

**MINISTRY OF AGRICULTURE
AND
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS**

**THE CASCADED TANK-VILLAGE SYSTEM (CTVS)
OF THE DRY ZONE OF SRI LANKA**

***PRELIMINARY DYNAMIC CONSERVATION
ACTION PLAN***



AUGUST 2016

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1. BACKGROUND AND INTRODUCTION

The Government of Sri Lanka, with UN FAO assistance, is submitting a proposal (separate document) to the global initiative called the Globally Important Agricultural Heritage System or GIAHS for the declaration of the Cascaded Tank-Village System of CTVS as part of the GIAHS. The CTVS in the Palugaswewa Divisional Secretariat Division of Anuradhapura District in the Cultural Triangle Region of Sri Lanka will represent the CTVS of Sri Lanka in this declaration. The said proposal describes how the CTVS meets the 5 criteria to be declared as GIAHS namely: a) being a provider for food and livelihood security; b) high in biodiversity, particularly agro biodiversity; c) high in local knowledge; d) presence of supportive socio-cultural system; and e) presence of a remarkable landscape. Figure 1 below illustrates the 3 dimensions of the CTVS. Conventionally, the first dimension (The Tank and Engineering system) is more well-known in the public eye while the other dimensions are practically considered “invisible”.

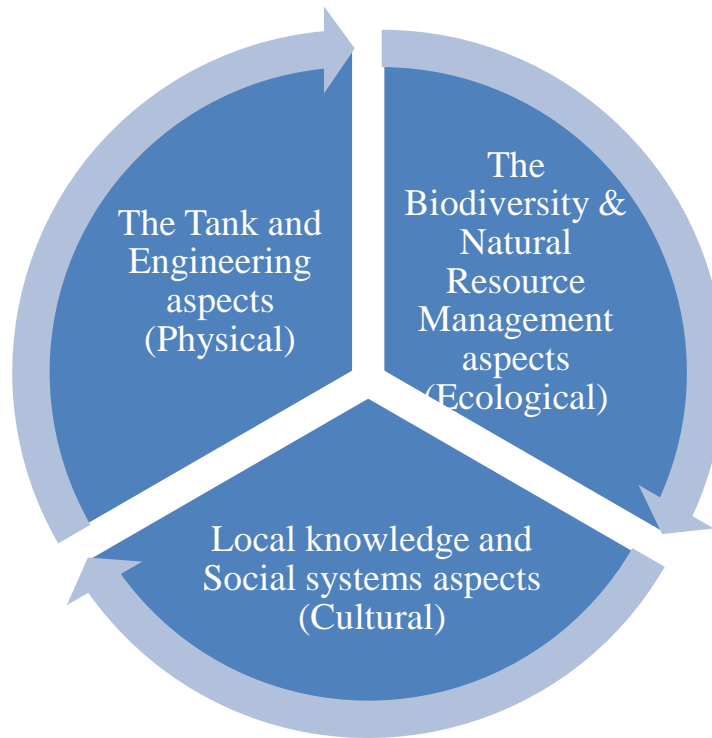


Figure 1: The Tank Cascade System as an AGRICULTURAL HERITAGE with three dimensions

The GIAHS partnership protocols require that a Dynamic Conservation Action Plan or DC Plan be prepared for the CTVS that have been declared as GIAHS, starting with a pilot area. This plan would be formulated immediately after the global recognition as GIAHS. The Government has decided to prepare an initial version of the Dynamic Conservation plan even while the proposal for GIAHS declaration is still in the process or review. This is an initial plan only. This will be validated and expanded once a declaration of the CTVS as GIAHS is made.

2. METHODOLOGICAL FRAMEWORK FOR GIAHS DEVELOPMENT, SUPPORT AND SCALING UP

The proponent for the GIAHS follows the methodological guide advocated by GIAHS. The GIAHS framework is entitled “A methodological Framework for the dynamic conservation of agricultural heritage systems” (Parviz Koochafkan and Miguel Altieri, 2011). The guide calls for a strongly participatory approach involving all key stakeholders especially communities themselves. Among others, it also calls for free prior and informed consent.

The key challenge in preparing the dynamic conservation plan is the many perspectives (including possible misconceptions) about it. It is usually a conflict between the thinking that heritage agriculture is about the past and about the “backward agriculture”. In reality, the new thinking recognizes the ecosystems and cultural contribution of heritage agriculture and that they have important roles for the future such as in biodiversity conservation and climate change adaptation. Many also think that conservation is about “freezing” the agricultural heritage practices. In reality, the site recognized as GIAHS will undergo assistance for dynamic conservation, which involves embracing change, while maintaining the essence of the original values of the system (e.g. ecological balance).

In order to successfully navigate through the above competing concerns and in the end install dynamic conservation system, the GIAHS partnership has proposed a multi-step process that may be observed by a country towards establishing a GIAHS. These include the following:

1. Establishing the national participatory planning strategy: establish the rationale for proposing the declaration as a GIAHS and determining the local process for doing this.
2. Determining the features and dynamics of the selected GIAHS: understand the features of the site according to the GIAHS criteria among others.
3. Identifying the principle tools and best practices for dynamic conservation: review various strategic approaches for enhancing the features of the GIAHS.
4. Developing and implementing the action plan: proactive preparation and enforcement of the Dynamic Conservation Action plan.
5. Assessment of progress: monitor and learn from the process towards further strengthening.
6. Dissemination of results as scaling up: based on the positive lessons, work towards formulation of policies and programs that enable more areas to replicate the process.

The Sri Lanka Ministry of Agriculture and FAO Sri Lanka have collaboratively started Steps 1 to 3. This document aims to jumpstart Steps 3 and 4. The aim of this document is to provide a framework and initial version of the Dynamic Conservation Plan with initial focus on the CTVS located in the Palugaswewa Divisional Secretariat Division, in the District of Anuradhapura within the Cultural Triangle Region of Sri Lanka.

