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CCWG POSITION PAPER ON CLIMATE CHANGE MITIGATION

Approaches towards Inclusive Climate Change Mitigation

On its path towards becoming an industrialized country by the new decade, Vietnam has made significant improvements regarding poverty and social welfare over the last years, but this development has also spurred greenhouse gas (GHG) emissions to increase steeply: **in 2013, emissions were 3.5 times as high as compared to 1991.**ⁱ According to forecasts, **CO₂ emission in Vietnam will have tripled by 2030** compared to 2010 if the current development trajectory continues without enhanced mitigation efforts.ⁱⁱ

Awareness has grown among Vietnamese policy makers and citizens for the **immediate need to shift the domestic economy towards a low-emission growth path to avoid an emission-intensive lock-in.**ⁱⁱⁱ Accordingly, mitigation actions (along with disaster risk management strategies and adaptation measures) have been formulated and started to be implemented, which have opened new flows of funding, knowledge, and opportunities.

Thereby, the focus is mostly placed on the reduction potential regarding atmospheric GHG concentration and the cost effectiveness of the respective activities

Climate change mitigation aims to reduce greenhouse gas emissions and to enhance carbon sinks. Mitigation activities include technology or infrastructure investments, regulative changes or market-preparatory measures, or capacity building and training activities.

(e.g. carbon abatement cost curves)^{iv}. So far, **there has been little debate in Vietnam, and only punctually globally, on how mitigation actions might benefit the most disadvantaged and vulnerable people.** More emphasis needs to be placed on deploying the high potential of climate mitigation to improve life and livelihoods of the poor and vulnerable.

This is especially serious as exposure to climate-related risks in Vietnam is especially high and the country has been declared as **one of the most vulnerable countries to climate change** worldwide.^v Hence, for many of the poor communities, the situation is worsened by an increasing number of environmental shocks that result from climate change.^{vi}

Politicians and citizens need to understand the links between mitigation actions and the welfare of the poor and most vulnerable in Vietnam.^{vii} Though essential for the sustainability of any mitigation intervention, this topic falls widely short in academia and practice.^{viii}

Mitigation strategies and policies induce changes, which create winners and losers

As Hussein et al. state in an Environmental Research Report (2013), “[m]itigation strategies necessarily involve changes to environments and infrastructure and might also induce structural changes to economies. This will create winners and losers and may provide opportunities for reducing the vulnerabilities of marginalized populations.”^x They do bear, however, various risks if too little attention is paid to their nature, content, and impact from a holistic point of view.^x

The risks include **exclusion and marginalization of the poor and those who suffer most from climate change**, doing more harm, and worsening their situation. This is for example the case, when mitigation projects foster outside interests rather than those of the local population (e.g. energy projects), or when measures lead to increased **centralization** and exclude the local population from **access to natural resources** (e.g. forests).^{xi} In other cases, subsidies for **energy projects or reforestation** take land away from agriculture, threatening long-term secured **income and local food production**, and sometimes even include **displacement** of people or whole communities.^{xii} Moreover, when a set of mitigation actions mainly focuses on large-scale activities in cities (e.g. the transport sector or large-scale energy efficiency measures), a huge part of the population is left out – and **the gap between the privileged and the marginalized becomes even bigger**.

Including the poor and most vulnerable in mitigation action is a matter of justice. The term “**climate justice**” is widely referred to on an interstate level when debating emission allowances or mitigation costs allocations (or exemptions) among states. In multilateral climate negotiations, a set of fairness principles serves as the basis to determine burden sharing patterns, underlying the principle of the “**common but differentiated responsibilities and respective capabilities**”.^{xiv} However, these discussions mostly end at the tables of the international delegates –

making it is essential to continue them in the domestic environment. Thereby, “climate justice” should be used as a lens to focus on a fairness-based approach that counters the inequitable share of climate impacts and development benefits that the most vulnerable bear.

