



## Darwin Initiative: Final Report

To be completed with reference to the “Writing a Darwin/IWT Report” Information Note: (<https://www.darwininitiative.org.uk/resources-for-projects/reporting-forms-change-request-forms-and-terms-and-conditions/>).

It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

### Darwin Project Information

Project reference	24-028
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Country(ies)	Cambodia
Lead organisation	Sansom Mlup Prey
Partner institution(s)	CIRAD
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Start/end dates of project	1 April 2017 – 31 March 2021
Project leader’s name	Nicholas Spencer, Socheat Keo
Project website/blog/social media	<a href="https://sansommluprey.wixsite.com/smpcambodia">https://sansommluprey.wixsite.com/smpcambodia</a> <a href="https://www.facebook.com/sansommluprey/">https://www.facebook.com/sansommluprey/</a> <a href="http://ibisrice.com/">http://ibisrice.com/</a> <a href="https://www.facebook.com/lbisRice/">https://www.facebook.com/lbisRice/</a>
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## 1 Project Summary

**Critically threatened biodiversity and climate vulnerable livelihoods:** The forests and wetlands of northern Cambodia are of exceptional importance for biodiversity conservation. They support more than 50 species of global conservation concern, including six critically endangered birds, among them the Giant and White-shouldered Ibises. Taken together, three protected areas located in the Northern Central Corridor (Chhep Wildlife Sanctuary, Kulen Promtep Wildlife Sanctuary and Prey Preah Roka Wildlife Sanctuary) (*Annex 7, Item 1*) cover more than 400,000 hectares of forest and wetland that also support more than 20,000 people. Those living in this region are amongst the very poorest in Cambodia and depend on the forest and land resources of the parks for their livelihoods.

Although Sansom Mlup Prey’s (SMP) Ibis Rice project has been successful, climate change-induced droughts present a challenge to the wildlife-friendly farming that forms the link between improved incomes and biodiversity conservation. The wildlife friendly farmers are located in an area considered extremely vulnerable to climate change-induced drought. The current negative impacts of climate change and decreasing trend of productivity call for pronounced holistic changes in agricultural practices. It is widely accepted that organic agricultural practices are an effective strategy for mitigating climate change and building robust soils that are better adapted to extreme weather conditions associated with climate change in resource-limited regions. Soil, water conservation and carbon management, and the use of a wide vegetal biodiversity, are key to adapting farming systems to climate change. The project will address this by implementing organic agricultural practices and soil conservation techniques (not used at the time of proposal writing) to ensure land fertility, sustainable production, secure livelihoods and food security.

## 2 Project Partnerships

The core collaborations started from Year 1 and continued all along the project until the end of Year 4. To that extent, they all participated to the writing of annual reports to DARWIN as well as this Final report, and prepared evidences that are submitted along this report. The only collaboration which ended before the plan, is the partnership with the CIRAD which was not continued during Year 4. The reason, presented to DARWIN during the Request for Change submitted in December 2020 and officially approved, was that all activities in the field were paused during the pre-planting season (between March and May 20) because of COVID-19, and that SMP requested the possibility to use the budgeted amount to continue by itself the implementation of activities previously undertaken by CIRAD.

Along the 3 first years of implementation, CIRAD supported SMP on technical consultation, conducting trials to sustain rice productivity and income generation to participating IBIS farmers through crop diversification of rice farming systems using cover crops after wet season rice as well as conducting trials to identify different drought-resilient rice varieties. The two first years, capacity building in farm management and seed production were also provided to farmers, as well as research studies were conducted on assessing changes in soil functions between contrasted land uses, and specifically, impacts of conservation agricultural practices.

*(Annex 7, item 17)*

Collaboration between SMP, WCS and Provincial Departments of Environment (PDoE) have continued to be key through all management and decision making processes in the Protected Area. This provincial level collaboration focussing on the compliance process which engages all stakeholders in monitoring and implementation of incentives is becoming the example for the national level Ministry of Environment (MoE) and the Department for local livelihoods. The MoE has undertaken a process by which the historical Participatory Land Use Planning (PLUP) information and habitat and biodiversity data produced by WCS to 'zone' the wildlife sanctuary into (a) community zone (b) sustainable-use zone (c) conservation zone (d) core-zone. The compliance manual developed by SMP and WCS over the course of this project is being seen as the primary management model and decision making tool for community zone and sustainable use zone compliance nationally. Finally, over the course of the project, WCS has continuously provided data on land use and deforestation rates, as well as data on endangered bird species in the Protected Areas.

*(Annex 7, items 19 to 21, 25, 27, 29 and 30)*

The partnership with the International Initiative for Impact Evaluation (3ie) and the post-doc researcher Henry Travers, has resulted in a full impact evaluation of "Measuring impacts of conservation interventions on human well-being and the environment in Northern Cambodia" with the IBIS rice incentives being a key part of the evaluation. These results were shared at a workshop conducted by the lead researcher and was attended by Senior MoE management and representatives from the wider conservation community. This has resulted in SMP being invited to new wildlife sanctuaries to initiate the IBIS rice project with other organisations and MoE such as Conservation International in the Prey Lang Wildlife Sanctuary and Virecheay Wildlife Sanctuary.