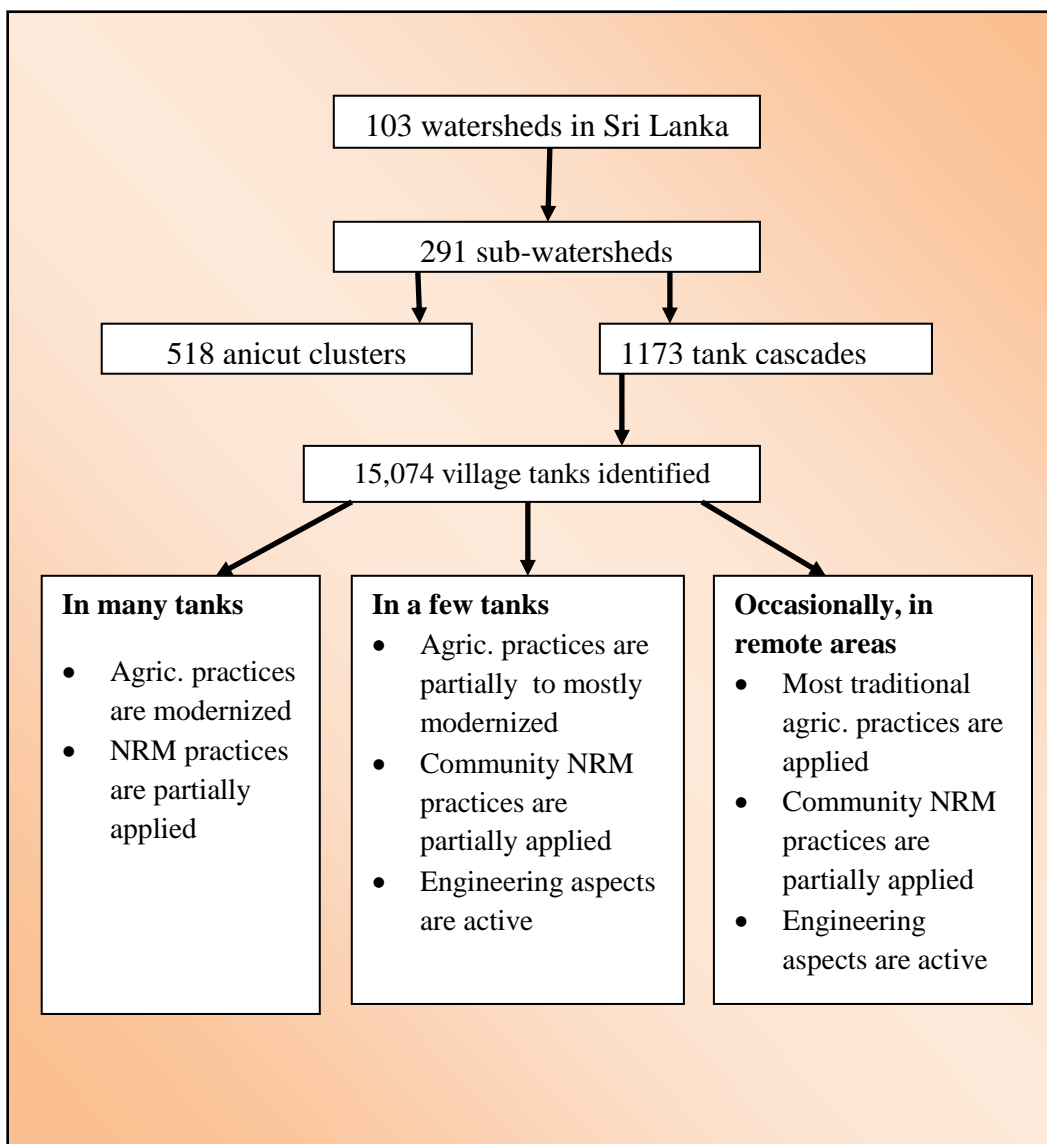
The site has been chosen from the candidate list of 9 sites following the five GIAHS criteria plus a supplemental set of criteria established. The said criteria were established and applied by a technical working group comprising of experts from different technical offices of the Ministry of Agriculture

and FAO. Consultations were made with local authorities, academe and independent scholars and advocates who remain passionately interested in the topic.

3. CURRENT SITUATION

The separate proposal being submitted to the GIAHS for the declaration of the (CTVS) as a GIAHS provides a perspective of the features, constraints and opportunities in the proposed GIAHS site.

Some of the key constraints and opportunities are summarized below.



Data Source: Department of Agrarian Development, Sri Lanka, 2011. Database on watersheds of Sri Lanka.

Figure 2. Snapshot of present status of village tanks

Box 1. Palugaswewa site: A snap shot

- **It had a glorious past**
- **It has an unstable & vulnerable present (and future)**
 - Tank and engineering aspects are still active
 - Agriculture - not resilient, profitable and sustainable
 - Decline of biodiversity & natural resources management
- **The Community is struggling/coping with**
 - Loss of agricultural land & land fragmentation
 - Unsustainable land management practices
 - Crop damage (wildlife), climate change etc.
- **Still , it is a hopeful community**
 - Track record in Government – community partnership
 - Conscious of inappropriate practices
 - Interest in heritage conservation and its benefits

Box 2. Key Constraints

- Growing population, limited lands, land fragmentation
- Catchment degradation- reduced tank capacity,
- Inefficient water and crop management and high input costs, partly due to over reliance on high external input agriculture and poor knowledge of handling of external inputs
- Loss of traditional varieties, crop damage (including by wildlife)
- Low price for produce
- Declining interest of the youth in farming
- Low influence of community in governance

4. OBJECTIVES AND SCOPE OF THE DYNAMIC CONSERVATION ACTION PLAN

4.1. Purpose

Through global and national recognition, to enhance the sustainability of the Cascaded Tank-Village System (CTVS), while at the same time improve the socioeconomic welfare of communities that depend on these systems.

4.2. Objectives

- To demonstrate the process of dynamically conserving the physical, biological and cultural features of the initial demonstration village representing CTVS;
- To improve food security and livelihood opportunities (including eco-agri-tourism) in the demonstration site based on the sustainable use of natural features of the CTVS and co management;
- To generate good practices and draw lessons that can help develop policies for widespread application of the concept and practice of dynamic conservation in various areas, where CTVS is being maintained.

