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Moving Towards Sustainable Landscapes

Approaches and Achievements of the Vietnam Forests and Deltas Program



American Red Cross



Sustainable Rural Development

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Introduction

Agriculture, logging and infrastructure development are the main drivers of deforestation and forest degradation in Vietnam. REDD+ schemes and forest carbon payments alone do not always provide sufficient incentives to effectively safeguard forests against competing land uses. A more holistic approach is required to balance conservation and development objectives across the landscape and achieve synergies between multiple sectors.

The USAID-funded Vietnam Forests and Deltas Program (VFD) is pioneering new approaches for developing sustainable landscapes that support low carbon growth, resilient communities and environmental protection. This publication presents key approaches and achievements from the first four years of the program. These experiences provide valuable lessons and examples for decision makers in Vietnam and in the wider region on designing and implementing strategies for sustainable landscape development.

Goals of the USAID Vietnam Forests and Deltas Program

Supporting Vietnam's transition towards a climate resilient, low emission development pathway.

In 2012, USAID approved the USD 26.5 million Vietnam Forests and Deltas Program (2012-2018) to help move Vietnam's progressive and proactive climate change policies into practice. Focusing on sustainable natural resource management, improving land-use planning and engaging communities in developing action plans to address climate risks and vulnerabilities, the program supports Vietnam's transition towards a climate resilient, low emission development pathway.

VFD is implemented by a consortium of international and national NGOs (Winrock, SNV Netherlands Development Organisation, American Red Cross, Vietnam Red Cross and Center for Sustainable Rural Development), in conjunction with Vietnam's Ministry for Agriculture and Rural Development (MARD) and their Management Board for Forestry Projects (MBFP).

The program is built around three main components:

- Sustainable Landscapes** – VFD aims to improve natural resource management and reduce greenhouse gas (GHG) emissions in larger forested landscapes in Thanh Hoa and Nghe An provinces, in north-central Vietnam.
- Adaptation** – The program aims to strengthen climate resilience and reduce disaster risks in the coastal delta areas of Nam Dinh and Long An provinces while also supporting climate-smart livelihoods.
- Central Policy Support** – At the national level, the VFD program supports government stakeholders in developing and reviewing climate change policies, notably the Payments for Environmental Services policy.

Target provinces

Thanh Hoa

- Location:** Northernmost province of the North Central agro-ecological region of Vietnam.
- Geography:** The province has a land area of 1,113,193 ha, a coast line of 102 km and twenty-seven districts.
- Population:** With 3.5 million inhabitants in 2014, Thanh Hoa is the third most populous area in the country, after Ho Chi Minh City and Hanoi. Over 40% of the population consists of ethnic minority groups, mainly Muong Thai and Hmong, which are largely located in the poorer forested upland areas.
- Forest area:** Thanh Hoa Province has large areas of forest. Forest cover is 53.7%, or 597,748 ha, of which 394,771 ha is natural forest and 202,977 ha consists of plantations*.
- The challenge:** As a result of provincial support to protect forest areas, forest cover has increased in most districts, often in the form of monoculture plantations. However, the new monoculture plantations do not provide the same environmental services as established natural forests, while hunting and unsustainable exploitation of high value non-timber and timber products also threaten to further degrade forest areas. A key challenge is how to meet the increasing demand for agricultural and forest products, in a manner that does not cause the degradation of forest areas.
- The opportunity:** The provincial government of Thanh Hoa has committed to pursue a green growth pathway that maintains economic growth, whilst protecting the environmental services upon which it depends. Through providing advisory services and technical assistance, VFD's forestry, agriculture and energy experts can support Thanh Hoa in meeting its green growth objectives and achieving landscape-wide impacts.