*(Annex 7, items 35 and 36)*

USAID Greening Prey Lang (GPL) <https://usaidgreeningpreylang.exposure.co/> is a 5-year activity funded by the United States Agency for International Development that promotes resilient, low-emission development and inclusive, sustainable management of the Prey Lang Extended Landscape in north-central Cambodia which covers this project area. GPL is working with WCS and MoE to take forward the zoning and supporting lasting impacts of the management processes. There is a focus in this project on the development and expansion of sustainable financing mechanisms such as IBIS rice as well as the development of a feasibility of a REDD+ project in Preah Vihear to which the IBIS rice mode would be central. GPL has also since July 2019 co-financed the activities of this project in Preah Vihear as well as supported expansion into Prey Lang. It is expected that in the last 2 years of this GPL project SMP will be funded to look at diversification of agricultural products and building the capacity of farmer representatives further, including in financial literacy.

*(Annex 7, item 22)*

IRCC continues to grow as a company and deepen its support for farmers, with an average price which reached 60% above market price. IRCC has expanded its markets to UK, Singapore, Hong Kong, USA, France, Germany, Canada with many new products in the pipeline. Demand for IBIS Rice and the shift to exporting under its own brand through multiple products means IRCC is now eyeing an investment for a rice mill, farmer school, noodle and snack factories to serve as an employment and inspiration hub to communities in the landscape. IRCC is now in a position to work with communities to commercialise any favoured rice variety or any other agricultural product that can be produced under both the organic and wildlife-friendly compliance. IRCC also is providing seed and trailing certified organic fertilizer at 0% credit to compliant households.

IBIS Rice is also planning a product launch in the UK market via <https://www.planetorganic.com/> in September 2021 with celebrity conservationist, Chris Pakham lined up as brand ambassador.

*(Annex 7, items 41 and 43)*

### 3 Project Achievements

#### 3.1 Outputs

**Output 1.** *Village Marketing Networks (VMN) have the capacity to manage the expansion of Ibis Rice compliance, organic internal controls and production independently.*

Key to the achievement of a sustainable, affordable organic certification system is that the VMN Committees are able to manage the internal control system (ICS) independently. The capacity-building role of SMP has grown more challenging as the work of the VMN Committees became more complex with the introduction of organic certification. The first year, a WCS Community engagement advisor, who has been working with IBIS Rice-growing communities since the inception of the program, visited the participating villages to assess the VMN capacity and provide recommendations on SMP's capacity building approach. He highlighted the importance and the need to strengthen the VMNs' capacity to work with participating villages and be able to communicate to their members (IBIS members in their villages) a deep understanding of the IBIS Rice program compliance, ICS and other relevant procedures, such as participatory land use planning.

In 2018, a Compliance & Data Manager was recruited within SMP to manage the overall ICS and compliance system (Wildlife-Friendly an organic), which became really more complicated after the introduction of organic standards. In parallel, a Data Officer was also recruited to gather and treat data related to compliance in the 11 target villages. At the village level, VMN Committees were established (one per village), with its members elected by the IBIS farmers for 5 years. At the end of Year 4, there were 28 Committees members (including 11 women) who were elected to represent the VMN and IBIS Rice farmers' interests for 5 years (In Dangphlet village, 5 CPA members were selected as VMN Committees members). Every year, SMP team has trained and coached the VMN Committees in farm management and record keeping via the completion of the Farmer Diaries, which is gathering all necessary information related to fields' management and organic certification. This aspect has though been one of the most difficult to implement and monitor, as age and illiteracy can present issues for numerous IBIS members and some of the VMN Committees members. *(Activity 1.1, Annex 7, items 4 and 5).*

Finally, the ICS could be implemented based on the mapping of IBIS members lands, with collection of UTM data. In total, 2,121.6 ha of lands have been mapped and included in the ICS system to monitor compliance with Wildlife-Friendly regulations, notably regarding illegal land expansion. In this task, SMP teams were supported by VMNs and local authorities, to ensure the accuracy of data and ownership and sustainability of the process *(Annex 7, items 8 and 13).*

A rigorous three phases training process in ICS inspection (with 3 levels of capacity: shadow/ witness/ solo) was then introduced to ensure that VMN Committees Members are in full capacity of conducting the entire ICS process. In 2020 (last ICS conducted until its end), 6 VMN Committees members were able to conduct ICS inspections on their own ("solo inspection"); 15 VMN Committees Members were able to conduct ICS as "witness inspector"; and 10 could conduct ICS as "shadow inspectors. SMP estimates that in 2021, 8 VMN Committees members will be able to conduct solo inspections, and 20 other will conduct shadow inspections. In total, over the length of the project, 26 inspection reports were established by VMN ICS inspectors,

and could be used as a base for assessing IBIS farmers' compliance with the project internal rules (*Output 1.1, Annex 7, item 9*).