Climate mitigation policy in Vietnam is planned and implemented at the central level, and is supposed to be mainstreamed into **sectoral and provincial policies**, however, is not always successfully achieved. For example, an evaluation of the ‘National Target Program to Respond to Climate Change’ approved in 2008 showed that **only a part of the line ministries, and a minority of the provinces, had developed climate change action plans**.

The most comprehensive policy in the field of climate change mitigation is the **National Green Growth Strategy** (2012), which highlights the **promotion of energy efficiency and increased energy production from renewable sources** (excluding hydropower). It has been concretized in 2014 through a **Green Growth Action Plan**, which lists a range of mitigation measures of how to reach the pursued target.

In its **INDC** (2015), the Vietnamese Government committed to **reduce GHG emissions by 8% to 25% by 2030** relative to a business-as-usual-scenario. The former target is supposed to be met with domestic resources, while the latter is **conditional on international finance**. Further, a **Plan of Implementation for the Paris Agreement** has been issued in 2016.

Taken together, a general policy framework for climate change mitigation has been set up over the recent years. However, there is also an **opposite trend**: Though ‘revised’, the **National Master Plan for Power Development 2011-2020** (PDP 7) still **relies significantly on coal-based power plants**. Hence, 45 Gigawatt (GW) of new coal plants are to be built in Vietnam, **targeting 55 GW of installed coal capacity by 2030**. GreenID found that this is **equivalent to the entire electricity generation capacity of Germany** in 2016. In fact, the share of coal in the energy generation mix would reach 53% then, compared to 11% of renewables.

Why including the poor and vulnerable in mitigation actions is a fair thing to do:

- **7% of the population still live below the national poverty line**, whereby the major share is situated in rural areas.^{xv} A significant share of the population is close to this threshold, however. Particularly, people among ethnic minorities living in remote communities are endangered to falling back into poverty.^{xvi} Though access to electricity has improved significantly, people in remote areas still face a high number of blackouts. 30% of the population lack adequate sanitation and almost 40% have no access to clean water.^{xvii}

Thus, these people are left behind from the current economic boom. **In terms of distributive justice, it should be considered how mitigation interventions can create socio-economic development benefits for them.**

- Living on the edge of poverty generally means **very low per-capita emissions**, much less than the rich part of the population or people in industrialized countries. Accordingly, the most disadvantaged and vulnerable populations did not cause the adverse effects of climate change. This **legitimizes them to become recipients of support and benefit rather than carry the burden in terms of development disadvantages and low resilience to the adverse impacts of climate change.** In fairness theory, this is the logic underlying the **“polluter-pays-principle”**^{xviii}.
- In reality, however, “[i]t also appears that the impacts of climate change are generally regressive, that is, they fall more heavily on the poor than the rich.”^{xix} This means, that **the marginalized do indeed carry the burden of climate change, despite their minimal responsibility for the problem, their high need for support, and their lack of capabilities.**

As a member of the **Climate Vulnerable Forum**, which advocates for the specific protection of the most vulnerable countries and its populations, the Vietnamese Government strongly calls for the application of the principle of “common but differentiated responsibilities and respective capabilities” on an interstate level. Thus, the

government should bring the principle down to the level of domestic society, and should think about **just climate mitigation strategies benefitting the most poor and vulnerable.**

Policy Planning needs to shift the focus, so that the most poor and vulnerable can benefit from climate mitigation actions.

This premises that decision makers in Vietnam should understand **the underlying drivers of vulnerability**, which have been identified through the work of CCWG^{xx}:



- a) **limited influence in community and household decision-making;**



- b) **unequal access and control over resources and services** essential for resilience (credit, information and training, agricultural inputs, technology);



- c) **poverty;**



- d) low levels of **literacy;**



- e) **gender inequality** and low women's empowerment.

These five points imply the need for **participation** in the planning process and **ownership** of projects, as well as participation in the outcome of projects, suitable to combat the vulnerability drivers. While the first is more related to political inclusiveness, empowerment and participation, the second concerns questions of socio-economic development and social equity.