Nghe An

- Location:** North Central agro-ecological region of Vietnam.
- Geography:** Nghe An is the largest province in Vietnam, covering 1,649,270 ha. It has a coastline of 82 km and twenty-one district administrative units.
- Population:** Nghe An counts around 3.04 million inhabitants in 2014. The majority of the population resides in the lowlands and coastal zones. The poorer upland areas are inhabited by ethnic minority groups, including Kinh, Thai, Hmong, Kho Mu, O Du, Tho and Dan Lai.
- Forest area:** Forest cover in the province is 56%, or 930,572 ha of which 759,047 ha is natural forest, and 171,525 ha is plantation forest*. The province contains important biodiversity conservation areas, including Pu Hoat and Pu Huong Nature Reserves, and Pu Mat National Park.
- The challenge:** As a result of increased protection and forest planting programs, provincial forest cover has increased. However, a number of critical deforestation and ecosystem degradation hotspots remain, due to shifting cultivation and overexploitation of natural resources.
- The opportunity:** Nghe An province contains the UNESCO recognized “Western Nghe An Man and the Biosphere Reserve” – a large forested landscape covering nine administrative districts and three protected areas. Through its abundant natural resources and essential regulating services, the landscape serves as a green battery that fuels economic development and sustains local livelihoods. VFD has embraced the opportunity to support the provincial government in leveraging potential future investments towards protecting the Biosphere Reserve.

* Data derived from forest land cover mapping by VFD in 2014



A holistic approach to sustainable landscapes

Thanh Hoa and Nghe An provinces are both rich in biodiversity and comprise some of the largest forested landscapes in the country. When the VFD program began, the objective was to incentivize forest protection by preparing the provinces for accessing REDD+ financing and by supporting a payment for forest environmental services (PFES) program that mandates service users to disburse payments towards the conservation of upland forested watersheds.

Given that the accessibility and effectiveness of REDD+ funding cannot be guaranteed, the VFD team made a strategic decision to develop and test alternative, more holistic sustainable landscape approaches that would seek synergies between multiple sectors and provide new incentives for forest protection.



In Thanh Hoa, VFD focuses on stimulating coordinated green growth actions and investment in the agriculture, forestry energy, industry, and waste sectors.

Of particular importance is the bamboo industry, which contributes to Thanh Hoa's growing economy and sustains the livelihoods of thousands of smallholders. The growing global demand for bamboo offers a great opportunity for adding further value to the bamboo crop and accessing lucrative and stable markets.

In Nghe An, VFD's work is centered around developing and implementing sustainable finance mechanisms for maintaining and restoring the Western Nghe An Man and Biosphere Reserve: the 'Green Battery' of the province. This forested landscape provides water resources, soil erosion prevention, and other essential ecosystem services for downstream development.



Gender mainstreaming in landscape development

Landscapes are shaped by natural forces as well as human activity. It is increasingly being recognized that gender-specific roles and choices affect land use, environmental sustainability and the delivery of ecosystem service across the landscape in different ways. In Vietnam, rural women are key stewards in agricultural cultivation and livestock activities. Their decisions determine the way household lands are managed and have a strong impact on food security and climate resilience. It is crucial to involve women in processes aimed at transforming and enhancing landscapes.

Gender is addressed as a crosscutting theme throughout VFD's landscape work. Women are involved both as leaders and beneficiaries of the climate smart livelihood interventions, improved forest management schemes, and training programs for government staff and local NGOs. VFD works through local Women's Unions to integrate climate change awareness raising into their regular meetings and reach a high number of women in remote areas. Also, collaboration is sought with other relevant development actors such as UNWOMEN, National Women's Union, Climate Change NGO Working Group, Care International and Oxfam to maximize the effects of the communication and advocacy efforts.

Key interventions and achievements

The VFD program works across three pillars to support sustainable landscape development in the two target provinces: governance and capacity building, sustainable finance and emission reduction actions.

Governance and capacity building

Establishing effective governance systems and strengthening institutional capacity to support an enabling environment.

- 🌿 **Planning**
- 🌿 **Policy development**
- 🌿 **Trainings and tools**



Sustainable finance

Building a sustainable financial base for protecting and restoring natural capital and ecosystem services across the landscape.

- 🌿 **Private investment**
- 🌿 **REDD+**
- 🌿 **PFES**
- 🌿 **Natural Capital Accounting**



Emission reduction actions

Supporting governments and local communities to take actions that demonstrate net emission reductions from forests.

