the principal institutions like Banks, Carbon Fund implementers and participant institutions.

Project Coordination: The overall project coordination shall be responsibility of Socio-eCO2nomix-Global with technical assistance from VEDA Climate Change Solutions, India. The field level coordination would be undertaken through the engagement of local NGOs and Community Based Organisations (CBOs). In the longer term, Farmers' Association for Carbon Trading (FACT) would be formed to undertake responsibility for the administrative and monitoring aspects of the project throughout the project period. In the short term the technical and administrative backstopping services would be provided by VEDA Climate Change Solutions Ltd. Capacity building measures would be undertaken by Socio-eCO2nomix-Global in partnership with VCCSL to build the capacities of the local communities to undertake the project activities.

In the short term VEDA Climate Change solutions will support in:
- Developing the Project Design Document.
- Registration and record keeping the Plan Vivo project.
- Monitoring, Reporting and Verification.
- Negotiation of Plan Vivo Certificates.
- Facilitation and Contracting of Validation and Verification.
- Project data management.

The above tasks would be passed on to Socio-eCO2nomix-Global over due course of time and simultaneous capacity building activities would be initiated to build the competencies of the village level committees.

Organisational structure: The organisation is headed by a Chief Executive Officer who is assisted by Executive Director and other professional staff. The Board of Directors provide the necessary guidance and support to the activities undertaken by the organisation. The professional staff include: Carbon Finance Specialist, Community Manager, Statistician, Forestry specialist, Technical assistants. They will be assisted by administrative staff which include Manager, Accountant, Data entry operator etc. In addition, long term and short term consultants are engaged as required.

Project Coordinator: Plan Vivo project will be managed by a project coordinator (Socio-eCO2NOmix-Global). This involves recruiting producers into the project and coordinating training, overseeing technical aspects and conducting monitoring of project activities, coordinating carbon sales with producers, and reporting project activities to the Plan Vivo Foundation annually.

Part I: Community-Led Design Plan

The community based organisations that have been working in the project areas for long have been encouraged to undertake the planning and implementation of the planting activities. The process included the usage of participatory practices through consultative measures. The project entity has conducted various workshops and forum level meetings with the communities to create awareness and also to understand the impacts of climate change on livelihoods. The process would be further strengthened through capacity building activities where the village level committees would be empowered to take decisions on the plantation and harvesting of NTFP products from the planted trees. The project would be supported by Socio-eCO2nomix-Global.

Part J: Additionality Analysis

The project has been proposed to sustain and restore degraded lands and generate additional revenue to improve the livelihoods of the participating farmers. Without the project this effort to organise and implement a sustainable management strategy would not take place due to the absence of financing and technical support. Through the project, resources will be generated to support the development of a management structure including supporting a network of community organisers and a federated body of community and indigenous representatives. The project will require monitoring and include performance-based payments that will create an information system and incentives that will better ensure long-term management. Without the project, financing and technical support, there are no other initiatives that would create an enabling environment for community-based management systems to emerge.

This project is additional as it addresses twin challenges of climate change and poverty alleviation; and also facilitates the capacity building of the communities. The project in the process would support the removal of GHGs from the environment through carbon sequestration. The project would create additional revenue for the resource poor farmers through the generation of the Plan Vivo Certificates, which will be sold on the voluntary carbon market. The finance generated from the sale of Plan Vivo Certificates will be used to provide payments for ecosystem services to landholders.

Part K: Notification of Relevant Bodies & Regulations

The Government of India has not yet established any formal compliance requirements for registration and notification to official bodies for Payments for Environmental Services (PES) projects. However, the project entity had interacted with the MoEF officials and briefed them about the project activities and they have welcomed the same as an important learning opportunity for the country. The project entity proposes to keep the government officials informed about the progress of the project on continuous basis. It should also be noted that this project takes place on private lands and is not under the management of the Central / State governments. As a consequence it is not required to comply with state forest lands regulations. The project developers fully intend to comply with all relevant national and international regulations governing PES as required.

Part L: Identification of Start-Up Funding

The project is currently funded and supported by Socio-eCO2nomix-Global promoted by VEDA Climate Change Solutions Ltd which has successfully registered an AR CDM project with UNFCCC. The organisation is exploring the opportunity of sourcing funds for the project activity through forward sale of Plan Vivo Certificates. Farmers are being encouraged to access financial support from various welfare programmes of the government and to access the credit facilities from the banks and other financial institutions. Socio-eCO2nomix-Global is also exploring opportunities to access from venture capital and other funding sources.