To fulfill this set of criteria through any mitigative intervention is what is to be understood as inclusive climate change mitigation.

Participation in the planning process and ownership of projects

Sectoral policy planning in Vietnam is being implemented **top-down at a very central level**, which makes it difficult for non-governmental stakeholders to share their expertise. However, consultation and participation of experts in their



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fields is a valuable input, especially those who are dealing with the most vulnerable and disadvantaged on innovative solutions. Options for a direct interlink and possibilities for **unbureaucratic exchange** need to be created. Proper formats can be on-site consultations, stakeholder workshops, demands-based-trainings, and fix round-table meetings.

Through **trainings**, central local actors can also be prepared for taking over more **responsibility** in local projects and passing their **knowledge** on to other members of the community. Such expertise will enable individuals, villages, or communities to **scale up good approaches** and serve as on-site project partners for bilateral and multilateral donors.

Currently, Vietnam is about to set up a national MRV (**Monitoring, Reporting and Verification**) system, which is an important prerequisite to accessing international climate funding. On the one hand, MRV concerns financial flows, and on the other hand, GHG emission reductions and benefits achieved through mitigation actions.^{xxi}

Measuring the latter will be a special challenge, and it is essential to agree on a set of indicators and evaluation methodologies. This requires developing some **poverty and inequality metrics based on fairness principles**, in order to create a common dialogue on **sustainable development for all**.^{xxii} The respective discourse should be tightly coupled with the associations of non-state stakeholders to integrate their experience and to establish common approaches towards indicator development and data harmonization.

Participation in the outcomes of mitigation activities

The impacts of **mitigation activities can improve poor people's quality of life substantially and give them an opportunity to develop in a sustainable**

manner towards the Sustainable Development Goals, thereby creating win-win scenarios.^{xxiii} In turn, initiatives are not necessarily directly aimed at reducing emissions. Some are primarily designed to **achieve development or adaptation objectives and have further mitigation benefits**.¹

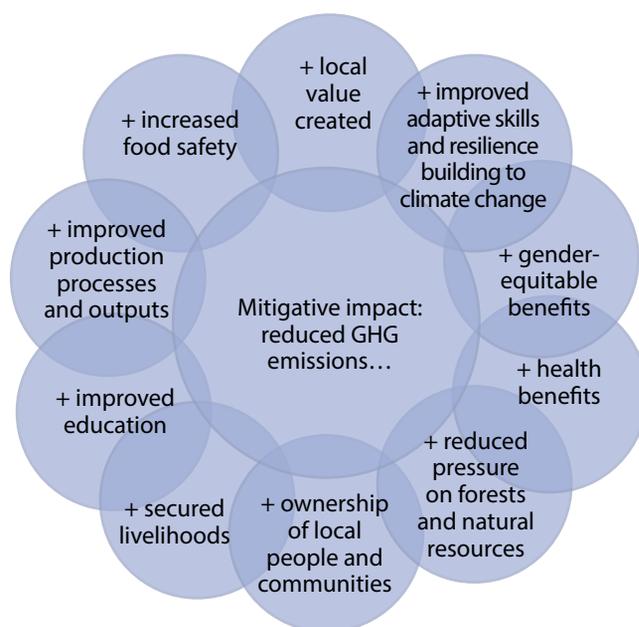


Figure 1: Mitigation activities and possible co-benefits: The more intersections the impact of one activity has with the different co-benefits, the more effective the measure.

¹ For more information on co-benefits, please refer to the CCWG Position Paper on Co-Benefits of Adaptation, Mitigation and Development.



