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How Ethiopia’s PSNP & HABP are building resilience to climate change
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FOREWORD

Dear Readers,

Since 2006, the Productive Safety Net Programme has provided regular and predictable cash and/or food transfers to very poor households in the poorest parts of Ethiopia to help them meet their basic needs. In exchange, most of these poor households have worked on community projects, restoring the natural environment, as well as renovating social infrastructure such as primary schools, health posts and roads.

Because the Productive Safety Net Programme implements about 47,000 small community projects every year - most of which focus on restoring the natural environment alongside reducing food gaps for vulnerable households - it is believed to be the largest climate change adaptation programme in Africa. For example, over the years, the Productive Safety Net Programme has reduced soil loss by between 40-53%, increased land productivity by up to 400%, contributed to improved quality and flow of water, and decreased the damage from seasonal flooding. All of these benefits help poor households and communities, making them more resilient to changes in climate.

In addition, the Household Asset Building Programme - a complementary programme to the Productive Safety Net Programme - helps households increase their income. Together, both programmes help build households’ food security and their ability to cope with disasters.

As we all know, climate change remains an issue of serious concern for sustainable development. The Government of Ethiopia has demonstrated strong leadership on climate change – both internationally
and at home. Its Climate Resilient Green Economy vision and strategy are important stepping stones to realise its ambition to be a climate resilient, middle income economy by 2025, with zero net carbon growth.

At the moment, we know that temperatures are set to increase and rainfall patterns are expected to change. Both of these changes have huge implications for poor households in Ethiopia. So, how can we further improve the Productive Safety Net Programme and the Household Asset Building Programme, to enhance their contribution to climate change resilience and to improve the benefits for poor people and communities on the ground?

The Programmes’ Climate Smart Initiative is our response. The Initiative will integrate the implications of climate change into both programmes and enable Ethiopia to better manage climate risks.

This book provides an overview of what both Programmes are currently doing and plan to do in the future. Our actions now protect poor households and ensure that communities can become resilient to the impacts of climate change in the future – making them catalysts for growth and transformation in Ethiopia.

We hope you enjoy reading this book.

H.E. Ato Sileshi Getahun
State Minister
Natural Resources Management Sector
Ministry of Agriculture
A fragile existence. The majority of Ethiopians live in rural areas as subsistence farmers and pastoralists relying on agriculture and livestock for their livelihoods. For centuries this has been a fragile existence.

More recently a number of related factors have heightened this fragility. Population growth has led to smaller farm areas for each household, making the farms too small to grow the household food required.

Ethiopia’s land can be prone to soil erosion and infertility, and in places is over-used and being gradually degraded. The land is becoming less productive and more susceptible to the frequent weather extremes – droughts, delayed rains and flooding. Livestock productivity drops when feed cannot be grown. Linkages between farm and market are often poor. All of these factors contribute to increasing vulnerability.

This fragility has meant that millions of families cannot protect themselves from disaster. Up to 10% of the population are Chronically Food Insecure.

Historically, these people were supported by food aid, but this was unpredictable and often arrived too late. The only way to be able to buy food and survive was to sell any assets they had – thereby diminishing their future livelihood options and security.

A concerted food security effort. The Ethiopian Government’s Food Security Programme brought about a concerted effort to change this fragile norm. It is transforming this story and giving people...
a different future. The Programme has four components, two of which are discussed in this publication:

‣ **The Productive Safety Net Programme (PSNP)** gives cash or food to households who are otherwise unable to feed themselves all year round, in exchange for work that will help their future by restoring the local environment on which they rely.

‣ **The Household Asset Building Programme (HABP)** aims to provide longer term solutions for these same families. It helps them to diversify and increase their incomes.

There is good evidence (see ‘Leaving No-one Behind: Ethiopia’s Productive Safety Net and Household Asset Building Programmes’: World Bank, 2011) that these programmes are really helping, with an abundance of success stories.

**Responding to changing climatic conditions.** However, there are further challenges ahead. It is now clear that the climate is changing in Ethiopia. Temperatures are increasing and rainfall patterns are increasingly unpredictable and erratic.

These changes and uncertainties are real threats to PSNP and HABP households, because they exacerbate their chronic food insecurity means that, year after year, a household is unable to meet its basic food needs and has to rely on external support.
vulnerability. Other vulnerability factors are at play, but having enough seed for next year’s planting, being able to graze their livestock, and to feed and clothe their families – all of this depends in part on what the weather brings. This reliance on weather patterns is currently failing many Ethiopian people, and climate change is likely to make this worse.

This publication focuses on climate related impacts on food security and how the work of the PSNP and HABP can and does deal with them. It shows how PSNP and HABP are building resilience to climate change and supporting Ethiopia’s prioritisation of a climate resilient green economy (CRGE).

The following chapters look at:

- Food security issues for Ethiopia
- How Ethiopia’s climate is changing
- How climate change is impacting food security
- What PSNP and HABP are currently doing to build resilience to climate change
- What still needs to be done to build on these strengths
- How the Climate Smart Initiative will enhance PSNP and HABP impacts in a changing climate
- The opportunities for the climate smart PSNP/HABP to deliver Ethiopia’s CRGE vision.

By making the assistance [available], people receive food and cash in time to prevent mass starvation and can help households build up assets.

What is the difference between weather and climate?

The difference between weather and climate is a measure of time. Weather refers to the conditions of the atmosphere over a short period of time, and climate is how the atmosphere “behaves” over relatively long periods of time.

When we talk about climate change, we talk about changes in long-term averages of daily weather. Weather consists of the short-term (minutes to months) changes in the atmosphere. Most people think of weather in terms of temperature, humidity, precipitation, cloudiness, brightness, visibility, wind, and high and low pressure. All these factors are important to a smallholder farmer on a daily basis, but in a different way than, say, a 50% increase in the number and severity of droughts over someone’s lifetime.

*NASA (2005) What’s the Difference Between Weather and Climate?*

http://www.nasa.gov/mission_pages/noaa-n/climate/climate_weather.html
Food security in Ethiopia – the challenges. Hunger is not a recent phenomenon in Ethiopia, and it persists. A number of interrelated factors contribute to this problem.

Crops are grown largely in the highlands where the landscapes are steep and mountainous, transport links are difficult and temperature ranges are wide. The lowland, pastoral areas face high temperatures, prolonged dry seasons, unreliable rainfall and limited permanent water sources.

Population is increasing across the whole country, making land-holdings smaller and placing land resources under pressure. Appropriate diversification and technological innovation in agriculture is limited. This means that there is a gradual erosion of people’s ability to cope, even in normal years, in some areas of the country.

People are also faced with an array of potential sudden ‘shocks’ to their livelihoods. These shocks may be natural disasters like floods or droughts, economic hardships such as market price changes, or social crises for instance when a working family member becomes ill or dies.
“I was wedded with two fattened cows fifty years ago. Nowadays no parent would even kill a chicken for their daughter’s wedding. Times have changed. Land refuses to give the good yield it used to, rain does not come on time.”

_Mrs Shewatsehay, 70
Menz Gera Midir Woreda, Amara Region

The causal chain for food insecurity is complex. But with most of the Ethiopian population reliant on rain-fed agriculture, weather patterns are a key factor. People are extremely vulnerable to droughts and poor rainfall in the growing season – a frequent occurrence.