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Media Coverage:

THE HANS INDIA

VISAKHAPATNAM

Carbon revenue cheques presented to farmers

Gitam to start Farm Research Centre in Bengaluru

OUR BUREAU

Visakhapatnam: Carbon revenue cheques were distributed to 52 farmers on the Gitam University campus here on Wednesday. Gitam president Dr MVVS Murthi presented the cheques at a programme jointly arranged by VEDA Climate Change Solutions Ltd (VCCSL), JK Paper Mills Limited and Gitam Centre for Integrated Rural Development (CIRD) under the 'Improving Rural Livelihood Project' scheme.

This is the first project in Asia to release the revenue to the farmers as part of the Clean Development Mechanism of United Nations Framework Convention on Climate Change in the reforestation large-scale sector. The project has been conceptualised, developed and implemented by VCCSL in partnership with JK Paper Mills of Rayagada and BioCarbon Fund of the World Bank with the technical support of Gitam CIRD.

Gitam president MVVS Murthi presenting a cheque to a farmer at a function held on the university campus in Visakhapatnam on Wednesday Photo: HANS

While briefing about the project, VCCL executive director Sai Kishore said that they motivated the poor farmers to raise tree plantations on highly degraded agricultural lands in Andhra Pradesh and Odisha. He informed that initially they selected Visakhapatnam, Srikakulam and Vizianagaram districts in Andhra Pradesh and Koraput, Kalahandi and Rayagada districts in Odisha. He said that a total of 1,590 farmers were involved in this project and cultivated 1,607.7 hectares of waste land in both the States. Most of the farmers are small and marginal and around 15 per cent are from minority community inclusive of women farmers.

JK Paper Mills general manager BP Ratho said that they have taken this project as part of their Corporate Social Responsibility (CSR) activity. He said they want to extend this project to other parts of Andhra Pradesh and Odisha.

Dr MVVS Murthi distributed the carbon revenue cheques and emphasised the need for farmer-centred exclusive programmes. He said agricultural sector was the only way to control pollution and needed more encouragement from the government. He mentioned that the university should take up research projects to help the poor farmers.

Vice-Chancellor Prof. G Subrahmanyam announced that the university was planning to start a special institute to run agriculture-related subjects and also taking initiative to establish a research centre in Bengaluru.

TRIBAL SUCCESS STORY

Nations line up for carbon credits

SYED AKBAR | DC
HYDERABAD, DEC. 22

Credit use

- The UN Framework Convention on Climate Change mandates that developed nations should purchase carbon credits. One carbon credit permits the release of one tonne of carbon dioxide

Illiterate tribals from Visakhapatnam, Vizianagaram and Srikakulam districts have something major to celebrate on the eve of the New Year. They have generated about 80,000 carbon credits through afforestation on barren lands. Developed nations like Canada, Spain and Luxemburg have now lined up to buy these carbon credits from the tribal farmers, paying each of them ₹2,500.

For the first time in India, tribal farmers will get money for carbon credits directly from the World Bank. The carbon credit cheques will be distributed in Visakhapatnam on December 26. Poor tribals from Rayagada, Koraput, and Kalahandi districts of neighbouring Odisha are also the beneficiaries of the World Bank's BioCarbon Fund.

About 1,500 tribals had turned barren wastelands, including hilly tracts spread over 1,600 hectares into lush forests by growing teak, pongamia, mango, cashew, neem and casuarina trees. The green cover has resulted in the generation of 79,811 carbon credits. This means they have nullified the negative climatic effect of 79,811 tonnes of carbon dioxide or other greenhouse gases released through human activity.

Sai Kishore Nellore, executive director, Veda Climate Change Solutions Limited, which mobilised the tribals for the massive afforestation programme, said they had entered into partnership with the BioCarbon Fund of the World Bank and a local industry, JK Paper Mills, Rayagada, to generate carbon credits and trade them. The Centre for Integrated Rural Development of Gitam University, Visakhapatnam extended the technical support.

"We have created an institutional mechanism where marginal farmers would be able to participate in the international carbon markets," he said.