4.3. Scope

The Action plan would consist of strategic actions at both national and local levels along selected themes that are keys to sustainable development. The plan is action-oriented and emphasizes on immediately doable actions that can be implemented using national and local resources, although this may also be augmented by future external resources as needed. It calls for multi-sectoral and inter-generational (young and old) support to the plan formulation, implementation and learning process. Presented in this document are: a) framework for actions on key themes relevant to the CTVSs; b) proposed actions to develop policies that will enable widespread replication; and c) proposed work plan for the next 5 year period.

4.4. Proposed GIAHS Site

The proposed site is in the Palugaswewa Divisional Secretariat Division, in the District of Anuradhapura within the Cultural Triangle Region of Sri Lanka.

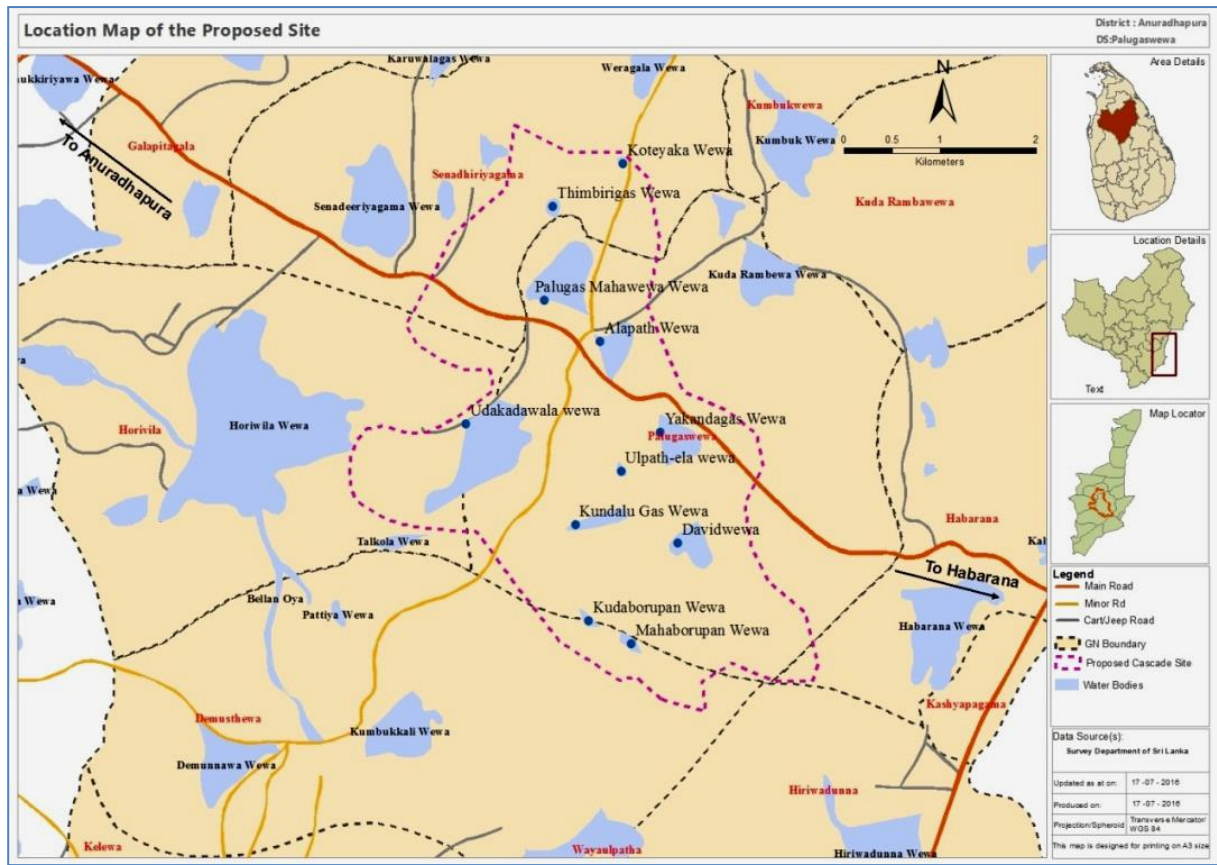


Figure 3. Location map of Palugaswewa CTVS in Anuradhapura District.

5. FRAMEWORK OF ACTION ALONG STRATEGIC THEMES

CTVS stakeholders in the 3 workshops done so far have identified following themes for action - both local and national. The following is a description of the arching approach for interventions under each theme:

- Cascade wide planning, governance and rehabilitation;
- Reinforcing community natural resources management ;
- Enhancing sustainable, resilient & profitable agriculture, fisheries and livestock;
- Cultural heritage reaffirmation and education;
- Promotion of eco-agri-tourism with cultural safeguards.

5.1. Cascade Wide Planning, Governance and Rehabilitation

The action program will strengthen the governance of the cascade. To do that in a meaningful way, an assessment and planning for rehabilitation and improved performance will be done on a cascade wide basis, following the natural boundaries of the meso and/or micro watersheds where the cascade and its component tanks are embedded. This will be in addition to planning rehabilitation works on a per tank basis. By doing both levels of planning, the process would prevent haphazard interventions and avoid unintended adverse effects on the overall hydro-ecology of the CTVS.

This assessment and planning process will be conducted in a participatory manner, as follows:

- Based on a sound understanding of the state of the ecosystem including hydrology of the cascade, a participatory, strategic action planning process among stakeholders will be conducted;
- The process will aim to forge a common understanding of the situation; craft a shared practical vision of desired redevelopment in the long term; and agree on priority strategic actions; as well as clarify roles and accountability among the different stakeholders (national Government, local authorities, farmer organizations etc.);
- A review of practical economic benefits as shown by similar interventions elsewhere will be conducted to further stimulate interest;
- Agreed upon action priorities will be incorporated in the regular planning and budgeting process of both national and local government agencies to ensure sustained funding.