In 2021, following the project annual strategy meeting, it was decided to give a greater importance in strengthening the capacities of VMN Committees, to support the long-term impacts of IBIS Rice and to ensure the local ownership of biodiversity protection and organic production concepts. To support the recruitment of new farmers and specifically previous non-compliant farmers to re-join, SMP and IRCC decided to recruit Sale agents within voluntary VMNs and long-term involved IBIS members, who would be paid based on the number of households (re-)joining the project. This method proved to be efficient, and was also a big support to SMP teams, as the COVID-19 situation made it difficult for SMP to access some villages. Large banners were also displayed at the village level in the collective buildings to promote more widely the project rules, negative impacts of the use of chemicals and the benefits of IBIS Rice project (*Annex 7, item 44*).

***Output 2. Ibis Rice farmers have tested and adopted drought-resilient agricultural practices and complementary soil conservation techniques along with levelling and water efficiency trials.***

At the really beginning of the project, SMP piloted diversified cropping systems, especially with two strains of Jasmine rice developed by the Cambodian Agricultural Research and Development Institute (CARDI), and previously identified by SMP for a potential scale-up in context of IBIS Rice project. The adoption of Phka Rumdoul strain was a large success, with the totality of IBIS Rice farmers growing this fragrant jasmine rice variety already from Year 1 (at the end of this project, 574 IBIS farmers were growing Phka Rumdoul, on a total of 1,052.88 ha of lands) (*Output 2.1, Annex 7, item 2*). This strain presents many advantages going from taste, high consistency in its purity as well as in harvest, and resistance to drought. DSMK strain was also piloted, but because of its late ripening stage, was more difficult to grow. However, SMP and IRCC are still looking for other sites to grow as DSMK also presents many qualities and remains easily marketable. In order to develop the IBIS Rice seed-stock for organic drought-resilient seeds, Each year, between 11 and 16 seed producers were growing these high-quality strains' seeds each year, which were then sold back to IRCC and distributed back to IBIS farmers for the next season. In total, 155,086g of seeds were purchased by IRCC from the farmers over the 4 years (Phka Rumdoul: 123,792kg; DSMK: 3,019kg; HNN: 28,275kg). By the end of Year 2, 1,007.85 ha were already under cultivation using stress tolerant rice seeds produced during trials. (*Activity 2.2, Annex 7, item 18*).

SMP's partner, CIRAD started the assessment of other drought-resilient jasmine rice varieties during Years 2 and 3. The assessment was conducted with a total of 38 rice varieties that belong to 4 groups, with the main objective to assess their yield, adaptability, cycle, grain quality and resistance to drought. The 4 groups were as following: fragrant rice (8 varieties), waxy rice (14 varieties), coloured rice (9 varieties), and white aerobic rice (7 varieties). Furthermore, 4 varieties of sticky, coloured and fragrant rice cultivars were identified by CIRAD during Y2, and then selected to be cultivated under 4 plots (totalling 90 ha) during Year 3. Farmers of Dang Phlet, Kampenh, and Thmatboey villages were involved in the production with the aims to empower farmers into rice seed production, diversify rice cultivars, breaking pests/diseases cycle, and improve the adaptability to climate variability and change. (*Activity 2.3, Annex 7, item 17*).

Finally, the HNN variety, a waxy rice (sticky rice), previously identified for its high quality, a large adaptability and higher productivity than Phka Rumdoul, was selected for scale-up. In Year 3, 10 households (on a total area of 8.62 ha) were selected to conduct a paddy production trial and in Year 4, 26 households sold back a total of 17,806kg of seeds to IRCC. (*Activity 2.2, Annex 7, item 18*).

Complementary to the adoption of new drought-resistant rice varieties, soil conservation techniques were trialled and developed on the fields of voluntary IBIS farmers, in order to improve their resilience to climate change and facilitate the conversion to organic production. On the first year, CIRAD and SMP went to assess local soil conditions, rice health and typography as well as to consult IBIS farmers on their agronomy practices. Then, a first trial was conducted with 12 voluntary IBIS farmers in applying 12 new rotational crop species to apply after wet season rice. The species were selected following two criteria: (1) Those used primarily for soil improvement, biomass production and fodder for livestock; and (2) crops that improve the soil and have the potential to become secondary or alternative cash-crops to rice. The trials continued over the

years with the same fields (even though, some of them found non-compliant, had to be removed from the sample) to pursue the identification of the species best adapted to the local conditions. At the end of the project, Sunhemp, Cowpea and *Stylosanthes guianensis* species, were found the best adapted and scaled-up. These trials appeared to be successful, even though SMP and CIRAD faced the difficulty of drought, fire (natural or human-caused), and cattle roaming which, depending on years, destroyed a certain percentage of the crops. (*Activity 2.2, Annex 7, items 16 and 17*).