When rainfall and crops fail, people are often forced to sell their main productive assets – usually livestock or land-use rights – for below-market prices just to be able to feed themselves. When this happens occasionally, there is opportunity for re-building the assets and restocking herds over time. But when rains fail repeatedly, assets are eroded year after year and replacements can never be afforded. It then becomes a downward spiral.

In the past, food aid was the main response to crises such as drought. This enabled basic survival, but not the recovery required for people to better face and withstand future droughts, and for them to adapt and become more resilient. Added to this, food aid often arrived late, when people had already begun to sell assets and had fallen into the downward spiral.

**KEY FACT**

Ethiopians can and do pull themselves out of poverty. The percentage of people in Ethiopia living below the national poverty line has decreased by up to 15% between 1995 and 2012. There is hope and there are opportunities.

How Ethiopia’s PSNP & HABP are building resilience to climate change
spiral. As a result, people’s ability to withstand even small shocks was steadily eroded. Millions of Ethiopians found themselves in a situation of extreme fragility. Even good seasons did not allow them to get enough food for their family. They had become ‘Chronically Food Insecure’.

**Effective Government response.**
The Government of Ethiopia’s Food Security Programme provides a critical and effective response to this situation. Whilst the emergency response system saved lives in times of crisis, the Food Security Programme saves livelihoods.

In line with international trends, this approach links humanitarian crisis relief with more long-term development efforts to build people’s futures. The PSNP and HABP are key elements of the Food Security Programme and are primarily social protection programmes, targeted to Chronically Food Insecure households. This publication highlights that they also manage the risks of disaster and build households’ resilience to climate change.

*The PSNP* has been implemented since 2006. It relieves people of the persistent and recurrent destitution associated with food crises, and ensures the household does not go hungry. Taking a two-pronged approach, it tackles the household’s immediate and future needs. Primarily, it pays people for labour-intensive work on community assets during times when farm work is not an option.

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“*We are happy with the PSNP work because the output is for our own good too. We can see that our work on check dams, hillside terracing, soil bands, and planting trees will benefit our posterity.*”

*Mr. Abdella Ali*

_Hawi Bilisuma Kebele, Oromia*

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**KEY FACT**

Since 2006, the PSNP and HABP have cumulatively supported more than 11.2 million people in rural areas across Ethiopia.
These activities, known as ‘public works’, include soil and water conservation, road building, and construction of schools and clinics. The works build assets at the community level whilst the payments prevent household asset depletion. PSNP also provides direct support to households where people are elderly or sick and cannot work. This ensures people do not go hungry and offers the scope for thinking beyond immediate needs.

**The HABP** has been implemented since 2010. It emerged from reviews of the early Food Security Programme, and complements the PSNP, operating in the same areas. Going beyond immediate food needs, it aims to make households food secure in the longer term through diversifying income sources and increasing productive assets such as land quality, livestock, or crops.

It promotes opportunities for loans and credit that are accessible to poor people. This allows households to invest in new activities or businesses which generate an income.

Through local government staff, the HABP supports people to develop business plans that reflect the livelihoods they want and need. It also takes into account information on local market linkages so that people know where they can sell their products. It trains them in the skills they need to achieve all this. This way, households can be expected to ‘graduate’ from the PSNP, and not need further support in future.

“*I am part owner of a water pump through a HABP loan. Using the pump I can irrigate, irrespective of whether it rains. I can grow pepper, potatoes, tomatoes and maize. With the income, I have now secured a second loan to buy oxen. In coming years I will be able to pay it back. For me it’s a good system.*”

**Farmer, Sodo Zuria, SNNPR**
ETHIOPIA’S CHANGING CLIMATE

Ethiopia’s climate is changing. But whilst there is scientific consensus that it is changing, there is also uncertainty about how it is changing.

An unpredictable future. Uncertainty about Ethiopia’s future climate arises through:

‣ Scientists using a variety of ways to model and predict climate change. Each model may use different assumptions about what causes change and may rely on different expectations of how weather patterns may change. This means that each model may predict different outcomes.

‣ The use of climate observations from different parts of the country, with no national overview. Ethiopia’s ‘normal’ climate varies significantly across the different regions. Observations in some places show things getting drier, in other places getting wetter.

There are also real differences between local people’s stories of change, meteorological observations and the scientific predictions. Until all these differences can be worked out, few things are clear about Ethiopia’s future climate.

One thing is clear: Ethiopia is becoming warmer, with average projected increases reaching up to over 3 °C by the 2090s. Scientists believe this warming will be associated with heat waves and higher water losses from soil, water sources and plants. In some areas, this means a real risk of more droughts that will constrain crop growth.
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Table 1. Summary of the current understanding of Ethiopia’s changing climate (from Ethiopia’s vision for a climate resilient green economy, 2010)

<table>
<thead>
<tr>
<th></th>
<th>Temperature</th>
<th>Rainfall</th>
<th>Extreme Events</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Historical trend</strong></td>
<td>Mean temperature increased by 1.3 °C from 1960 to 2006. More hot days and fewer cold days and nights.</td>
<td>Highly variable from year to year, season to season, decade to decade. No significant trend.</td>
<td>Regular severe flood and drought events. No evidence of changes in frequency or intensity of extremes.</td>
</tr>
<tr>
<td><strong>Likely trend in 2020s</strong></td>
<td>+1.2 °C (0.7 – 2.3 °C)</td>
<td>+0.4% increase in rainfall</td>
<td>Greater increases in rainfall in October to December, especially in the south and east. Weakening of short, February to April rains in the south-east.</td>
</tr>
<tr>
<td></td>
<td>+2.2 °C (1.4 – 2.9 °C)</td>
<td>+1.1% increase in rainfall</td>
<td>Heavier rainfall events, especially in July to August and October to December rains. Uncertain future El Niño behaviours bring large uncertainties.</td>
</tr>
<tr>
<td><strong>Likely trend in 2050s</strong></td>
<td>+3.3 °C (1.5 – 5.1 °C)</td>
<td>Wetter conditions</td>
<td>Flood and drought events likely to increase, heat waves and higher evaporation.</td>
</tr>
<tr>
<td>2090s</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Changes in rainfall are more difficult to read and predict, and therefore more uncertain. Most national models suggest that it is likely that rainfall will increase in general across Ethiopia. But models show significant regional variation, with more rain in some areas, and less in others. It is unclear where, when and how heavy rainfall is likely to be in the future.

In some places and at some times, it may become more intense over shorter periods. Heavier rainfall events are especially likely during the October to December rainy season. In some areas, this means a real risk of more floods, and of increased soil erosion and nutrient losses. Meanwhile, a continued decline is likely in the March to April belg rains, meaning more chance of crop failures and poor fodder for livestock when they need it most.

The key thing to note is that geographical differences are likely to be significant – some regions may get much drier whilst others get much wetter, and other regions may not change much at all.

Improving the reliability of future climate scenarios will require significant research. In the meantime, PSNP & HABP must be prepared for both increasingly warmer conditions and a wide range of possible rainfall extremes.

This is why the programmes are working to consider how climate change impacts will affect them, to ensure they can respond in the most flexible way to the uncertain future climate.

How Ethiopia's PSNP & HABP are building resilience to climate change
CLIMATE IMPACTS ON FOOD SECURITY

Climate change, and the uncertainty around it, has huge implications for food security in Ethiopia, and especially for the most vulnerable – the Chronically Food Insecure people targeted by PSNP and HABP. Being Chronically Food Insecure implies an inability to withstand or recover from shocks without external help.