- 🌿 **Climate smart livelihood options**
- 🌿 **Improved forest management**



Sustainable Landscapes





Governance and capacity building

Achieving sustainable landscapes depends on sufficient capacity at the local, subnational and national levels as well as an enabling policy environment. VFD provides support for government planning processes, policy development, capacity building of NGOs and public institutions, and the development of tools and guidelines. Some highlights of the project include:

🌿 **Provincial REDD+ Action Plans:** VFD led the development of Provincial REDD+ Action Plans (PRAP) for three north-central provinces; Thanh Hoa, Nghe An and Quang Binh. Capacity was built for refining the PRAP process, completing forest cover assessments, conducting an assessment of drivers of deforestation, and piloting REDD+ strategies including forest land allocation models, improved forest management and climate smart livelihood strategies in REDD+ communes. PRAPs for Quang Binh, Thanh Hoa and Nghe An were approved in April, May and June 2016 respectively.

🌿 **PFES development:** VFD enhanced the effectiveness of national PFES implementation through various activities. The program supported a revision of the national PFES legislation and contributed to the development of Communities of Practice to encourage knowledge sharing, a forest-owners association, a decree on non-compliance, a Decision on PFES guideline in Nghe An province, identifying forest owners to distribute PFES in both Nghe An and Thanh Hoa Province, and capacity building for provincial fund staff on using satellite images in identifying forest owners and on communication skills.

🌿 **Green Growth Action Plan:** In collaboration with the USAID LEAD program, VFD supported the provincial government of Thanh Hoa in developing a Green Growth Action Plan by providing technical and financial support and facilitating interventions. The plan was approved on 28 January 2016 and constitutes one of the first comprehensive provincial green growth plans in Vietnam.

🌿 **Bamboo Development Action Plan:** As part of the provincial green growth strategy a Bamboo Development Action Plan was formulated for Thanh Hoa, in collaboration with the USAID LEAD program. VFD organized farmer trainings on bamboo forest management, developed sustainable investment guidelines and provided technical assistance for several companies.

Program achievements by March 2016	Program targets by 2018
14,080 people trained on global climate change, including 3,979 women	17,500 (80% completed)
9 institutions with improved capacity to address climate change issues	17 (53% completed)
14 climate change tools and methodologies developed and tested	15 (93% completed)
20 climate change and biodiversity laws, policies and plans officially proposed or adopted	25 (80% completed)



Improving PFES policy through Communities of Practice

Vietnam institutionalized a national policy on Payments for Forest Environmental Services (PFES) in 2010, as the first country in Asia. However, provinces experience difficulties in interpreting the policy and enforcing the new regulations.

In response to the challenges, VFD initiated a series of regional multi-stakeholder workshops to encourage problem solving and learning around PFES implementation. Three such 'Communities of Practice' were organized. Each event lasted two days and attracted between 30 and 100 participants from 35 provinces in total. Efforts were undertaken to involve relevant stakeholder groups: policy makers from the national and subnational levels, forest environmental service users and providers, international organizations and donors.

Through interactive methods the participants were encouraged to analyze key PFES implementation issues, share on the ground experiences and brainstorm creative solutions. The outcomes of these consultations fed back into national decision-making processes, enabling the revision and improvement of the PFES program. A handbook to maintain PFES Communities of Practice has also been developed, printed and handed over to the Vietnam Forest Protection and Development Fund.

A Green Growth Action Plan for Thanh Hoa

Thanh Hoa has made impressive strides in improving its socio-economic situation over the past decade. To safeguard its prosperity, the provincial government has committed to pursue a green growth pathway that maintains economic growth, whilst protecting the environmental services upon which it depends. VFD has supported Thanh Hoa in developing a Green Growth Action Plan which seeks to catalyze provincial policies and leverage investments to support green growth actions in the agriculture, energy, industry, waste and forestry sectors. The proposed interventions focus on low emission planning, greener production, and the promotion of healthier and greener life styles. This integrated approach forms a solid framework for achieving impact at scale.