Other soil techniques were promoted by SMP with demonstration sites established: demonstration sites of land levelling were established in 2020 (and pursued in 2021), on the fields of 4 IBIS farmers, on a total of 4.81 ha of lands. This technique is commonly understood to improve water efficiency and increase yield significantly, without using chemical inputs. The demonstrations were a success, with an average increase in yields/ha of 53.75%. Especially, SMP teams and IBIS farmers could notice some benefits in the growing phase, such as: better water coverage in the field, improved crop establishment, weeds and insects reduction. Fields visits were organized for IBIS farmers from other target villages, as well as SMP partners. (*Activity 2.4 and 2.5, Annex 7, item 15*).

Other climate-smart practices covered: water harvesting, which demonstrate best practices and most suitable moments to collect water in order to have a more efficient and sustainable use for the crops development; and compost production. Beginning of 2021, 12 IBIS households from Thmatboey village participated to the production and establishment of a pilot compost pile following organic production standards. Three ponds were also excavated near IBIS farmers' fields to increase the availability of water during the small Dry season of the Rainy season, which has proved to be the cause of small droughts in the establishment phase and causing damages to the fields. The locations of these ponds were also selected to benefit the local biodiversity, and especially the breeding sites of endangered birds. These techniques were often established in the same fields of seed production to facilitate the observation of impacts and maintain a high-quality seed stock.

Finally, a Master study was conducted in context of the project, conducted by a Master student from the Royal University of Phnom Penh, with specific guidance from SMP and CIRAD, on soil ecosystem services, comparing different land uses and/or cropping systems. Some of this study findings were integrated in a scientific article, written by a consortium of researchers and published in November 2019. (*Annex 7, item 14*).

### ***Output 3. Critically endangered species populations increase as a result of improved protection around Ibis Rice villages***

Our partner WCS had a strong emphasis on creation and capacity building of CPA management committees. The Protected Area Law (2008) provides a framework for recognized communities within MoE protected areas to legally develop, designate and co-manage community protected areas (CPAs) for a period of 15 years. In this context, WCS has supported 20 CPAs in Kuleng Promtep Wildlife Sanctuary-Preah Vihear section, Phnom Tbeng National Heritage Park (PTNHP), Chhaep Wildlife Sanctuary (CWS), and Preah Roka Wildlife Sanctuary (PRWS).

Over the length of the project, 1,389 CPA patrols and 191 Joint patrols (in cooperation with local authorities) were conducted across KPWS and CWS-PRWS. These results show a great increase in joint patrols passing from 2 in Year 3 to 191 in Year 4, demonstrating an increased involvement from the Provincial Department of Environment in compliance monitoring across the Northern Plains. (*Activity 3.2, Annex 7, item 19*).

Community wildlife rangers conducted awareness raising and biodiversity SMART patrols in important breeding habitat areas for globally threatened waterbirds in the Northern Plains landscape. Among the Grant period, a total of 769 nests of globally threatened birds were protected by birds nest protectors. From these 769 nests, 1,308 chicks successfully fledged. On year 4, 31 nests of Critically endangered birds' nests were protected (Giant ibis: 20 nests and 24 chicks fledging / White-shouldered Ibis: 8 nests and 12 chicks fledging / Red-headed vultures: 3 nests and 2 chicks fledging), which represents an increase of 7% compared to the baseline (*Output 3.2, Annex 7, items 21 and 25*).

WCS monitors' forest loss and land use change across the Northern Plains landscapes where the Ibis Rice project works on a monthly basis using Landsat imagery and creates annual forest

cover maps based on a standardised, qualitative forest monitoring system. Areas of suspected land use change are pinpointed on a map and provided to the protected area manager to plan a response. Community wildlife rangers and ministry of environment patrol teams staff triangulate these data during regular patrols and log any land clearance in the Spatial Monitoring And Reporting Tool (SMART). These data were then cross-checked by the WCS and SMP Compliance unit, as well as the 11 VMN Committees during the Key persons compliance meetings, held 2 times per year in the target villages in presence of the local authorities and the potential perpetrators. On Year 3, 175 IBIS households have been identified as perpetrators of non-compliance incidents following IBIS Rice compliance rules (54 for wildlife-friendly non-compliance; 86 for use of prohibited substances; 35 for uncomplete ICS data/voluntary withdrawal from the project) and could not sell to IRCC (*Annex 7, item 24*).