The cascade planning process will identify the action priorities as responsibility centers for the following concerns:

- physical rehabilitation of tanks based on an understanding of the ecosystems wide needs of the cascade, sediment load and current carrying capacity as well as new demands on the system brought about changing climate patterns;
- collaborative natural resources management (NRM) and productivity of forest, and wetland resources and improving water use efficiency;
- sustainable, resilient and profitable agriculture through increased agro-biodiversity, reduced chemical dependence, improved adaptation to climate change and improved market access;
- cultural heritage conservation and management to strengthen the social system including customary rules that support the CTVS;
- development of alternative NRM based and NRM sensitive livelihoods such as eco-agri-tourism;
- strengthen organizing and management capacity of farmer organizations as well as front line service providers from government-based on agro-ecological principles that sustain the system.

The following sections further discuss the nature of actions for each of the above items. Attachment 1 describes the various suggestions proposed during the multi-stakeholder workshops conducted in September, 2015; this will be taken into account during the detailed planning process for the DC plan.

5.2. Cultural Heritage Reaffirmation and Education

The three cultural icons consisting of the “tank, temple and village” is part of public knowledge in rural Sri Lanka. While the tank (and its aquatic features) is easily recognizable cultural icon because of its visual impact, the associated agro ecological landscape is usually taken for granted. The interdependence between the physical (engineering), biological system and cultural system that has kept the tank system alive, is hardly known to the public eye except perhaps in a number of scientism papers that describe the ecology of the system. The GIAHS initiative encourages countries to recognize these systems through national systems of recognition. In some countries, remarkable

agricultural practices are being declared as intangible cultural heritage/properties. This would serve as foundational step for people to recognize their value and for government resources to give heritage sites special attention.

If recognized as an intangible heritage, this would enable stakeholders to look at the same practices with an entirely different perspective. The new perspective would look at the practices as an integrated local ecological knowledge that has kept an engineering marvel (the tank system) in place, for many centuries.

It should be clarified though that the intent of recognition as heritage agriculture should not be to deprive farmers of being able to enjoy the benefits of modern science. Rather, recognition means making a conscious decision towards “dynamic conservation”. It encourages the farming community to adapt to modernization without jeopardizing the integrity of the essential values of traditional systems which they have maintained for a long time.

Given the above, the Action plan would assist the Government and key stakeholders with the following strategic actions:

- Document the cultural basis for global and or national recognition. This implies the conduct of participatory cultural mapping; documentation of oral knowledge of elders, and registration of the various cultural properties associated with the CTVS among others;
- Establish formal recognition either or both nationally (under existing laws on cultural heritage) or locally (e.g. declaration as heritage zone by the local authority etc.);
- Using creative communication strategies, execute a public education program (e.g. community learning centres, local interactive museums etc.) to allow the community’s younger generation and the general public to appreciate the value of the heritage.

5.3. Reinforcing Community Natural Resources Management

Natural resources in this sense refer to the various ecosystems embedded in the cascade that provide the natural maintenance mechanisms of the tank. These include the following:

- forest ecosystem and grassland /brush land ecosystem that provides intercept precipitation, recharge aquifers, nutrient supply and run off/flood control;
- wetland ecosystem that provides the irrigation water and subsistence fisheries and habitats for many flora and fauna;
- manmade buffer zones/belts /strips that prevent sedimentation, reduce acidity/alkalinity and filter the water;
- areas reserved for birds (as part of crop protection), village grazing areas and biological fences that would deter the entry of wildlife (including elephants) into the farm zone.

The above systems also host rich biodiversity and provide livelihood opportunities primarily in the form of forest food, fish, wood and non-timber forest products (NTFPs).

Traditional norms and rules have maintained these systems until government took over the management of the Tank cascades. Within this governance framework, farmer organizations have

been asked to help primarily in annual planning for water allocation and maintenance of the tank and irrigation canals. However, the implementation of other systems functions (maintain buffer zones, quality of water) has suffered due to various causes. First is the unclear allocation of responsibility and accountability between national government, local authority and villagers. Second is the acute land shortage which has led to unabated encroachment of buffer areas. Third, acute labour shortage due to off-farm income opportunities also meant that villagers had little time to spare to village level voluntary activities.

The Action Plan will include actions that will help the Government and village in the following:

- Assess and appreciate the state of natural resources use and the legal and social framework that governs their protection and use;
- Based on the assessments, forge agreements to encourage the revival of traditional community rules for protecting forests, soils, water tanks and wildlife adapted to current realities (e.g. high population densities, climate change, etc.). Reinforce traditional rules with formal local policies;
- Negotiate for access to certain portions of forest lands to augment agricultural lands in the form of ecologically sound Agro-forestry and agro-silvi-pasture;
- Provide incentives to encourage enforcement of protection measures such as improving value addition of livelihood from crafts that utilize NTFP (honey, local fiber, medicinal herbs, etc.).

5.4. Enhancing Sustainable, Resilient & Profitable Agriculture, Fisheries and Livestock

The agricultural system associated with the CTVS includes both the traditional systems (traditional varieties, home gardens, *chena* systems, native livestock, etc.) as well as modern crop production systems (improved varieties, inorganic fertilizers and chemicals, etc.). Much of agro biodiversity has been lost, subsequently exposing the system to occasional shocks (pest infestation, dry spells, etc.). Traditional measures to improve soil fertility have given way to chemical inputs. Due to population growth, fallow periods have been drastically reduced in the *chena* cultivation. The decline in livestock populations due to both farm mechanization and shortage of grazing lands also deprived the soils of natural sources of fertilization.

Agriculture in most of CTVS areas is not able to compete effectively in the mainstream agricultural markets. Land shortage and fragmentation, low knowledge of appropriate options, labor shortage, high input costs and post-harvest losses are locally perceived to have greatly reduced the profitability of local agricultural products.

Opportunities exist however. There have been pilot efforts of Government to demonstrate the viability of tapping emerging niche markets for non-traditional agricultural products such as organically produced native products (food, herbal medicine, etc.). These innovations have not yet reached most of villages that support the CTVS. Also, recently local authorities have tried to promote the use of traditional crop varieties through natural farming means as a reaction to observed increases in renal (kidney) ailments in the dry zone areas.