We know that people face a variety of shocks and challenges in relation to food security. And Ethiopians are used to a high level of ‘normal’ weather shocks – droughts, delayed rains, flooding – and the related crop failures and poor productivity. The question is, what effect will the various climate change predictions have on these problems?

The effects of climate change on food security problems. Climate change will not necessarily bring ‘new’ risks or shocks, but it will worsen existing problems. It is expected that climate change will bring natural shocks – warmer temperatures, more erratic rainfall, and increased risks of droughts and floods – more often. The ‘normal’ weather shocks affecting people’s livelihoods will become more severe, more frequent, and will come with shorter warning times. This repeated exposure to more acute shocks, with no time to avoid or prepare for them, will drive people deeper into food insecurity.

It is also likely that climate change impacts will cause more land degradation, making it harder and harder for people to...
How Ethiopia’s PSNP & HABP are building resilience to climate change

grow crops and make a living. Productivity and current patterns of farming will be under greater threat whether it gets drier or wetter.

Drier conditions will mean there are likely to be more frequent or widespread crop failures, bigger challenges for pastoralists to find enough water and good grazing for their livestock, and an increase in diseases.

Rainier conditions will mean more severe and frequent floods, which can degrade land through soil erosion and nutrient loss. Crops, roads, bridges and other infrastructure will be at risk of damage or destruction, and there may be an increase in diseases.

Ethiopian farming is typically rain-fed and relies on predictable rainy seasons. The increasing unpredictability of future rains is therefore a key barrier to successful food production. The unpredictability of rains brings a real risk of failure in farming – and for people already vulnerable to food insecurity that means that they will not have enough food at the end of the growing season.

Why the ‘Chronically Food Insecure’ will be the hardest hit by climate change

In occasional times of hardship, people usually have something to fall back on: income, savings or livestock assets to sell. But for some people, the hardship comes every year and their livelihoods and assets are eroded until they have nothing left to fall back on. Sometimes they become unable to put food on the table. Falling into a downward spiral, even in the good years for some part of the year they have to rely on external support to feed their family. They have become ‘Chronically Food Insecure’. The additional shocks brought by climate change will speed up this process. It will also elongate the hungry periods.
What ‘climate resilience’ means to food security. Climate resilience is about people’s ability to cope with the shocks associated with climate change impacts. Building resilience takes people on a pathway from reducing their vulnerability to shocks and persistent food insecurity problems, to helping them to respond to change and actively plan around it.

In terms of food security, climate resilience is about building people’s capacity to be able to:

- withstand extreme events associated with changing weather patterns without food aid, and
- actively manage their livelihoods so that they can still put food on their table in the future, despite the changing weather patterns they face.

What the PSNP and HABP have to offer. By their nature, the PSNP and HABP are about building people’s resilience to better deal with shocks – including those related to climate.

With climate change predictions suggesting that such shocks will in many places become more extreme and more frequent, the need for PSNP and HABP support to the Chronically Food Insecure people of Ethiopia will not disappear quickly.

Offering critical tools in the fight against the impacts of climate change, the PSNP and HABP remain essential to those who are at risk of falling back into food insecurity or find it harder to climb out of the downward spiral.

Climate resilience is the ability to cope with and manage the change brought by weather stresses and shocks.

Ethiopia’s vision for a climate resilient green economy
Whether it gets drier or wetter, farming, trade and livelihood patterns will have to change. Traditional practices can no longer be relied upon to support all rural Ethiopians.
BUILDING RESILIENT SYSTEMS

PSNP and HABP are already effectively helping people to deal with climate change. Their focus is on preventing the asset depletion that comes with repeated exposure to shocks, and giving people a wider range of relevant options to withstand and recover from them. Most of the Programmes’ activities are about resilience, helping people develop more effective ways of managing risks.

Some activities go beyond that and are really transformative – reducing household vulnerability to shocks and building climate resilient coping strategies that actively deal with future scenarios. The programmes are achieving real successes and this section looks at some examples.

SECURING FOOD AND INCOMES

When people are Chronically Food Insecure, their families go hungry if rains fail, soils are washed away, or livestock don’t reproduce. PSNP targets those at risk, and offers the opportunity for the targeted households to generate cash or food through work. This prevents hunger, and allows investments that can build livelihoods and opportunities for the future.

Often people respond to the needs for income by migrating to towns for work. Looking for income that does not rely on the farm can be a positive response to the land productivity constraints that climate change is expected to bring. But where key household members migrate, leaving their families behind, then the home farm is often either neglected or has to be worked by women already fully burdened, and cash resources are separated from family needs.

The story of Mr. Abdella Ali, a father of five, is a typical one: before PSNP he had to leave his family in the Hawi Bilisuma Kebele in Oromia and travel to the large town of Haramaya to secure any income, occasionally bringing or sending money home.

He would never spend time at home, and his family and farm were neglected. PSNP
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brought real changes for Mr. Abdella. His children are now well fed and, after also taking a HABP loan, life is on the mend.

The programmes go beyond simply providing food aid. They offer an opportunity for rebuilding livelihoods that can reduce vulnerability – a key first step in ensuring people can build resilience against erosive livelihood pressures and future shocks.

“When I was young, life was good. Crops would bear well and there were no problems. Hills and valleys were covered with vegetation. As time went on, our millet would grow less and less. Perhaps it was our own fault: we had to clear the forest for charcoal and firewood, and to expand our farmlands. It became difficult to have enough food to eat, and meals were not really meals.”

Mr. Abdella Ali, Father of five

KEY FACT

PSNP and HABP have begun to reverse trends of increasing food insecurity. They have reduced household “food gaps” (the period of time during which a household has insufficient food) by an impressive 42% on average across programme areas.
“Before PSNP, I had no ox, not even a calf. Then I used the HABP loans to start a sheep business. I now have three oxen and a cow, and more than thirty sheep, and some poultry. I can use their manure on my farm. I also used a loan for a generator to pump water on to my farm. I earn good money from the sale of vegetables now.”

*Mrs Shewatsehay, Mens Gera Midir Woreda, Amara Region*

**BUILDING HOUSEHOLD ASSETS**

Ensuring that households have enough assets to withstand shocks is critical. This means preventing asset losses – for example, through selling off livestock - as well as enabling people to build up their assets.

“PSNP has been providing support for people who cannot feed their families year round” tells a farmer in Humbo, SNNPR. “It allows them to work on communal

lands and infrastructures. There are also elderly, sick and disabled people who get direct assistance. This has saved many poor households from becoming poorer by selling their land use rights. Had they not been beneficiaries of PSNP they would be forced to lease their plots to get cash, and may end up losing their land forever. But by being able to get assistance from PSNP in the form of labour for cash, they manage to feed their family and keep their assets”.

It is the household assets that are at the heart of the HABP. Giving vulnerable men and women advice on how to best earn an income and access targeted credit opens doors to opportunities that were previously impossible.
HABP-facilitated loans target those people most in need at a local level. So far, these loans have often been used for livestock and for farming and irrigation equipment.

Animal fattening is one of the more successful activities under HABP. For example, in the Meta Woreda in the East Hararge zone of Oromia, the beneficiaries buy calves, sheep and goats during the rainy season, when pastures are good and then sell the fattened animals after three months for a profit. The beneficiaries take advantage of increased demand for meat, as one of the larger religious celebrations (Kulube Gebriel) happens twice a year in this area.