In 2020, 640 hectares have been deforested around the eleven targeted villages, which is an increase, compared to the beginning of the project but can also be explained by the major increase of deforestation happening in KPWS from 2018. Based on the annual assessment made by WCS, in total, from 2017 to 2021, a total of 1,703 hectares have been deforested around the eleven targeted villages, against a total of 17,698 ha in the 3 protected areas of KPWS, CWS and PRWS. In addition to the monitoring of WCS and PDoE teams, a rapid assessment was conducted by SMP's partner GPL on the forest cover changes on 27 CPAs in Preah Vihear Landscape from 2018 and 2020. The results showed that the forest cover loss in the CPAs of the target villages between 2019 and 2020, was of 0.17% compared to 1.36% in all the CPAs of Preah Vihear Landscape. (*Activity 3.2, Annex 7, items 20, 22 and 23*).

Furthermore, the impact evaluation which was conducted in PES in Northern Plains, has demonstrated, that although deforestation rates were not found to be lower in villages in which the IBIS Rice programme was implemented if using the Global Forest Change (except for the villages with the highest level of participation and the longest period of implementation), the randomised control trial (RCT) found that households participating in the programme were 4 times less likely to clear forest than those not joining. (*Annex 7, item 35*).

***Output 4. Community members living within the target protected areas experience reduced poverty and increased income as a result of Ibis Rice***

In 2019, SMP expanded the IBIS scheme to 2 new villages, with the current villages participating to the program reaching now 11 villages from KPWS, CWS and PPRWS, where functioning VMNs have been established in all villages (11 VMNs, managed by 28 VMNs Committees members - including 11 women). At the moment of writing this report, 574 IBIS households have registered as IBIS members, and will benefit from SMP in receiving high-quality seeds, trainings in IBIS Rice rules compliance system (both in conservation and organic production practices), in soil conservation techniques, seeds quality checking and production. If they are found compliant after a long process of compliance monitoring, implying SMP and its partners, as well as local authorities (CPA, Villages and Communes chiefs, PDoE), they will be able to sell their paddy and seeds to IRCC, with a premium of 60% above the market price. In addition to the price premium, farmers benefit from the stability of the international demand for organic rice, with prices not following the erratic trends of the regional market. In Year 4, 373 IBIS households sold a total of 866 tons. (*Output 4.5, Annex 7, item 33*).

In addition to the sale premium, IBIS target villages receive a dividend from their participation in the program, based on the quantity of paddy and seeds sold by IBIS members, as follows: IBIS members receive between KHR 35 and KHR 50/kg sold (depending on their organic conversion status), VMN Committees receive KHR 10/kg sold by IBIS members from their village, and Villages development funds receive KHR 5/kg. In Year 4, \$9,621.75 (KHR 38,487,000) were distributed among the 11 villages, based on their sales from the previous year (*Output 4.5, Annex 7, item 28*).

Indeed, the population of these villages (2,753 families at end of Year 4) who are not officially participating as registered IBIS members, are also benefiting indirectly from the project via several benefits: better understanding of land-use plans and Protected Areas management regulations, effects of negative impacts from chemical inputs on the soil and farmers' health, improvement from the soil via the number of IBIS members participating to the project (by implementing improved agronomy techniques, and by following organic standards), high-quality

organic rice seeds in the villages, infrastructures constructed/repared with the Dividends received by the Villages development funds (wells, roads, schools, pagodas, ...). (*Output 4.5*)

Participatory land-use planning (PLUP) forms the basis for the conservation agreements that Ibis Rice farmers sign up, and ensures a long-term resources management from local communities, decided by a common consultation. Indeed, consultation meeting on planning were regularly conducted by WCS, in all target villages along the project. In 2018, village level awareness raising and PA zoning consultations were completed in 28 villages of KPWS, with participation from village representatives, commune council members, district and provincial representatives. On this occasion, the principles of the four different management zones were explained and the proposed zoning boundary maps were presented by the working group members and endorsed by all participants. In 2020, KPWS-PVH zoning was approved by the Provincial Governor and the Minister of Environment. However, in order to get the sub-decree from the Prime Minister, the working group must complete the remaining zoning parts in Siem Reap and Oddor Meanchey provinces in the coming months. Furthermore, the National working group on protected areas zoning and demarcation was established for Preah Vihear province by the Minister of Environment. With this decision, the provincial administration can now process to create a provincial sub-working group to support zoning and demarcation for all protected areas in Preah Vihear province.

Regarding CWS and PPRWS, between April and September 2019, internal meetings were held to draft a protocol on resource use mapping and data collection methods. After a consultation meeting with all key stakeholders, the working group could successfully identify sacred areas, NTFP areas, paddy fields and wildlife areas. In addition, field verification was organized to double check on the ground what have been discussed, actively involving the citizens.

*(Activities 4.3 and 4.5, Annex 7, items 26, 27, 30 to 33)*

**Output 5.** *Impacts of Ibis Rice program on threatened bird populations, habitat trends and human livelihoods are monitored, recorded and disseminated to a wide audience, including relevant national and regional PES policy-makers.*

All along the project, impacts of IBIS Rice program have been monitored and disseminated to a wide audience.