As the Action plan is oriented to the dynamic conservation of agricultural heritage, it will develop and launch extension and related agricultural support systems for the following:

- increase awareness on the nature of the local agricultural heritage and its distinctive agro – ecological features as basis for dynamic conservation;
- assist affected villagers with better access to emerging niche markets for natural/organic agriculture products as incentive for gradual transition to ecologically sound agriculture (e.g. value chain analysis, improved post-harvest handling, value addition/processing and certification etc.);
- enable communities to identify low input, but marketable traditional crops and varieties that can be reintroduced from ex-situ sources (e.g. Plant Genetic Resources Centre) and multiplied and distributed locally;
- make available climate adaptive strategies including those that help address labour shortage and provide crop insurance;
- implement strategies that can reintroduce backyard livestock/dairy production and help improve soil fertility;
- negotiate for community access to certain portions of forest lands to augment agricultural lands by applying ecologically sound agro-forestry and agro-silvi-pasture (this is also discussed under the NRM component).

5.5. Promotion of Eco-Agri-tourism with Cultural Safeguards

The action plan would encourage the development of a community based eco-agri-tourism enterprise in the host community. This fulfills many functions: generate supplemental income source; provide incentive to sustain conservation as well as restore appropriate lost practices; expand the local market for village produce; and attract the youth to remain in the community and contribute to its development. The strategy would depart from the conventional form of nature tourism run that usually rely only on the aesthetic features of the wetland environment of the tank. It will also involve partnership between business and the community.

Tourism enterprise can be planned early as part also of the overall cascade planning as well as cultural mapping activities. However, actual business operations will be started only after the proactive actions for the protection of cultural heritage (previous actions) are well in place. This could be from the 3rd and 4th year up from the start of the implementation of the dynamic conservation action plan. This is to prevent possible over commercialization of cultural heritage if cultural conservation safety nets are not yet formally established and actually practiced by both villagers and other stakeholders. Socio-cultural and environmental impact assessment will also be conducted as part of the approval process for tourism enterprises.

6. UPSCALING TO OTHER SITES THROUGH POLICY DEVELOPMENT, KNOWLEDGESHARING AND COMMUNICATION

Spreading or up scaling the practices developed in the demonstration site will be a function of putting in place enabling policies as well as creative effort to communicate good practices and lessons learned to wider audiences.

6.1. Supporting Policy Development

The Action plan will assist the national government identify and address current policies that enable or constrain stakeholders from establishing a dynamic conservation system in the CTVS areas. Such actions would help ensure that good practices developed on a pilot scale can be replicated in other areas. The term policy here is used generically and would refer not only to conventional national legislation and executive fiats, but also to other forms such implementing guidelines for enforcement of existing policies local ordinances, inter agency memoranda of agreement etc.

A preliminary review of illustrative relevant policies and their effects indicate that they provided immediate benefits for tank-dependent communities. In the long run, however, the same effects have not been sustained. Likewise, there have been unintended effects on the integrity of the heritage system as demographic trends changed (e.g. population increases, migration of labour etc.), while new variables as climate change created new demands on the carrying capacity of the system. Some examples include the following:

- The Paddy land act 1958 involved a change of management of the CTVS from the community to Government. Many of traditional functions such as community natural resources management important to the ecological stability of the system have not been absorbed by either the formal government based management system nor have they been retained as active community obligations;
- The series of agricultural modernization policies starting with the green revolution and sustained by current thrusts has produced unintended effects on heritage agricultural practices. The seed Act of 2002 promoted the free import of seeds but in the process drastically affected agro-biodiversity, including the loss of many important traditional varieties. Farm mechanization has led to the decline in animal raising and as a consequence reduced the natural fertility restoration modes of the system. The Fertilizer subsidy since 1962 has discouraged application of traditional soil fertility management techniques;
- Structural reforms that opened up the economy (since 1978) has encouraged food importation and decreasing demand for local produce. With the decline in agricultural competitiveness, the rural sector suffered from manpower shortage as the younger generation sought off-farm, urban opportunities. Policies towards food security included the subsidies for wheat flour-which in turn decreased the demand for rice, pulses etc. and lowered prices;
- Environmental reforms have led the ban on Chena cultivation (1981). Under controlled management the Chena served an important ecological function for the tank system and provided the farmer requirement of course-grains, pulses, spices and vegetables.

The Action Plan will assist the Government to analyze and prioritize existing policies and programs that need to be further enforced or amended. A tentative list of policy objectives derived from the interdisciplinary workshop and these include the following.

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| <ul style="list-style-type: none"> • Clarify responsibility and reinforce accountability in the planning and control of the system in the ground • Use the watershed at cascade level as a key technical basis for designing physical improvements • Consider establishing the CTVS or portions of it, as special land use zones in local land use planning protocols. This can require adoption of land use practices that ensure ecological buffer zones that protect CTVS • Include CTVS as part of the subject matter in the educational curriculum to build inter-generational appreciation | <ul style="list-style-type: none"> • Support the reintroduction of traditional varieties preferred by communities for nutritional, dietary and economic values and support their multiplication and supply • Enhance community access to adjacent forest land suitable to Agro-forestry to augment the limited agricultural lands • Provide direct support to accelerate farmer transition to low external support agriculture e.g. seed supply, crop insurance, food for work, for community works, etc. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

6.2. Knowledge Management

The action plan aims to monitor and document good practices and lessons learned from the piloting effort. At the same time, lessons from other similar efforts will also be analyzed. Simple information and information products and events will be launched to generate awareness of the issues and good practices and priorities that need to be continually addressed.

The target audience of the above and knowledge products will be communities that have maintained an interest to conserve their areas and express interest to do more, local authorities and science community.

The Action plan will also prepare a compendium of agricultural heritage practices in Sri Lanka in order to also identify areas that may be given recognition and protection for their contribution to agro biodiversity and climate change adaptation, among others.

6.3. Delivery Scheme for the Key Interventions

Given the current economic state of affairs of the heritage, improved agricultural markets and the prospects of eco-agri-tourism may be compelling immediate drivers for dynamic conservation. However, the current practices of community at village level must undergo substantive transition to (less chemically dependent farming) as early as possible in order to be attractive to the niche market. This is definitely not a linear process. Rather it is a highly iterative and “give and take” process. For instance, while “heritage conservation must make a head start to attract the markets, the community will also need to receive early market signals to be able to take off. The availability of relevant

catalytic support services for agriculture, NRM management and market access would hopefully generate this balancing act.