Examples of Inclusive Mitigation Actions in Vietnam

Renewable Energy Projects

Vietnam's **energy sector is the major contributor to steep GHG emission increases.**^{xxiv} Therefore, mitigation action in this field is very relevant. Renewable energies are not only a climate-friendly solution, but decentralized applications based on solar PV are especially **important for households that are not yet grid connected.** Also, it offers a solution in the case of **erratic power supply**, which is a huge problem in remote areas, especially for local enterprises and agriculture. Notably, a 2006 study found that Vietnam already had **levelized the cost of solar PV lower than the cost of energy from gasoline generators, and can compete with the costs of grid extension.**^{xxv} This was at a time when solar PV was already much more costly than today – nowadays, in some regions of world, **solar PV is the cheapest source of energy.**^{xxvi}

Positive co-benefits in renewable energy projects can be achieved through **electricity access for all people and more decision-making legitimacy** on the planning and implementation stage. Local ownership of energy projects can establish **new chains of value creation for communities.** However, the problem with solar PV in Vietnam is that there is **not yet any regulation for small-scale net-metering**, although

the Prime Minister signed a preliminary decision in April 2017 with the subsequent regulation pending. Accordingly, it is necessary to push forward the process and publish the respective Circular soon. As for rural electrification, **financial instruments for supporting poor people and communities with high upfront costs are required**, as for example unbureaucratic grants or soft loans.

Concepts that are easier to implement and economically reasonable include **energy-efficient, improved cook stoves based on biogas.** Compared to conventional cooking sites, they **reduce the use of fire wood by up to 80%**^{xxvii}, which means **reduced pressure on forests, reduced GHG emissions, and improved health.**

In the provinces of Thai Nguyen and Thanh Hoa, a Biochar cook stove pilot project applied by 400 households and implemented by CARE International resulted in a **reduction of 60% of biomass usage**, which led to **soil enrichment** with positive results on crops of rice and vegetables.^{xxviii} Due to traditions, cooking is still a sphere dominated by women in rural areas. Thus, this model offers an opportunity to place emphasis on **women's empowerment.** CARE has achieved this by training women as sales agents, establishing their own micro-enterprises. During the time of the project cycle, 400 units of biogas cook stoves have been sold.^{xxix}

In Vietnam, cook stoves based on biogas have been scaled up in different regions, but there is still no nationwide coverage. This might be changed by integrating large-scale biogas with a quantified target in the forthcoming Renewable Energy Action Plan.

Another successful approach towards renewable energies on a small scale and in an inclusive manner is **Local Energy Planning (LEP)**. LEP engages the community to participate in identifying tailored and self-sufficient renewable energy solutions. For example, in the province of Nam Cuong, this concept revealed that the major amount of the commune's energy needs (96% in 2011) could be covered by the potential of biogas production of almost half of the local families.^{xxx}

LEP hence offers the potential to shift the whole energy demand towards decentralized, clean energy solutions that contain further co-benefits apart from **reduced energy costs** for the local population. Through the intense inclusion in the planning process, the understanding and **awareness for efficient use of energy** is further sharpened.

Additional benefits of Rooftop Solar PV projects:	Additional benefits of biogas:	Additional benefits of LEP:
<ul style="list-style-type: none"> ✓ Job opportunities due to demand for work force ✓ Women empowerment if women are targeted and trained to play an active role ✓ Livelihoods improved ✓ Ownership of local people and communities ✓ Reduced pressure on natural resources ✓ Improved production processes if power supply is disrupted ✓ Improved education 	<ul style="list-style-type: none"> ✓ Business opportunities e.g. through selling some units ✓ Women empowerment ✓ Livelihoods improved ✓ Health co-benefits ✓ Ownership of local people and communities ✓ Reduced pressure on forests and natural resources ✓ Improved production processes ✓ Improved education 	<ul style="list-style-type: none"> ✓ Local value creation ✓ Women empowerment if women are targeted and trained to play an active role ✓ Livelihoods improved ✓ Ownership of local people and communities ✓ Reduced pressure on natural resources ✓ Improved production processes if power disruption is decreased ✓ Improved education

Mitigation Projects in the field of Agriculture

As livelihoods of people in rural areas tend to rely mainly on agriculture, this sector has a special relevance for the poor and vulnerable.^{xxxi} Shifting to **climate resilient agriculture has the potential to create substantial co-benefits** in various aspects: Agricultural **productivity and smallholder farmer incomes are increased**, while at the same time people become more **resilient to climate change**, benefit from **healthier procedures** and **reduce emissions** along the way.^{xxxii}