*For impacts on threatened bird populations and deforestation, please refer to the Output 3. For impacts on habitat trends and human livelihoods, please refer to the Output 4.*

During all the project, presentations on IBIS Rice program impacts were made during 25 workshops/seminars, to partners, donors, representatives from the Cambodian government. In 2019, a workshop was especially held in Phnom Penh to present the results of a nine-year evaluation of the impacts of conservation interventions on human well-being and forest clearance in KPWS and CWS.

*Please, see 4.3 Project support to poverty alleviation.*

In Year 4, a lot of events were organized to widen the visibility of IBIS Rice program among the Cambodian authorities. On June 9<sup>th</sup> and 10<sup>th</sup> 2020, a field visit was organized with the Secretary of State and Spokesman of the Ministry of Environment (MoE) to the IBIS target villages in Preah Vihear province. At this occasion, some Cambodian journalists published articles and produced videos which helped a lot to widen the visibility on the program impacts among the local community. (*Annex 7, item 40*)

On September 20<sup>th</sup>, WCS organized a meeting on deforestation issues in Prey Veng village with partners involved in biodiversity conversation and the Provincial Governor of Preah Vihear. Finally, on December 20<sup>th</sup>, SMP was pleased to welcome His Excellency Say Samal, the Cambodian Minister of Environment, for a tour and ribbon cutting ceremony at the IBIS Rice warehouse in Phnom Penh. At this occasion, SMP, IRCC and WCS teams could present and discuss the IBIS Rice program activities and impacts in the Protected Areas of Cambodia. SMP could also participate to workshops organized by partners and donors, and had the chance to welcome the British Ambassador, on field visit to IBIS Rice project beginning of June 2020, in context of this DARWIN Initiative Grant. (*Annex 7, items 38 and 39*)

Since the beginning of the project, specific attention has been given to build the communication of SMP to disseminate more widely its activities and achievements. A Communication &



Development Coordinator was recruited in 2020, who focused on structuring SMP Facebook account (which counts now 789 followers) and website (which was before related to IRCC media). In total, 32 Facebook posts were published on DARWIN Initiative. Specifically, a DARWIN mini-campaign was launched from November 2020 to March 2021, to widen the visibility of the project, and reached a total of 3,550 people and received 292 Likes, Comments & Shares. (*Annex 7, item 42*)

Along the length of the project, 2 peer-reviewed were published, 1 Master research was conducted from a student of RUPP. During 4 years, the project has benefited from a large press coverage, nationally and internationally. Multiple videos were produced as well by IRCC, including 4 cycle of rice videos, 1 explainer video, 3 mini-explainer videos were produced and released on social media. (*Annex 7, items 37, 41 and 43*)

## **3.2 Outcome**

By the end of this 4 years project, we consider that good progress has been made towards the outcome.

In Year 4, 574 households were registered with the project and were directly benefiting from trainings/meetings in biodiversity conservation rules, climate-smart agriculture trainings, demonstrations, provision of high-quality seeds, and significant income generation from selling their paddy to IRCC, if found compliant with the project rules. That represents an increase of almost 200% from the baseline of 291 households. As IBIS members are leaving, joining for the first time or re-joining the program every year, we could also estimate to 740 households the number of direct beneficiaries from the project, which represent the number of IBIS members registered and found compliant with the project over the 4 years. Furthermore, the population of the 11 target villages (2,753 families at end of Year 4) who are not participating officially as registered IBIS members, are also benefiting indirectly from the project via several benefits: better understanding of land-use plans and Protected Areas management regulations, effects of negative impacts from chemical inputs on the soil and farmers' health, improvement from the soil via the number of IBIS members participating to the project (by implementing improved agronomy techniques, and by following organic standards), high-quality organic rice seeds in the villages, infrastructures constructed/repared with the dividends received by the Villages development funds (wells, roads, schools, pagodas, ...).

The collection of data on the lands of registered IBIS households/members and the constant work from SMP and WCS on zoning, patrolling and implementing Participatory Land Use Management Plan (PLUP) in KPWS, CWS and PRWS, have enabled the assessment of IBIS households with biodiversity regulations. Even though it was difficult to compare the deforestation rates between the surrounding of villages and the wider Protected areas, the RCT conducted in the context of the impact evaluation, showed that households participating in the programme were significantly less likely to clear the forest. Furthermore, a rapid assessment from GPL showed that the forest cover loss of the CPAs of the project 11 target villages was of 0.17%, between 2019 and 2020, compared to 1.36% in all the CPAs of Preah Vihear Landscape. Among the 4 years, a total of 769 nests of globally threatened birds were protected and in Y4, 31 nests of Critically endangered birds' nests were protected, which represents an increase of 7% against the baseline.