The support to honey production activities through HABP - using traditional, transitional, and modern beehives - has also been successful at boosting incomes. As a non-labour-intensive activity that does not require land and that women can engage in, it can be a great option where there is a good honey market.

The case of Mrs Shewatsehay (quote above left) is not an isolated one. PSNP and HABP – especially in combination – are helping many people to overcome their food shortages, and to venture into new income activities.
PROTECTING SOIL RESOURCES

Land degradation and soil erosion is a major issue in many parts of Ethiopia. Degraded land - overgrazed or cleared of woodland - offers no protection from heavy rainfall and floods. Floods will often wash soils away, removing nutrients and making farming less and less productive.

This is a particular problem in the highlands where a lot of land is cultivated in small plots by individual households. A number of factors affect the soil and its quality: a significant proportion of farms are on slopes of 30% or more, forests upstream have been lost or degraded, the single rainy season means soils become dry, timing of rains can be variable, and farming practices rely on turning over the soil. Combined, this results in serious soil erosion and nutrient losses, reducing how much food people can grow.

A real emphasis for the PSNP is on public works that protect farm land through soil conservation. PSNP public works include building terraces to conserve soil, digging drainage channels to reduce flood damage to farmland, building water retention ditches, tree planting and forest rehabilitation to strengthen the ecosystem’s resilience.

An example is in Konso, in the largely communal Shewate watershed. Historically the Konso have innovative indigenous methods for soil and water conservation. However, much of the Shewate watershed had become degraded by over-grazing and clearance for fuelwood and house construction.
Similarly, in Sodozuria Woreda in SNNPR, with highlands degraded severely by overgrazing and clearance, communities had suffered from flooding. PSNP beneficiaries carried out soil and water conservation works – building soil and stone bunds, and planting trees and elephant grass to be used for animal forage.

The PSNP-built Farmer Training Centre at Shoho produced seedlings of *gravila*, *wanza*, *zigiba*, *bisana*, *dokima*, and different grass types for planting at these sites. Since rehabilitating the hillside, there have been observations of less flooding and more water in the dry season.

"We planned and carried out various watershed conservation and rehabilitation activities. The benefits are many: people report a reduction in flooding, soil is stored and yields are higher."

*Development Agent, Konso, SNNPR*
This has obvious benefits in the face of climate change, especially in areas where higher intensity rainfall and flooding may be expected. The communal effort involved also ensures maintenance of these local infrastructures into the future.

These activities will become increasingly valuable to build the climate resilience of vulnerable livelihoods and help people adapt to new weather patterns. In areas where higher intensity rainfall is likely as the climate changes, this will be especially important.

**KEY FACT**

The PSNP model offers food insecure people valuable tools to make livelihood decisions that will reduce their vulnerability and help them adapt in the face of climate change.
“Where we have done public works we have seen tree growth, germination of animal forage and re-emergence of springs. We have made hillside terraces on communal land where before the hillsides were abused with no control. Since we have invested in them, we protect them keenly, like it was our own possession.”

*Mr. Abdella Ali, Hawi Bilisuma Kebele, Oromia*
IMPROVING WATER SECURITY

Having enough water, and having it within easy reach, is a key issue for many food insecure households. People (usually women and children) often have to walk long distances to collect small amounts of water for their family, farm and livestock needs. Climate change - with rising temperatures, less predictable rainfall, and longer dry periods - is likely to make access to water even more difficult.

PSNP provides many examples of solutions to this problem. The key element to this success is that PSNP has been a leader in the development and use of the watershed management approach.

The watershed management approach strategically considers the wider landscape, not just the immediate locality. It ensures that communities downstream are not adversely affected by land uses higher up in the watershed. Through participatory planning, it combines farming needs with soil and water conservation. It involves protecting and rehabilitating watersheds in a way that increases the productivity of the land for both the short-term and the long-term. This can involve soil and water conservation activities, reforestation, and area enclosures to allow regeneration of vegetation.

Again, the public works labour is invaluable to construct facilities for water collection, conservation and storage.
“Along with the structural soil and water conservation works, there has been spring development and pond construction. Water is stored, and this means people have a water source close by during the dry season.”

Development Agent, Konso, SNNPR

In the Arero Woreda in Oromia, rainwater falls onto a large exposed rock catchment, and before PSNP that rainwater was difficult to capture. The Orotho rock catchment was constructed through PSNP public works in 2011. The catchment channels rainwater through a silt trap and into a 75 m³ holding tank. At least 350 households now benefit from this system. For women and children, who typically carry the main burden of water collection, this has been particularly beneficial, saving them a 24 km and three hour round trip to collect water every day.

Dry season water shortages are a real problem for watering livestock in many parts of the country. Even the age-old ‘eellas’ (deep wells, only uncovered during the driest months) have been seen to be drying up when rains come late in some areas – such as the Fayo areas of the Miesson Woreda in Oromia.

A typical response to water shortage in many places would see people watering their cattle less frequently – making the livestock less productive. Community ponds are a better adaptation mechanism, as they provide early dry season water that means that the ‘eellas’ can be kept covered until much later in the season.

In the Shewate watershed in Konso, the watershed rehabilitation and soil conservation work has brought benefits for the water supply, as well as the soil.

HABP also plays a real role in helping people take first steps towards water security. HABP credit is providing opportunities for water pumps and storage facilities.

“With the pump we can crop the land all year round”, tells a farmer from Sodozuria Kebele in SNNPR. “There’s a steady
market in Sodo which means that even though diesel is expensive we’ve been able to increase our incomes and use the money to send our kids to school. Because there is good flow from the local stream, we can irrigate irrespective of whether it rains. I am part owner of a pump through HABP and have taken a second loan to buy oxen. Using the pump I can grow pepper, potatoes, tomatoes and maize. I borrowed 4,000 Birr from HABP last year - in coming years I will be able to pay it back. For me it’s a good system. We have training from development agents on how to operate and maintain the pump and get the most from it in terms of yield. We also hire it out to other farmers, which is another source of income"
This is making a big difference to farmers’ lives, opening livelihood and asset building opportunities that were previously inconceivable. It is a move towards building the long-term asset base of people at risk of food insecurity - a critical mechanism for building their resilience to climate change.

**KEY FACT**

There is visible evidence that PSNP public works have positive impacts on water security - reduced sedimentation, increased water quality, and increased availability of spring, stream and ground water.
Climate change has real impacts on pastoralism as a way of life. The traditional response of pastoralists to drought and failing pasture has been to move their herds to new water sources. But as both grazing and water sources are becoming more degraded, pastoralists increasingly have to move further, and more frequently, and face decreasing productivity of their animals. Both PSNP and HABP are addressing these problems, in complementary ways.

In the Somali Region, for example in Lafaislamod Kebele, PSNP public works are taking a two-pronged approach. They are improving access to water through soil and water conservation technologies.

At the same time, through afforestation with high-value trees such as *Leucaena*, *Grevillea* and *Moringa* species, they are promoting an alternative source of income and livelihoods.

Similarly, in the Afar Region where the productivity of livestock is reduced through lack of good grazing and water, pastoral communities are being helped by PSNP. Payments for public works allow people to put food on their tables without having to sell livestock during lean periods.