In remote areas, the **waste of animal farming is often not being collected**, fouling the air and causing environmental pollution. Also, it is **common practice to burn agricultural waste**, and farmers use large amounts of **chemical fertilizers and pesticides**. **Production is dependent on the supply of input material**, such as seeds, breed animals, or fertilizers, and **selling the agricultural products is difficult** and dependent on private businessmen. Taken together, these factors **lower productivity**, which

leads to rural emigration, who have better prospects for employment in urban areas. These effects get exacerbated through increasingly extreme weather events due to climate change.

Climate smart interventions can address these problems—as for example in the field of rice cultivation, which makes up the biggest part of agriculture in Vietnam and is therefore a major contributor to GHG emissions in this sector. Respective projects aim at **reducing the input costs while maintaining or improving yields**, decreasing GHG emissions, and delivering other environmental benefits. One case is the adoption of the **'1 Must- 6 Reductions practices'** in two Vietnamese provinces, which comprises **reduced seeding density, reduced fertilizer and pesticide application**, as well as **alternative wetting and drying water management**. The latter practices conserve water, which can have cost and climate resilience benefits for farmers, among other benefits. Preliminary results indicate that the **'1 Must- 6 Reductions practices'** have led to approximately **40-65% reductions in GHG emissions** compared to the business-as-usual scenario.^{xxxiii}

Many organizations among the CCWG, such as SRD and SNV, have made similar experience with own System of Rice Intensification (SRI)-techniques. Experiments with **rehabilitation techniques of local rice varieties** and the use of **micro-organic manure** helped to improve the **resilience** of traditional rice breeds and reduced fertilizer use by 30%, as well as the use of chemical pesticide by one-third compared with those used in the previous crops. Further, the **cost of production inputs was decreased by 40 -70%**, the final yield was strongly increased, and the new rice breed achieved a **higher selling price**.^{xxxiv}

Closed-loop agriculture

Closed-loop agriculture is a **sustainable farming** approach which **reduces GHG emissions, saves water and electricity** in production and at the same time **produces high-quality manure and food** for husbandry, **strengthening the resilience** of plants and animals, both in harsh weather conditions and with regard to diseases.^{xxxv}

There has been a pilot project in Phu Tho province, where animal waste and agricultural products were gathered and treated to become food for worms or micro-biological manure. These worms are used to feed chicken, ducks, fishes, or continued to be processed to become food for bigger animals such as pigs. Animals fed this way gave **better quality of meat** than before. The worms were also **used as humus** for vegetable and plant cultivation, which made plants grow better.^{xxxvi}

Closed-loop agriculture is **independent from external material sources** or the outside market and **can be easily applied by poor people in a community** as long as people exchange their knowledge and experiences in husbandry and cultivation, especially with regard to native breeds and plants. At the same time, it is possible to still **increase outputs with the help of biotechnology**. Even though this combination means higher up-front costs, it **pays off quickly** and can also use household labor more effectively (including old people, women and teenagers).^{xxxvii}

Additional benefits of SRI-Techniques	Additional benefits of closed-loop agriculture
<ul style="list-style-type: none"> ✓ <i>Women empowerment</i> ✓ <i>Livelihoods improved</i> ✓ <i>Ownership of projects by local people and communities</i> ✓ <i>Reduced pressure on natural resources</i> ✓ <i>Improved production processes</i> ✓ <i>Improved education</i> ✓ <i>Improved health (less use of fertilizer)</i> ✓ <i>Increased resilience</i> ✓ <i>Increased food safety</i> 	<ul style="list-style-type: none"> ✓ <i>Business opportunities (e.g. through improved outputs - manure, animals, yields)</i> ✓ <i>Women empowerment</i> ✓ <i>Livelihoods improved</i> ✓ <i>Health co-benefits</i> ✓ <i>Reduced pressure on forests and natural resources</i> ✓ <i>Improved production processes</i> ✓ <i>Improved education</i> ✓ <i>Increased resilience</i> ✓ <i>Increased food safety</i>