All IBIS households could participate in climate-smart agriculture trainings and demonstrations/or field visits, organized by SMP and its partner CIRAD the 3 first years, which proved to be efficient in improving the soil quality, the establishment of crops, and therefore the paddy quality and purity. Different drought-resilient strains have been identified and scaled-up, providing a high-quality seeds stock for all farmers in the target villages. Overall, SMP has now a large range of rice cultivars from fragrant, waxy, coloured to aerobic rice. This is an advantage bringing additional options to farmers (diversify rice cultivars, breaking pests/diseases cycle, adaptability to climate change) and to consumers. Furthermore, farmers capacities in rice seed production have been strengthened.

Besides these long-term improvements in soil quality and food security, the impact evaluation conducted by 3ie has shown that: participating in Ibis Rice was estimated to increase household economic status by 0.34 (increase in poverty alleviation compared with the baseline data). This



was approximately equivalent to the estimated effect size of owning a mini-tractor, which is known to have a transformational impact on household productive capacity (*on the results of the impact evaluation, please refer to part 6. Project support to Poverty alleviation*).

### 3.3 Monitoring of assumptions

**Outcome assumption:** By developing and trialling a comprehensive climate smart agricultural system, including more stress tolerant varieties and associated soil conservation techniques, and converting to strict regulation of organic internal standards production, the Ibis Rice scheme has continued to grow in size and impact. By passing from 291 households registered with the project from Y1, to 574 at the end of Y4, IBIS Rice project almost doubled the number of its direct participants, and a total of 2,707 tons of certified wildlife-friendly and organic paddy was bought from IRCC to IBIS farmers over the length of the project. Furthermore, 2,753 families benefited indirectly from different aspects of the project implemented in their villages.

**Output 1 assumption:** Building the capacity of VMNs to manage organic compliance independently is certainly a challenge. The goal was that VMN could be capable of becoming inspectors. From Y1 to Y4, SMP continuously trained them in IBIS Rice project rules and how to apply them, record keeping on farm management, how to conduct ICS. VMN Committees members were also always involved in all activities implemented by SMP, and they became more confident in assisting the IBIS households from their villages in complying with the project's compliance system, supporting the paddy production and sale. In 2021, SMP estimates that 8 VMN Committees members will be able to conduct solo inspections, and 20 other will conduct shadow inspections.

**Output 2 assumption :** This assumption has hold true. Already since Y1, the totality of IBIS members was growing drought-resilient seeds and along the project, between 11 and 16 farmers produced high-quality strains' seeds each year, which were then sold back to IRCC (for a total of 155,086g of seeds among the 4 years) and distributed back to IBIS farmers for the next season. SMP, with help of its technical partner CIRAD, identified stress-tolerant rice species, that were scaled-up (especially, the HNN variety). Different soil conservation techniques were trialled on the fields of voluntary IBIS farmers, trainings and fields visits were organized.

**Output 3 assumption:** Even though it was complicated to assess and compare the deforestation rates around the villages against the wider Protected areas, based on the results of the impact evaluation conducted by 3ie, this assumption has been proven to be true. Overall, the results showed that among the 3 PES interventions evaluated, participation in the IBIS Rice intervention was found to be positively associated with increased economic status. Moreover, the RCT showed that households participating in the programme were significantly less likely to clear forest. WCS and Government Park rangers have continued to enforce the Cambodian laws relevant to this project, and SMP continued to remove any IBIS members found guilty of illegal activities in the PAs.

**Output 4 assumption :** This assumption still holds true, organic certification has opened up new markets for IBIS Rice farmers, and IRCC has a waiting list of international food brands awaiting supply. Indeed, as we see selling prices continuing to increase, premium to farmers also increased accordingly.

**Output 5 assumption :** This assumption still holds true. Research permits have been delivered from the authorities, notably for all households' surveys conducted for the impact evaluation. SMP and its partner WCS work since a long time in the two protected areas of KPWS and CWS. In 2020, SMP has successfully signed a MoU with the Ministry of Environment, which will support the sustainability of its actions. On December 20<sup>th</sup> 2020, SMP was pleased to welcome His Excellency Say Samal, the Cambodian Minister of Environment, for a tour and ribbon cutting ceremony at the IBIS Rice warehouse in Phnom Penh, where teams could discuss and present the NGO projects and activities in the Cambodian Protected Areas.

### **3.4 Impact: achievement of positive impact on biodiversity and poverty alleviation**

The project has contributed to a higher impact of biodiversity conservation by developing, testing and implementing new models for conservation and development that when widely adopted will result in broad behaviour change in Cambodia and beyond. By incentivising behaviour change in communities that results in conservation and improved protected area (PA) management and integrity, while also creating associated increases in livelihoods, social adaptive capacity and empowerment, the project is demonstrating a new model that is broadly applicable. This unique 'triple bottom line' for a conservation intervention is being acknowledged by the wide recognition the project is receiving (see sections 5 and 7 below) particularly by decision-makers (e.g. Cambodian Minister of Environment and Office of Council of Ministers) who are in a position to ensure this approach is rolled out more broadly across the PA system in Cambodia. During the length of the project, the IBIS Rice model was duplicated to 5 other Protected Areas in Cambodia, reaching more than 1,500 households registered with the program in the country.