“Now, we find our cattle have no meat on them, and no milk,” explains Mr. Nure Arede, father of 10 from Chifre Woreda in Afar Region. “We have had to change our
How Ethiopia’s PSNP & HABP are building resilience to climate change

way of living and have started working the land. From previously following our cattle wherever we could find grazing and water, now we spend more time around the homestead.”

The public works on rangeland enclosures support a widening range of livelihood options for pastoralists. Enclosures allow land rehabilitation through protection and planting or regeneration of fodder plants. This supplements grazing on local rangelands and means the herders can make grazing resources support their livestock better and for longer.

“The rangeland enclosure here was a demonstration site – people needed to see with their own eyes if it worked,” says a Development Agent in Hamer, SNNPR. “Now the Hamer farmers have started to enclose rangeland elsewhere. Area enclosure by individuals is expanding and trees are being planted – feed and fodder species.”

With better forage, livestock are more likely to remain productive, even in drier conditions. PSNP and HABP support also means that the poorest people, who no longer have any livestock, can have more opportunities for investing in other livelihood activities such as fodder production or crop farming.

This can be especially useful, and empowering, for women needing resources to feed their families whilst the men are away for long periods selling livestock at markets.

**KEY FACT**

Enclosed areas have been successful in regenerating vegetation which increases how much water soaks into the ground, and therefore reducing problems of seasonal floods and soil erosion.

BUILDING RESILIENT SYSTEMS
DIVERSIFYING LIVELIHOODS AND MARKETS

One of the problems for many people is their reliance on a narrow range of activities for their livelihoods. If that livelihood base comes under pressure or is weakened by shocks, this can mean dire consequences for those reliant on it. Making the consequences still worse, the same shocks can also push up prices for staple foods, and make markets more unpredictable.

This is where the linked approaches of PSNP and HABP are really valuable. For example, in the highland community of Barka Adisebha in Tigray, PSNP has worked on improved management and rehabilitation of the local watershed. The benefits of these activities have enabled a wider range of livelihood options to be chosen for HABP support.

Now local people can consider animal fattening to generate income, despite a lack of grazing, because they have fodder. They can also sell the ‘cut and carry’ fodder. And the replanted hillsides are enabling beekeeping enterprises to be a realistic and successful option.

In Chifre Woreda in Afar, PSNP works have allowed irrigation of land that could previously not be farmed. The additional water supply from the River Mille, paired with HABP support, allows the women there to invest in growing high value onions and chillies. This makes a real
difference for their families. Women can generate their own income source that is independent from other household members. This enables them to feed and educate their families themselves. The combination of benefits offers a way for them to transform their livelihoods, enabling them to better withstand climate shocks in future.

With diversification as a key driving objective, the HABP is successfully helping to build more robust livelihoods for people. The success comes where people are given a wider range of livelihood options that are well suited to future climate scenarios. This wider range of livelihood options reduces their vulnerability in times of hardship or climate stress.

**KEY FACT**

Improved farming production through PSNP public works results in HABP being able to support a wider range of enterprise, income and employment opportunities close to home.
EMPOWERING LOCAL OWNERSHIP AND DECISION-MAKING

Because the specific effects of climate change are likely to vary across Ethiopia, locally-driven solutions are especially important. Both PSNP and HABP are intended to be demand-driven to allow them to respond directly to local problems and local opportunities.

This means that local people are engaged in the interventions – they make the decisions about their own lives. When it works, this makes the interventions more relevant and sustainable, and more likely to adapt to changing situations when and where they arise.

A good example of this is in Wolayita, SNNPR. PSNP public works have enclosed and rehabilitated a large degraded area of hillside, building soil and water conservation structures, carrying out gully control and planting. Critically, a watershed planning team, including male and female members of the community, is closely involved in the whole planning process. The solutions are their own choice, based on their own problems, needs and preferences. The government Development Agents provide only technical advice.

“The area was selected by the community because it was extremely degraded by overgrazing, had gully erosion and was the source of flooding in the village,” explains a watershed planning team member from Wolayita. “The area is protected from open grazing and cutting of fuelwood by a memorandum of understanding. If someone takes livestock to the enclosed area or cuts any tree, he or she will be fined 50 Birr. Now flooding in the village has reduced in frequency, and grasses grown in the enclosed area are sold for cut and carry fodder.”
This kind of community coalition is a real strength to help people face the challenges of climate change. It helps people to consider and protect the ‘common’ resources, on which they all rely. PSNP helps strengthen local communities in other ways too. For example, in the Lafaislamod Kebele in the Somali Region, PSNP public works have built grain stores, Kebele offices, and classroom extensions. These better facilities all have a role to play in supporting wider development and climate adaptation efforts.

Local ownership also means that gender issues are treated seriously. Women and men are targeted equally by PSNP and HABP, and there are plenty of emerging examples of real benefits to women and girls. Watershed planning teams, for example, aim to be 50% men and 50% women.

In practical terms, PSNP public works have resulted in women having to spend less time and effort on their traditional chores such as collecting water and firewood.

The extra time can mean they are more able to make a cash income, through PSNP works for cash, or other income generating activities. Consequently they are more likely to take HABP credit, secure that they can repay it.

Women in this situation take better care of their family’s health and education, building a more robust and resilient household.

The demand-driven, local approaches at the heart of PSNP and HABP promote community coalitions and gender benefits. In the face of climate change impacts that will affect whole communities, this will be stronger than individual responses.
COPING WITH CHANGE

Looking at all these elements, it is clear that the entire productive system on which food insecure people rely can be very fragile – and this is a key risk in the face of climate change. Making these livelihood systems more robust and resilient to shocks is therefore important. This is at the core of PSNP and HABP. And particularly beneficial impacts are seen where PSNP and HABP work together in a linked-up way.

The public works support land rehabilitation and better access to water which opens up improved and diversified farming opportunities. Public works on roads help market linkages. The loans and business support available through the HABP allow people to take advantage of these opportunities. Where the public works options link to the market opportunities and to the advice and loans available, they become much more valuable.

The experience of one farmer in Barka Adisebha, Tigray, is a good example. He took an initial loan to buy a water pump to irrigate his land. PSNP public works on soil and water conservation gave him...
better access to water and gave him an income, enabling him to buy an additional pump.

With a good supply of water and some cash, he now also rents land from a neighbour who had no labour to work the land. This way, two households are benefiting and land that was previously not used at all is contributing to food production and income generation, even when rainfall is poor.

Another example is Mr. Teshome Feleke from Sodozuria Kebele, SNNPR. He used savings from his involvement in PSNP and a HABP loan to invest in an ox, cow and sheep, and in a small sugarcane plantation alongside a stream near his house. His is a real success story - he has now been able to graduate from PSNP and sees his life improving.

“I have been successful because of good advice from the agricultural extension officers, and because I had seen my relatives adopt sugarcane,” tells Mr. Teshome. “I had a good knowledge of how to look after it, and could see that the business plan would work out. I’ve benefitted a great deal from PSNP and managed to save. I bought two oxen, and sugar seedlings, and as part of a savings group bought two milk cows, four sheep and goats. I get 500 Birr per month from the milk and expect 7,000-8,000 Birr next...
Part of that ‘good position’ has come from taking advantage of the joined up benefits of PSNP and HABP; bringing together PSNP cash for savings, and good advice through HABP that reflected local environmental conditions and market opportunities. But it has also come from taking advantage of wetter conditions available for the sugar. As climate changes in Ethiopia, this climate variability is what the two programmes are now considering more explicitly.