A Bamboo Development Action Plan for Thanh Hoa

Thanh Hoa province has the largest area of luong bamboo in Vietnam, with over 80,000 hectares of natural bamboo forest and 71,000 hectares of planted bamboo. If managed carefully, a growth of the bamboo industry could have significant positive impacts for the economy, people and environment of Than Hoa. To encourage sustainable forest management and attract investors, the province developed a Bamboo Development Action Plan, with the support of the VFD program. The Action Plan details a number of measures to support sustainable cultivation, processing, business development, and an enabling policy environment up to 2020. Through the Action Plan, Thanh Hoa strives to:

- 🌱 Become the leading region in Vietnam and Southeast Asia for the sustainable production and processing of luong bamboo.
- 🌱 Contribute to poverty reduction in the upland districts of the province
- 🌱 Optimize revenues through increased value addition in bamboo production processes.
- 🌱 Increase the benefits for 11,000 bamboo farmers.
- 🌱 Protect the environment by reducing waste streams, promoting cleaner production and supporting sustainable forest management. Promoting green charcoal production is one of the 15 priority projects in the Thanh Hoa Bamboo Development Action Plan. VFD has supported TXT Charcoal Company to develop a proposal on green bamboo charcoal production to be ready for submission to the VIIP fund.

Sustainable finance

Implementing sustainable landscape plans and strategies requires considerable financial resources. A variety of mechanisms can be deployed for harnessing funds to complement the government budget. The VFD project supports Thanh Hoa and Nghe An in accessing sustainable finance through REDD+ mechanisms, Payments for Forest Ecosystem Services (PFES), Natural Capital Accounting, Public-Private Partnerships and Investment ready proposals:

- 🌱 **REDD+ financing:** VFD provided support for the development of an “Emissions Reduction Programme Document” (ERPD) for six north-central provinces, to be submitted to the World Bank’s Forest Carbon Partnership Fund. This work is helping to build a foundation for better forest management and offers the potential to leverage an estimated 50 million USD in results-based payments by 2020, which would be one of the first REDD+ payment successes in the region.
- 🌱 **Payments for Forest Environmental Services:** VFD helped to accelerate PFES revenue distribution to forest owners by testing and implementing more efficient and transparent payment mechanisms, and through the development of a decree which strengthens the sanctions for delayed payments. With support of VFD, villagers in Ba Thuoc and Quan Hoa districts of Thanh Hoa, and people in Nam Pong watershed of Nghe An province have received PFES payments.
- 🌱 **Natural capital accounting and ecosystem services valuation:** VFD has applied systems and tools for measuring and monitoring the natural capital accounts and ecosystem service values in Thanh Hoa and Nghe An, in both quantifiable and economic terms. This data can be used to justify public expenditure on natural resource management and engage the private sector in maintaining the natural capital and ecosystem services from which it benefits (for more information see the diagrams on page 20).

🌱 **Leveraging private investment:** VFD facilitated a public-private partnership between Thanh Hoa province and the Lam Son Joint Stock Corporation (LASUCO), in order to leverage private investments towards meeting the targets of the provincial Bamboo Development Action Plan.

🌱 **Investment Ready Proposals:** To support the implementation of Thanh Hoa's Green Growth Action Plan and Bamboo Development Action Plan, VFD and partners will help develop investment-ready proposals for forest management and enterprise development.

Program achievements by March 2016	Program targets by 2018
\$1,290,000 leveraged from external sources for improved forest and water management in VFD provinces	\$ 5,000,000 (26% completed)
19,635 households received benefits or economic rewards through sustainable natural resource management	25,000 (79% completed)