The key strategic interventions described above will be executed in an integrated manner to achieve effective results. Participatory cascade planning and clarification of accountabilities will be the fundamental first step (Box 1a). An important aspect of cascade planning is participatory Cultural mapping (Box 2). This needs to be combined with a discussion of the practical economic prospects as an important early step to motivate in the interest of the community, local authority and other stakeholders (arrow A & B). Actions in physical improvement of the cascade, NRM and agriculture (Box 1b, 3 and 4a and 4b) may then proceed to help the community with the transition to agree upon practices (arrow C). Ecotourism (Box 5) will be undertaken on the later years once the cultural reaffirmation is in midstream and community governance system is strengthened. This will likely be on the 4th to 5th year. This will be part of the safeguards to be established to ensure that the tourism interventions will not negatively affect cultural integrity of the system (i.e. due to extreme commercialization).

6.4. Role of women, youth and other vulnerable sectors

The Action Plan will ensure that women, youth and other vulnerable sectors such as senior citizens and the disabled are able to participate in an informed manner in the various stages of the planning and decision making. These include in the tasks of research and planning, implementation, monitoring and learning. Involving the women will take into careful consideration of existing practices and preferences of both women and men in the distribution of roles relevant to the maintenance of the tank system as well as in the forthcoming tasks to enhance the system under the Dynamic Conservation Plan. New roles will be expected from both women and men under the Action Plan.

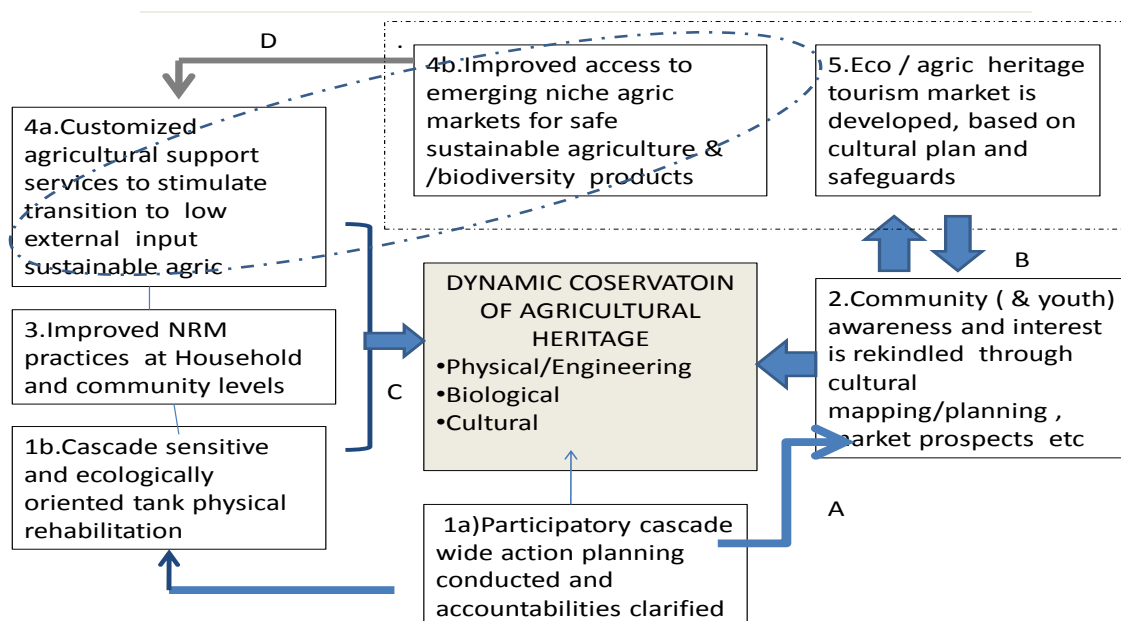


Figure 4. Key Interventions to Stimulate Dynamic Conservation

Some of these new or restored roles will particularly benefit from the leadership of the women. These would include planning for activities to support agro biodiversity, home gardens maintenance, cultural affirmation and education as well as implementation value adding activities to farm operations (processing, crafts and food preparations etc.

The experience of successful good practices in women participation applied so far in other areas will be factored in the design of relevant planning and learning activities.

6.5. Special Government Support

The Government will need to play a very proactive role in the first three years to encourage a head start in the transition process since niche markets while they exist may not materialize overnight. The provision of partial subsidies for the transition may be considered as an immediate form of incentive especially to help farmers adjust to the transition process (e.g. temporary lower yields in the early years of less chemical dependence). This is partly justified because such farmers will actually be helping generate a public good (heritage conservation) while incurring private costs (reduced income) in the process. Partial subsidies may consist of seed support for traditional varieties, crop insurance, post-harvest handling facility and food for work (the latter possibly in case of community NRM works) and other forms of cash transfer especially for the more vulnerable stakeholders.

6.6. Concept of “Happy Village”

During the various multi-sectoral workshops conducted in relation to the preparation of the Initial Dynamic Conservation Action Plan, participants shared the need to create a scenario of a “Happy Village”, which existed in the past in the villages. This happy village is a human settlement characterized by having high social capital which in turn develops the human spirit and a contented community. The settlement lives in harmony with nature and optimally benefits from the sustainable management of natural resources and agriculture.

The happy village concept arises to combine the good things in the past and the good things of present, removing or repelling bad things of both eras. Good things in the past practiced in ancient tank-villages are summarized into Ten Commandments (*daha ana*) to obey in gaining happiness of the individuals as well as the society (Dharmasena, 2009).