Mitigation Projects in the field of Land use and Forestry: Community-based forest management models

Unsustainable **commercial logging** along with **timber exploitation, changing land use practices, and unbalanced development schemes** are increasingly **putting pressure on forests and disrupting livelihood systems**.^{xxxviii} However, forests serve as important carbon sinks: in 2013, the sector^{xxxix} absorbed more emissions than it released (a total of 18 million tons of CO₂ equivalents^{xi}). Thus, **to conserve forests is a clear target of climate mitigation**.

In various regions across Vietnam, **community-based forest management** models have been piloted. Thereby, the **legitimate needs of local people** for timber and firewood for domestic use are taken into account, **while still targeting resource protection, forest conservation, and development**. Often, this is achieved through **improved cooperation** with authorities and **new regulations**, which simplify and clarify prior unclear or even illegal procedures.^{xii}

Apart from **mountainous areas**, community-based forest management approaches can be effectively coupled in **coastal areas with mangrove reforestation projects**. Mangroves serve as **powerful carbon sinks** in Vietnam and play a **major role in strengthening resilience** regarding **disaster risk reduction**. Studies have shown that mangrove forests store up to five times more carbon per hectare than most other forests around the world. Results

of a case study on Vietnam show that different restoration approaches, using either artificial or natural regeneration, do not affect the capacity of mangroves to sequester carbon^{xiii}, which is an encouraging outcome with regard to afforestation projects.

Additional benefits of community-based forest management models

- ✓ *Job opportunities due to demand for coordination and management*
- ✓ *Women empowerment if women are targeted and trained to play an active role*
- ✓ *Livelihoods improved through proper regulations for self-supply*
- ✓ *Ownership of local people and communities*
- ✓ *Reduced pressure on forests*
- ✓ *Improved education*
- ✓ *Increased resilience*

To build on the existing experience, mainstream best practice approaches across the country, and to maximize the benefits of inclusive mitigation actions, CCWG has formulated some recommendations for policy makers:





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Policy Recommendations

- **Integrate fairness and equity considerations in climate mitigation activities:** Develop a set of poverty and inequality metrics based on fairness principles and start a common dialogue about sustainable development for all with regard to planned and existing mitigation projects.
- **Integrate climate mitigation considerations as a co-benefit in development and adaptation measures** – especially in the Socio-Economic Development Plans (SEDP) and the National Adaptation Plan (NAP).
- **Climate mitigation, adaptation and development strategies should be discussed and planned in conjunction with each other, and holistic concepts considering all three aspects and their interconnections need to be mainstreamed** in sectoral and provincial policies with a focus on justice and inclusiveness.
- **The current development of the Renewable Energy Action Plan, or the upcoming review of Vietnam’s NDC and of the 8th National Master Plan for Power Development should be a prompt to heighten the ambitiousness of the GHG emission mitigation and renewable energy targets.** Further, cross-links to the Sustainable Development Goals and the national adaptation targets should be set up, and respective sub-targets should be harmonized.
- **Improve government resourcing to build institutional capacity and support the exchange of knowledge** and lessons learnt among organizations and initiatives, donors, and local and national governmental agencies.
- **Create policy tools and supporting schemes and incentives for the poor** for green business and green agricultural technology or biotechnology.
- **Promote successful approaches** which have worked well for the specific context on-site. Mainstream policies for the use of improved biogas cook stoves, community-based solar PV net metering, and the application of LEP into communal, provincial, and sectoral strategies and plans.
- **Consult local experts and set up participatory formats for a more inclusive policy design.** Local initiatives should also be consulted and integrated in the MRV establishment process. Make use of existing channels and associations: women, farmers or field workers (via unions), youth etc.

Endnotes

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