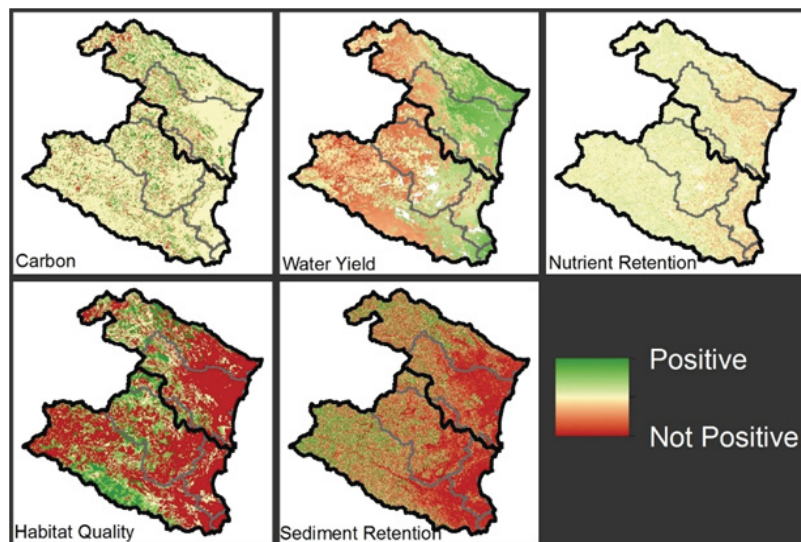


A public-private partnership to boost bamboo markets

VFD facilitated a public-private partnership between Thanh Hoa province and the company LASUCO. Supported by VFD's technical experts, LASUCO developed a multifaceted business plan to kick start bamboo markets in Vietnam, which focuses on teaching sustainable harvesting practices and heavy investment in new processing technology and facilities. Three studies on the potential of both domestic and international markets for strand-woven bamboo products have been fully completed as part of VFD's collaboration with LASUCO. These analyses are critical inputs for a LASUCO proposal for 20 millions USD investment in the bamboo sector, which will include a new strand-woven bamboo facility. The proposals have been approved by Thanh Hoa Provincial People's Committee (PPC) in May 2016.

Forest ecosystem services essential for green growth

VFD conducted a study to calculate baseline ecosystem service values in Thanh Hoa and Nghe An provinces, using specially developed systems and tools. The study focused on five key ecosystem services: regulation of greenhouse gas fluxes, regulation of water quantity for hydropower, habitat quality, regulation of nutrients, and retention of soils and sediments. Data analysis resulted in provincial-level quantitative values — both monetary and non-monetary — for each of the ecosystem services. Some of the key findings are represented in the maps and table below.



Ecosystem Services	Nghe An	Thanh Hoa	Total
Social value of carbon	\$ 294,882,614	\$ 581,392,184	\$ 876,274,798
Water Support for People (People served)	101,252,306	93,327,759	194,580,065
Sediment Retention (MT)	1,619,451,938	1,205,222,206	2,824,674,143
Net nutrient retention (MT)	459	2,429	2,888
Habitat quality (index)	0.32	0.45	0.77

The results suggest that the forested landscapes in these two provinces provide a range of services that benefit the economy and local communities, with the services varying over different geographic areas. For example, the analysis shows a strong potential value of hydrologic services, particularly for the highly populated lowland coastal areas who benefit from the services provided by forested headwater mountain ranges.

Ultimately, this project is meant to help mainstream ecosystem service assessments into decision making at provincial and national levels.

Emission reduction actions

Effectively addressing climate change challenges requires concerted action by a large variety of stakeholders and sectors, across the wider landscape. VFD designs and pilots emission reduction interventions at the local level, and supports upscaling of proven success models to the district, provincial or national level. Capacity for upscaling is built by involving government and other relevant stakeholders in the pilots, developing guidelines and organizing trainings. So far, VFD has piloted a number of climate smart livelihood options, improved forest management models and low emission production strategies in Thanh Hoa and Nghe An provinces.

Climate smart livelihood options

VFD developed and tested climate smart livelihood models based on agroforestry practices, indigenous chicken raising, mushroom cultivation, maize cultivation in sloping areas, improved home gardens, beekeeping, medicinal plant cultivation, sustainable bon bo management and improved cattle rearing techniques. Currently at least 700 households are applying and benefiting directly from VFD livelihood intervention practices. The models will be assessed and upscaled through either provincial funds, farmers' own investments, or through PFES or REDD+ benefit-sharing mechanisms to community forest management groups.

In the upland areas of Thanh Hoa, VFD implements a pilot to promote wood-fuel efficient cook stoves among rural households through a market-based business model.

Improved forest management models

VFD is developing models for improved management and protection of special use forests. Pilots are carried out for Pu Hoat and Xuan Lien Nature Reserves. In addition, the programme facilitated an interprovincial agreement between Nghe An and Thanh Hoa on a common management mechanism.

A participatory forest land reallocation model has been developed and implemented for 1256 ha in Trung Ly commune in Muong Lat district, Thanh Hoa. Red books have been issued and handed over to 110 households. Provincial guidelines for forest and forest land allocation have been developed to be shared with other districts in Thanh Hoa and Nghe An for future upscaling. The Thanh Hoa PPC agreed to upscale the model to all 9 communes of Muong Lat district.

In Nghe An and Thanh Hoa, VFD is piloting community based forest management models. Through effective benefit sharing mechanisms local communities are incentivized to engage in the co-management of protection forests and the sustainable use of non-timber forest products (e.g. bon bo, medicinal plants, etc.).