Table 1: Ten Commandments (daha ana) practiced in ancient tank-villages

No.	Commandment (in sinhala)	Meaning
1	<i>Diyapaththayam thahanchiya</i>	Commandment to conserve water during drought
2	<i>Niyama kanneta govithen bath</i>	Practice risk evading timely farming
3	<i>Gaha kola satha seepawa – binkare wathurai ayubowa</i>	Use the environment without destroying it
4	<i>Hithe ispasuwata dan pin karannata petipas parane hadapan wadapan</i>	Maintain the balance between material life and spiritual life
5	<i>Akahe wehi katen wev amunu puropan</i>	Make every effort to harvest and store rainwater
6	<i>Ekathu pada nowee hari haman wedak</i>	Work as a team

No.	Commandment (in sinhala)	Meaning
	<i>nokaran</i>	
7	<i>Wee kurahan sambare atu-kotu purawan rale</i>	Store food for future use
8	<i>Tel pani aththan kewum the pangnan</i>	Be self sufficient without external support
9	<i>Kem pahan denagan sanuhare rekagan</i>	Protect the knowledge as an asset.
10	<i>Kavi sindu ragan hithata kawaddapan</i>	Mental relief and healthy environment is the happiness of life

Prof. C.M. Madduma Bandara, one of the foremost scientists who studied both the technical and social character of the CTVS, grew up in CTVS setting. Below he shares his idyllic childhood years in the Village (Madduma Bandara, 2015)

“I grew up as a child in a tank village of the North Central Province of Sri Lanka. In stock of my childhood memories, I recall how I grew up in a contented community with so much fun and frolic. This was despite the natural disasters like the drought, or the spread of malaria and other diseases from time to time. In particular, I remember how the whole village exploded itself into ecstatic levels particularly during the New Year Season. Much of these happy moods arose from community activities, kinship ties, and other village rites and rituals. I have hardly seen this sort of jocund communal behavior in more recent times.”

When one begins to think of happy villages, we are necessarily driven to more philosophical thoughts. I was always inclined to believe that, all development efforts must lead to increasing individual as well as social happiness. Happiness, on the other hand is an elusive notion that can vary among individuals as well as societies. For young people the lure of the towns is irresistible. However for children and the elderly the calm, clean and spacious environment of a village setting is more luring. I begin to contend that children born in tank villages who had so much space to run about in the green tank-beds and the fallowing paddy fields are likely to grow with a more stable psychological base. There had been an eastern tradition where one goes back to one’s familiar native setting that soothes their souls.

Stakeholders who participated in the planning workshops believe that it is possible to bring back elements of the scenario described above by resolutely implementing priority actions under the Action Plan. Prof. MaddumaBandara captures this point of view in his notes:

Here the size and the economy of the village may be critical factors, because unlike in the cities. There are more opportunities for inter-personal contacts and feelings of fellowship. Although we cannot and need not naïvely attempt to recreate the past as it was, I believe that it is possible to plan and design for happier human settlements through infusing some elements and sources of happiness from the past.