This demonstrates the potential strength of the PSNP and HABP approaches in helping vulnerable people face climate change. Best practice effectively links public works activities to specific income generating activities and markets. Each activity is beneficial on its own to a certain degree; but planned together strategically, the whole is definitely greater than the sum of the parts.
How Ethiopia's PSNP & HABP are building resilience to climate change
COPING WITH CHANGE

The challenge of predicting the exact nature of climate patterns and extremes means that there are likely to be sudden shocks that cannot be planned for in advance. These can and do result in temporary crises, often pushing people back into food insecurity and thereby increasing the numbers of people who need support.

The PSNP and HABP regular activities offer people flexibility in facing regular climate shocks. The PSNP also has programme-level flexibility built into it, allowing it to ‘scale up’ in times of unexpected or urgent need. There is a contingency budget for these temporary crises and a risk financing mechanism which offers resources in cash or in-kind to address transitory need in times of crisis. An early warning system based on meteorological data is the main trigger for release of these funds, alongside food security and livelihoods data provided regularly by officials at the Kebele level.

The idea is that when a shock is anticipated, rather than spreading the same funds around more people, further resources are made available quickly. This way, the households who have started to climb into food security get assistance before they are pushed back into the downward spiral of food insecurity by a crisis.

The system hasn’t always worked perfectly but there have been real successes and the experiences to date hold valuable lessons. Climate change predictions suggest that such climate shocks may come more frequently. So to protect the achievements of the programmes, it is important to get this right.

SCALING UP IN TIMES OF NEED

KEY FACT

The contingency and risk financing elements of the PSNP offers a way to manage climate risk, providing insurance against climate variability.
In 2011, thanks to government systems, early actions taken by agencies and the existing safety net programme, [...] Ethiopia averted a potential famine.


Over time, in their target areas, the combined efforts of the PSNP and HABP will achieve a reduced proportion of people facing chronic food insecurity, and instead be able to focus on helping the increasing numbers of people who are pushed into food insecurity temporarily by climate shocks.
WHAT NEXT FOR CLIMATE SMART FOOD SECURITY?

There are numerous instances where PSNP and HABP are already effectively drawing people into greater food security. These cases show ways of doing this that successfully reduce vulnerability to, and build capacities to cope with, the shocks that climate change brings.

The best examples demonstrate a joined-up approach to public works and livelihood activities that adds significant value to each individual activity, and that ensures the benefits will have lasting impact. But with HABP only recently up and running, these ‘best practice’ cases are not yet widespread.

To build on the lessons from best practice and thus equip the programmes to be more responsive to the anticipated climate threats, a Climate Smart Initiative is being implemented. The Climate Smart Initiative will further strengthen the synergies between and sustainability of the two programmes by explicitly considering climate issues.

The Climate Smart Initiative strengthens the PSNP and HABP by integrating the implications of climate change into the activities and systems of these programmes. It is piloting ideas for how future programmes can strengthen the resilience of programme beneficiaries to climate change impacts. Building on local assessments of vulnerability and measures to secure livelihoods, it supports the Ethiopian Government's commitment to manage climate risks.
There are a number of areas where the PSNP and HABP demonstrate an excellent contribution to climate resilience. These offer a great starting point for improvement towards wider impact and a better response to Ethiopia’s changing climate.

**Going beyond short-term responses.**
The programmes currently offer effective responses to food crises and disaster risks, and prevent people sliding deeper into destitution and chronic food insecurity. But the programmes could offer more by actively looking for ways to address the long-term causes of vulnerability.

For example, individual PSNP activities are effective at restoring and regenerating land through area enclosures, but the areas are relatively small. In the highlands in particular, land degradation is a cause of vulnerability to food insecurity, so promoting more widespread use of the watershed approach would give greater impact in the long term.

**Joining up best practice for wider impact.**
There are many isolated examples of excellent approaches that are starting to reduce vulnerability and build climate resilience amongst the PSNP and HABP beneficiaries. Drawing these together and making them more joined up offers the potential to achieve much more.

Water pumps, for example, offer excellent benefits to the individual, but fitting them into a wider watershed management plan will avoid negative impacts on water users further downstream, and combining them
with improved agricultural techniques will ensure efficient use of the water. Handicraft enterprises may be good for income generation, but should be linked up to supply of material and demand for the product.

**Reducing reliance on the land.** Farm sizes are often too small to feed the household all year round. This means that people need to look for ways to make money that do not rely on their farm. These also offer people more insulation from the shocks to farm productivity that will be intensified by climate change.

PSNP and HABP mostly focus on farming activities, but there has been some success with “off-farm” options. For an even better result, there is real potential to build on those successes, to connect the programmes with other local initiatives, to learn from similar programmes in other countries, and to offer beneficiaries a wide range of options that fit with their own preferred strategies and which they can choose for themselves.

**Improving knowledge, information and technical advice.** PSNP and HABP implementers are experts in rural livelihoods, agriculture and food security issues, and most of the farming interventions they use are inherently ‘climate smart’. But they face constraints in helping to systematically reduce climate vulnerability for various reasons.

For example, livelihood diversification *per se* will not always be the best way to adapt to climate change impacts, so the activities promoted must avoid making
things worse. Typically agricultural experts have limited awareness of the implications of climate change on their work.

Outside of the agricultural sector, activities with real potential to support adaptive capacity (such as “off-farm” activities) need dedicated technical experts with relevant skills. There is a need to improve the availability and use of knowledge and learning about the changing climate and about a wider range of responses and where they work best, so that relevant and tailored advice can be used in local decision-making.

**Getting contingency planning right.**
Climate change is expected to affect how often contingency finance is needed, and the numbers of people in crisis. Climate change predictions suggest that climate events will happen more often and so people may be pushed into food insecurity more frequently, even if only temporarily.

Contingency planning needs to consider a number of things, including how to more quickly respond to these frequent climate events, how to improve the quality of the response, and how to identify and implement activities that prevent climate events (or mitigate their effects).

This includes improving the information systems that trigger action, so that it does not come too late as has sometimes been the case in the past. And with more frequent and severe climate events placing increasing numbers of people in temporary crisis, there will be an increase in the overall amount of contingency funding needed. There is an opportunity to look at how additional funds – for example through climate finance – could be drawn into the programme activities.

**Building co-ordination capacity.** The impacts of the PSNP and HABP efforts towards climate resilience are at their best where there is good co-ordination between the two programmes, as well as with other related development and climate adaptation and mitigation efforts. But bringing things together is not an easy task. The PSNP and HABP are one piece of the puzzle and the institutional capacity to co-ordinate more strongly could be strengthened.
THE CLIMATE SMART INITIATIVE

The Climate Smart Initiative responds to these opportunities to strengthen the PSNP and HABP.

The initiative ensures that the PSNP and HABP approaches can better help Chronically Food Insecure people, even as the climate changes. It tests out new activities and overall systems of support that focus on building livelihoods that are both sustainable and resilient to climate change. It is generating lessons on what works and what doesn’t, and seeks to get these lessons integrated into policy and practice.