In Thanh Hoa, VFD is also supporting a model of community-based mangrove governance, engaging local communities in Dac Lac coastal areas.

Low emission production

Under the framework of Thanh Hoa's Bamboo Development Action Plan, VFD encouraged and supported bamboo companies to adopt waste to energy technologies, in order to reduce emissions and meet clean production targets. Supported by the program, two companies have invested in technologies to convert bamboo waste into briquettes or charcoal.



Program achievements by March 2016	Program targets by 2018
110,370 hectares with improved biophysical conditions	320,000 (34% completed)
156,325 hectares under improved forest management	500,000 (31% completed)



"Bon bo" agroforestry in Nghe An

In one of the livelihood models introduced in Nghe An villagers received support to cultivate the medicinal plant *Alpinia Bracteata*, locally referred to as "bon bo", under the forest cover. Bon Bo belongs to the ginger family and is traditionally used to treat a variety of ailments. Through trainings, the villagers learned how to collect seedlings from the forest and set up and maintain sustainable agroforestry farms.

VFD plans to provide trainings on market access to support the villagers in selling their produce to China. It is expected that the plantations will yield around 1 ton bon bo per hectare per year, which can be worth 1500 to 2000 USD on the Chinese market.

The bon bo agroforestry model has been set up in 5 villages so far, involving 286 people, of which around 200 are women. The aim is to reach up to 600 households by replicating this model in other villages.



Improved management of Nature Reserves

The Pu Hoat Nature Reserve has been identified as an important area for biodiversity conservation. To improve the management of the reserve, VFD is piloting improved forest management and protection models and tools. A biodiversity flagship species survey and community use and impact mapping were undertaken to develop a greater understanding of the biological values of the Nature Reserve and identify threats. The studies revealed large populations of primates, bears, and other key species, as well as a high number of illegal hunting and logging activities.

To address some of the issues encountered, local people from bordering communities are being trained and incentivized to contribute to conservation activities. They were involved in boundary demarcation and received training in forest monitoring using tablet-based tools. VFD will continue to support local capacity building in order to achieve improved forest management and protection.

Capacity in forest and biodiversity monitoring is strengthened for 30 forest rangers of Phu Hoat Nature Reserve and Que Phong District (Nghe An) and Xuan Lien Nature Reserve and Thuong Xuan (Thanh Hoa) through the trainings on application of the tablet tool. Also as a part of VFD's support to Provincial Planning for Three Forest Types & Coastal Forests in Thanh Hoa, the forest map database has been standardized for more effective forest management and monitoring. Tuong Duong Protection Forest (140,000 ha) and Pu Hoat Nature Reserve (75,000 ha) are now able to implement participatory forest management planning based on improved capacity through VFD supported trainings on remote sensing, mapping and forest inventory, mapping current forest cover and loss. 20 staff of the Management Board of Pu Luong Nature Reserve received training on biodiversity inventory and monitoring.



Waste to Energy in the bamboo sector

Thanh Hoa counts 47 small and medium sized bamboo processing companies, which produce around one million tons of bamboo waste per year. Often the waste is used to make pulp paper through a highly polluting process.

VFD organized workshops for bamboo companies on converting bamboo waste into clean energy. As a result of the trainings, Mr Duong Xuan Thang, manager of the Xuan Duong Bamboo Cooperative, invested in a machine for compressing bamboo residues into briquettes – a sustainable and clean energy source which can be used in boilers. The briquettes are being sold to industrial zones in Thanh Hoa and Ha Nam provinces.

Another company, TXT, focused on the production of charcoal from bamboo waste. VFD supported the company in developing a proposal for green charcoal production and in harnessing finance and accessing profitable markets in Japan and Korea. The two waste to energy models provide useful examples for other companies in the bamboo sector.

The way forward

Through the interventions and actions under the Sustainable Landscapes component, VFD works towards addressing climate change challenges, harnessing investment for green growth, promoting resilient livelihoods and preserving ecosystem services at scale. We hope that the insights gained in Thanh Hoa and Nghe An will guide the development of sustainable landscapes throughout the country, as well as in the wider region. VFD will continue to work and leverage resources, in particular to support stakeholders to implement climate change plans and strategies that have been developed over the previous years.



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