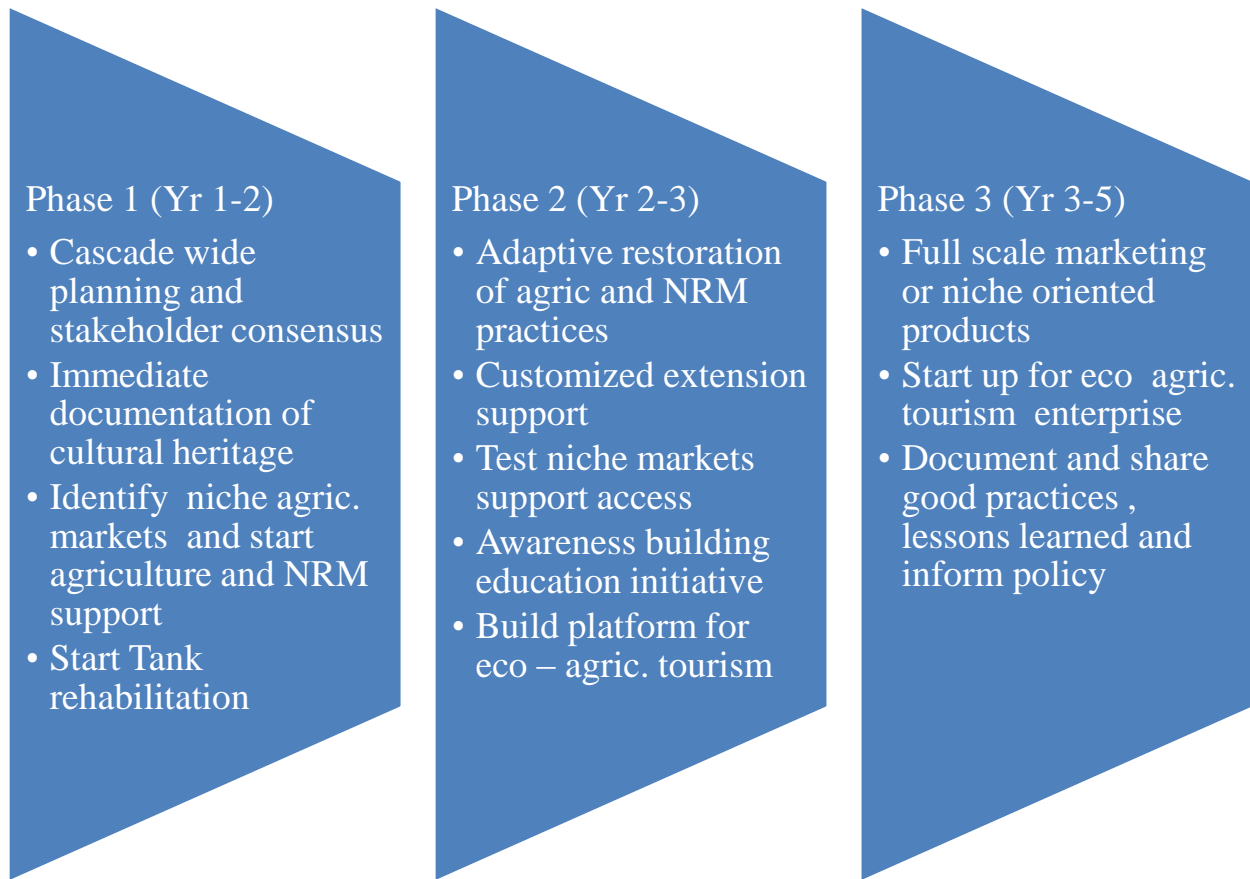


Figure 5. Phasing and illustrative actions under each phase

Table 2: Dynamic Conservation – Range of actions

Strategic Action Area	Key Milestones	Key Institution	Year				
			1	2	3	4	5
1. CASCADE WIDE PLANNING, GOVERNANCE AND REHABILITATION	a. Hydro- ecological assessment of the Palugaswewa cascade and current carrying capacity	Department of Agriculture Department of Agrarian Development					
	b. Stakeholder consensus building on key concerns and strategic directions for the Palugaswewa cascade	Divisional Secretariat. Provincial Council (NCP) Department of Agriculture Department of Agrarian Development					
	c. Develop priority action program including responsibilities of local and national actors as well monitoring system for site	Ministries responsible for Agriculture, Agrarian service, Livestock, inland fisheries Irrigation Tourism, Heritage, & Culture, and relevant line agencies Relevant agencies of Provincial Council (NCP) Divisional Secretariat Village leaderships Farmer Organization					
	d. Launch multimedia information campaign on agreed programs and responsibilities in the site	Ministry of Agriculture Provincial Council Divisional Secretariat					
	e. Conduct cascade-oriented design and implementation of priority civil engineering works in the site	Department of Agrarian Development					
	f. Capacity building of farmer organizations (FOs) on cascade wide and VCTIS management including on water use efficiency	ditto					
	g. Conduct technical dialogue and orientation	Department of Agrarian					

Strategic Action Area	Key Milestones	Key Institution	Year				
			1	2	3	4	5
	on hydro ecology and cascade wide planning for irrigation & extension personnel and incorporate innovations in operating procedures for the site	Development Department of Agriculture					
	h. Review progress, of implementation of cascade wide planning and draw and incorporate learning in operating procedures for the site and nearby cascades as applicable	All relevant agencies					
2.CULTURAL HERITAGE REAFFIRMATION AND EDUCATION	a. Mapping of tangible and intangible cultural resources (cultural mapping) and identify heritage management priorities in the site	Ministry of Agriculture Ministry of Culture					
	b. Document and register priority local knowledge identified by the communities served by the Palugaswewa CTVS	Ministry of Agriculture					
	c. Establish community learning centre and provide support to elderly knowledge holders/bearers for immediate documentation of traditional oral and written knowledge	Ministry of Cultural Affairs					
3. REINFORCING COMMUNITY NATURAL RESOURCES MANAGEMENT	a. Conduct participatory biodiversity assessment and valuation in Palugaswewa and communicate results to end users	Department Forestry, Department of Agriculture Biodiversity secretariat					
	b. Using the results above, establish consensus and action plan for enhancing implementation and sustainability of community NRM practices	Ditto					
	c. Establish consensus on and provide policy /legal and technical support for adoption of	ditto					

Strategic Action Area	Key Milestones	Key Institution	Year					
			1	2	3	4	5	
	sound Agro-forestry and silvi-pastoral systems in suitable portions of forest lands to expand the sustainable production base for food , agriculture and non timber forest products							
	d. Support action research and implement actions that enhance tank waters as viable inland fishery (including water quality restoration and enhancement program)	Department Inland Fisheries						
	e. Launch a local water pollution prevention program (waste water and solid waste)	Central Environment Authority Pradeshiya Sabha						
4. ENHANCING SUSTAINABLE, RESILIENT & PROFITABLE AGRICULTURE FISHERIES AND LIVESTOCK	a. Conduct agro ecosystems analysis to support multi stakeholder consensus for the adoption of priority ecologically sound traditional farming practices that are climate adaptive and market sensitive	Department of Agriculture Provincial Department of Agriculture						
	b. Develop and demonstrate a customized, heritage sensitive, agricultural extension approach for the heritage site to encourage adoption of suitable crop, livestock and fishery management practices identified above	Departments of Agriculture , Livestock and Fisheries R & D institutions						
	c. Re- introduce preferred traditional varieties (participatory provenance trials and support to local seed production) to expand resilience and tap niche markets for the same	Department of Agriculture						
	d. Provide crop insurance and other related special agricultural support services to support the transition from chemical dependent agriculture to ecologically sound	Department of Agriculture						

Strategic Action Area	Key Milestones	Key Institution	Year					
			1	2	3	4	5	
	, heritage sensitive practice							
	e. Identify and establish links with niche markets for produce from proposed GIAHS	OA Networks						
	f. capacity building for value addition including post-harvest handling and processing as well as for internal control systems that support certification for niche markets	Institute of Post-Harvest Technology						
	g. Support the registration and certification of value added products	Ministry of Agriculture						
5.PROMOTION OF ECO-AGRITOURISM WITH CULTURAL SAFEGUARDS	a. Prepare multi-sectoral eco-agri-tourism plan and action program for promoting the “Happy Village “	Ministry of Tourism with relevant agencies						
	b. Conduct capacity building for key players in co managed tourism program-- local enterprises (tour guides, home stays, catering, etc.)	ditto						
	c. Launch a Marketing and communication program for sustainable eco agri-tourism in the site	ditto						
	d. Construct basic community infrastructure support (trails, pathways etc)	ditto						
	e. Provide technical support and facilitate business oriented incentives for home stays and related facilities for eco agri-tourism in the site	ditto						
	f. Promote the consumption of organic products from the local agriculture as part of healthy food education campaign and health sectors covering the site	Department of Agriculture						

7. PROGRAM MANAGEMENT

Implementation of specific activities under the Action Plan will be the responsibility of the key Government agencies. However, the overall planning, prioritization, coordination, monitoring and learning will be done by multi-sectoral agencies at national, district and divisional levels. The key agencies to be involved at each level would be the Ministry of Agriculture, Ministry of Irrigation, Ministry of Culture, Ministry of Tourism and Ministry of Environment. Under the Ministry of Agriculture, Department of Agriculture will play a very key role together with the Departments of Agrarian Development, Animal production and Fisheries. At the local levels, the District and Divisional Secretaries will serve as key members together with representatives of Farmers Associations, civil society, business sectors and the science community.

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