Recognising that the specific impacts of climate change are likely to be different in different places, the Climate Smart Initiative has a strong focus on local needs and priorities. It is testing a new approach to community-level planning which will respond to local climate change risks as well as tailoring activities to the local conditions, taking into account the varying needs of men, women, youth and children. It is looking at the range of elements that make up local people’s livelihoods, avoiding a piecemeal approach, and making the overall benefits greater.

The Climate Smart Initiative also emphasises ‘learning’, both for the local people and the programmes. Supported by Woreda-level facilitators, local people are learning what the ‘best-bet’ activities are for building food security in a changing climate. The local learning will be shared with and through a central hub which will make sure that lessons from any one area are shared right across the PSNP and HABP areas.
The Climate Smart Initiative has four linked areas of work which will deliver its goal.

**Building climate change into contingency plans**

While PSNP and HABP are effectively drawing people out of chronic food insecurity, sometimes they face sudden shocks that push them back. The system of contingency planning that is built into PSNP offers additional resources to help these people during times of urgent need. An early warning system uses meteorological data and local level information to predict when these emergencies are on their way.

To protect the achievements of the PSNP and HABP, it is important to get contingency planning right. The Climate Smart Initiative is working to ensure that all contingency plans fully consider climate change issues. Working with other national programmes and the Government, it offers training on these.

**Piloting clusters of integrated PSNP-HABP activities**

**Bringing climate knowledge and food security issues together**

**Coordinating for greater impact**

**Learning & innovation**

How Ethiopia’s PSNP & HABP are building resilience to climate change
issues and gets right down to Woreda level. It is reviewing the guidance material, manuals and the way early warning data is collected and used. It is improving the way and the speed that contingency planning can respond to climate change related emergency events.

Climate change predictions suggest that the shocks that push people back into chronic food insecurity may become more severe or frequent. This means the needs for emergency support through the contingency planning system increase too. The Climate Smart Initiative is therefore also making an assessment of the likely level of contingency finance that will be needed in future.

While PSNP and HABP are effectively drawing people out of chronic food insecurity, sometimes they face sudden shocks that push them back.
PIloting Clusters of Integrated PSNP-HABP Activities

The major focus of the Climate Smart Initiative is to test linked clusters of pilot activities, using a bottom-up planning process, through which more can be learned about the best-bet options for safety net activities in a changing climate.

The planning process itself is innovative in the way it considers local factors to achieve really effective outcomes. The factors include: local environment and weather patterns, existing livelihood sources, capacities, markets, and availability of new knowledge and credit.

Local people are able to consider climate predictions and think about what changes they will face locally. On the basis of current experience and future
scenarios that they develop themselves, they can review the range of options available and select joined-up clusters of activities that are tailored to local needs and conditions.

This will build their adaptive capacity and offer them a route to food security that can withstand the likely climate shocks, and which will provide opportunities for them to improve their incomes.

**The activities** will be selected from clusters, or packages, of activities. Each cluster includes a menu of activities for local people to choose from, and the clusters are designed to ensure that people can choose activities that are locally relevant and will complement and support each other. The clusters bring together the best of PSNP and HABP, and they consider the wider landscape not just the immediate location. The 10 clusters include activities on:

- **Soil and flood protection** – To combat the predictions of more intense, destructive rainfall in future, this cluster offers co-ordinated actions to increase the amount of water soaking into the ground, reduce the amount of water that runs off the surface, and prevent destructive flash flooding. This will also replenish groundwater and springs. Taking a watershed approach, upstream activities (e.g. closed areas to restore vegetation and reduce run-off) are linked to downstream activities (e.g. gully reclamation to enhance farm land).

- **Water supply development for communities and households** – This cluster of activities responds to seasonal water shortages, which are predicted to worsen in some places. HABP credit is strategically linked to PSNP wells, ponds, dams, irrigation, and spring development. There are strong links to soil protection activities.

- **Community tree planting** – This cluster is about improving community knowledge on the benefits of a range of tree species that can usefully be planted. This reflects several issues:
the need for better animal forage, income opportunities, and the need to tackle long-term issues as well as avoiding immediate crises. It links to national level Green Economy activities to restore and reforest degraded land across the country.

‣ **Forage and livestock production** – With climate pressures, finding good forage for the usual range of livestock is becoming increasingly difficult. This cluster brings together activities to improve the quality and amount of forage areas with activities to support the production of various animals, including sheep, goats, cattle, bees and poultry.

‣ **Improving rain-fed agriculture** – Most of Ethiopia’s farms rely on rain to water their crops, and climate change is bringing more unpredictable and less reliable rains. Activities in this cluster make best use of the rain that comes. The activities integrate improvements in the way farmers carry out soil improvement and protection, cultivate their soil, and use water. The result is a more efficient use of water and more productive soil.

‣ **Home garden production** – Home gardens are an important aspect of food security in rural Ethiopia. This cluster offers activities that focus on improving self-sufficiency and food security, as well as promoting cash crops for added income, using familiar and new varieties.

‣ **Improving irrigated agriculture** – Irrigation is a popular but complex solution to the problem of food insecurity, especially where land is becoming drier. This cluster of activities considers upstream and downstream factors, soil nutrition and conservation, the need for markets for the irrigated crops, and access to those markets.

‣ **Improving pastoral rangeland planning** – Climate change is constraining pastoral livelihoods by
reducing fodder quality and water availability for the livestock. Activities in this cluster are about getting pastoralists involved in mapping and planning how best to use rangelands and waterpoints, based on their vast knowledge. This planning should lead to the development of community plans that consider enclosures, irrigation options, markets and finance. Public works activities are offered to rehabilitate and install waterpoints, and implement rangeland improvements and area enclosures.

Promoting off-farm enterprise – Reducing reliance on the land and farming is an important way to help protect people from the shocks that climate change will bring. This cluster brings together targeted credit opportunities, improved information on employment opportunities and markets, and the development of a cash-transfer system so that income can reach families when they most need it.

Making public works more climate resilient – The more frequent intense storm events anticipated in future could cause significant damage to infrastructure built through public works. Using Regional Roads Authority expertise to demonstrate ‘climate-smart’ siting, design and construction of road features such as culverts and bridges, this cluster of activities will seek to reduce this risk.

All of the clusters of activities will offer links to market options, market price information service, up-to-date climate prediction information, seasonal weather forecasting and early warning systems, and to Agricultural Research Institutions for technical support.
How Ethiopia's PSNP & HABP are building resilience to climate change

Recognising that more effective use of climate-related information and knowledge is needed to achieve food security goals, the Climate Smart Initiative is doing a number of related things.

Making sure people understand what climate change means to them. The initiative is providing a programme of training that will ensure PSNP and HABP staff at the local level understand what climate change impacts to expect, what they can do to help local people respond to these impacts, and how to learn and adapt what they do through the process of testing clusters of activities.

Getting local lessons into the national picture. Through this process of testing the clusters, local staff are generating success stories on what works (and how) to reduce vulnerability to climate change. The Climate Smart Initiative has a focus on sharing these local lessons and feeding them into national level systems, programmes and processes.

Helping people use information technology to respond better to change. For rural Ethiopians it can be hard to get timely information to help make decisions - for example, about what to plant, when to harvest, what to sell, where to seek work, or when rains might come or stop. The Climate Smart Initiative is testing a number of technologies that will help people keep up to date with:

- weather forecasts and early warnings of floods or droughts - so that they can plan a response in time and reduce the risk of a crisis.
THE CLIMATE SMART INITIATIVE

- prices for farm produce and commodities - so they can plan effectively and get the most out of their farming.
- where there are opportunities for work - so that people can take their skills to the right places and avoid travelling where there are no jobs for them.

Often the markets for farm produce or livestock, or the towns where there are opportunities for cash incomes, are distant from people’s homes and families. Recognising this, the Climate Smart Initiative is testing out systems of transferring cash through mobile phone technology. This will seek to ensure cash gets to where it is needed when it is needed to help prevent food crises.

Preparing the ground to access climate finance. There is real potential for the work of the PSNP and HABP to secure climate finance, through demonstrating how they are reducing greenhouse gas (GHG) emissions (mitigation) and helping people respond to the impacts of climate change (adaptation).

To secure climate funding, any project has to show how the funding is being applied to achieve climate benefits that would not otherwise be realised, known as “additionality”. Evidence generated by the ongoing Climate Smart Initiative will help demonstrate the additionality of PSNP and HABP activities to enable them to tap into this funding.

Ethiopia’s major current GHG emissions are from agriculture, so activities to reduce emissions relate to implementing conservation agriculture, area enclosures and reforestation. At local project level, some PSNP and HABP activities may be able to access carbon finance through regulated (e.g. Clean Development Mechanism) or voluntary (e.g. Verified Carbon Standard) markets.

But to secure carbon finance, rigorous methodologies must to be used to measure and calculate the carbon levels and show additionality. So the Climate Smart Initiative will carry out assessments of soil and wood biomass carbon reference levels within PSNP and HABP areas, and develop a Project Identification
Note to assess the feasibility of securing carbon finance.

However, given the high costs of measuring and proving carbon benefits, the lack of agreed methodologies for calculating carbon emissions, and the uncertainty surrounding existing markets, the actual benefits may not be large and carbon finance could take a few years to come on-stream.

International funding to support adaptation may hold greater potential for supporting the PSNP and HABP in the next few years. There are numerous funds available, and some are already being accessed by Ethiopia. To demonstrate additionality they rely on more qualitative measures of how people are being helped to respond to the changing climate. The Climate Smart Initiative pilot projects will help to provide the evidence of how the climate smart PSNP and HABP can deliver that additionality.

**KEY FACT**

Assessments show significant carbon dioxide sequestration from PSNP area enclosures, through increased vegetation and soil accumulation. In the Keleta watershed, an estimated 125,590 tons of CO₂ - some of which could be converted into carbon credits - are sequestered annually as a result of PSNP. The PSNP works in thousands of watersheds every year.
PSNP and HABP show the best results when they work together. To get the greatest impact, it is therefore critical that the two programmes effectively coordinate their efforts at a strategic level. The Climate Smart Initiative promotes this both through the cluster approach at the local level and the central learning hub.

The Climate Smart Initiative also makes links between the PSNP and HABP and to other relevant national development and relief programmes and initiatives. As well as sharing learning from the pilots, the approach of the initiative is to work closely with other programmes.

These include: i) working with the Government and other organisations on contingency planning; ii) linking HABP livestock support to biogas initiatives; and iii) linking PSNP work protecting vegetation to programmes promoting biomass stoves. The national strategies towards a climate resilient green economy (the “CRGE”) are very relevant to PSNP and HABP, and opportunities for engagement are important.
How Ethiopia's PSNP & HABP are building resilience to climate change

DELIVERING CLIMATE-PROOFED FOOD SECURITY

Through these four linked areas of work, the Climate Smart Initiative is working to ensure that:

‣ all of the assets built through PSNP public works and income activities supported by HABP will be resilient to the climate extremes possible in future.

‣ people who are food insecure have the knowledge of changing environmental capacities, technologies and markets to allow them to confidently make sustainable livelihood decisions.

‣ PSNP and HABP activities are always locally-driven to respond to specific conditions and all link up to be mutually supportive and strengthening.

‣ the contingency planning system will allow quick response to climate-related food crises – for example in times of sudden, severe floods or crop failures.

‣ climate shocks will not always push people who are just managing to climb out of food insecurity back to a reliance on cash or food aid.

‣ the food security programmes can learn about climate impacts and be adaptive to how it is changing the context of food security.

‣ information is available to link the PSNP and HABP to climate finance opportunities where possible.

This will strengthen the programmes and mean that they will be even better able to strategically deliver the climate resilience needed for future coping capacity.
REFLECTING A NEW VISION FOR CLIMATE RESILIENCE

The Climate Smart Initiative reflects the new vision for climate resilience in Ethiopia. The Government has recognised that all their programmes, including those which target food security, have to be resilient to climate change.

The Government has prioritised a transition to a climate resilient green economy (CRGE), which is a long term ambition with a vision for achieving an effective and coordinated response to climate change, across all sectors and regions.

The CRGE vision notes the importance of a number of key routes to delivering resilience:

- Focusing on agriculture and natural resource management issues
- Preventing land degradation and soil loss
- Managing water effectively to make it more available
- Increasing incomes and supporting more diverse livelihoods
- Promoting greater social equity, particularly for women
- Stimulating local ownership of adaptation and resilience actions
- Mainstreaming awareness on climate into development service activities.

The Climate Smart Initiative of the PSNP and HABP aligns with all of these routes.

How Ethiopia's PSNP & HABP are building resilience to climate change
Because Ethiopia’s economy and the well-being of our people are closely linked to water, land, forests, fisheries and biodiversity, action towards resilience will come in part through focusing on these areas with future climate change in mind.

*Ethiopia’s vision for a climate resilient green economy*

The CRGE also recognises that people affected by chronic food insecurity will be particularly badly affected by climate change. Food insecurity is not a problem that is going away quickly. Over time, PSNP and HABP will become increasingly relevant to Ethiopia’s transition to middle-income country status.

**CRGE issues are at the heart of the climate smart PSNP and HABP.** With the benefit of the Climate Smart Initiative, these programmes offer an effective delivery mechanism for Ethiopia’s transition to a climate resilient green economy. They are tried and tested programmes, and are now generating
useful lessons for best practice in terms of climate resilience.

Going forward, the CRGE Facility may find the climate smart PSNP and HABP to be appealing options for working towards climate resilience. As existing processes with established institutional structures in place, they are very attractive compared to new systems or programmes.

How Ethiopia’s PSNP & HABP are building resilience to climate change
The PSNP and HABP offer inspiration and hope to many rural Ethiopians facing the downward spiral of food insecurity and increasingly uncertain future weather patterns. With a targeted Climate Smart Initiative, the programmes reduce vulnerability to the livelihood shocks and stresses that climate change is bringing. They are working towards promoting active management of the climate risks that most rural Ethiopians face.

In the face of the more frequent and severe livelihood crises that are likely to arise from climate change, the programmes offer real alternatives so that people can maintain and improve their standard of living.

Through PSNP and HABP, millions of rural people are avoiding hunger and disaster. They can also build their assets, their livelihoods, and their lives. All of this puts them in a much better position to withstand climate change in future.

With effective features that enable people to adapt to, and mitigate the effects of, climate change, the programmes present opportunities to draw on climate-related funding to support their efforts. They offer an attractive route to achieving Ethiopia’s strategic vision of a climate resilient green economy.
A key route to climate resilience is increased income and more diverse livelihoods

Ethiopia’s vision for a climate resilient green economy

How Ethiopia’s PSNP & HABP are building resilience to climate change
COPING WITH CHANGE

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