The impact evaluation from which benefited the IBIS Rice program, proved that between 2008 and 2017, the households inside PAs increased their wellbeing, calculated through a survey on basic necessary score, annual rice harvest and food security, at a better rate than paired control villages outside the PAs. Among the 3 PES evaluated through this study, participating in Ibis Rice was proven to be the most likely to increase household economic status, which was compared to having a family member in full-time employment or owning a mini-tractor.

Even though, deforestation has continued around the target villages, it was established that illegal clearance remained less important in IBIS Rice villages when compared with the deforestation happening in the wider landscape, which has increased significantly from 2018, in the target PAs. Regarding the impacts on behaviours towards conservation of biodiversity, the evaluation showed that villages where the IBIS Rice was implemented had significantly lower rates of forest loss during years, correlated with the length of implementation and the high number of participants. Moreover, the randomized control trial showed that Ibis Rice families clear four times less forest than non-participant families.

The PA Law (2008) provides a framework for recognized communities within MoE protected areas to legally develop, designate and co-manage community protected areas (CPAs) for a period of 15 years. These CPAs can only be designated within the sustainable use zone and through agreement by the MoE as per the Prakas on "Procedure and Process of Community Protected Area (CPA) Establishment". CPAs form a key component of WCS's zoning strategy in the landscape since they provide the legal basis for communities to assert their rights to natural resources (including land) while strengthening protection from illicit resource extraction and land grabbing. During the length of the project, 191 joint patrols were organized across the target Protected Areas : KPWS, CWS, PRWS.

Although some efforts have still to be made for smaller households to join the project, the long term drivers of success have made very good progress. We see through strong engagement a much increased awareness and interest from the Cambodian Government in our compliance system. This will be further strengthened by the finalization of zoning that will give legal clarity around our compliance system. The initiative is growing beyond the projects geographic scope with new communities, partners and funding sources. The commercial sustainability of the project is also supported by a business that is sustaining a 50% incentive and has a market ready for significantly more volume.

## **4 Contribution to Darwin Initiative Programme Objectives**

### **4.1 Contribution to Global Goals for Sustainable Development (SDGs)**

As detailed in section 3.5 above, the project demonstrates a higher impact for conservation and development where economic gains for poor communities are possible in a context of sustainable use of natural resources. In doing this the project is contributing to Cambodia fulfilling its obligations under 2030 Agenda for Sustainable Development, through assisting the country in meeting several Sustainable Development Goals (SDGs). In the proposal we aimed to contribute to six SDGs (1, 5, 10, 12, 13 and 15) but through the course of the first year it has become

obvious that the project can also contribute to an additional three goals (SDGs 2, 8 and 16), further growing the impact achieved. Supporting evidence for the contribution to these SDGs is given in sections 3 and 5-7, and in the logframe below and are not repeated here.

The building block of the Ibis Rice approach that has been implemented in the first year are strong local institutions (SDG 16), which are inclusive of women (SDG 5), and participatory land-use planning that secures land tenure for poor rural communities (SDG 16). By incentivising conservation and incorporating biodiversity values into decision-making processes, conservation is being achieved (SDG 15). In addition, by promoting climate-smart agriculture the project is taking direct climate action (SDG 13), while the resultant sustainable agriculture (SDG 2) is improving food security (SDG 2) and increasing rural livelihoods (SDG 1). The improvements in overall human well-being for rural communities that the project is delivering through increased access to markets for Ibis Rice farmers, and their increased self-determination through inclusive local institutions, secure land tenure and access to decision-making processes, are reducing the inequalities among these communities and others in Cambodia (SDG10) while also constituting full and productive employment (SDG 8). From the farm gate to the dinner plate, the entire value chain for certified organic Wildlife Friendly™ Ibis Rice is a model example of sustainable consumption and production (SDG 12).

#### **4.2 Project support to the Conventions or Treaties (e.g. CBD, Nagoya Protocol, ITPGRFA, CITES, Ramsar, CMS, UNFCCC)**

Through the 4 years implementation, the project has assisted Cambodia to implement the Convention on Biological Diversity (CBD; Strategic Goals A,B,C,D,E) by working towards the following Aichi Targets:

**Aichi Target 2** (*biodiversity values integrated into development and poverty reduction*)<sup>1</sup> has been supported by implementation specifically incorporating biodiversity values into decision-making processes around sustainably managed agriculture within a forest-mosaic –the farmers need to keep some trees into their rice fields.

**Aichi Target 5** (*reduction in loss, degradation and fragmentation of forests*) has been supported by putting in place land-use plans recognized and approved by local authority that will result in the reduction in unplanned deforestation that is a central to the Ibis Rice scheme and a core part of farmer compliance. Other criteria such as rice field burning is analysed and monitored within the project.

**Aichi Target 7** (*areas under agriculture managed sustainably, ensuring conservation of biodiversity*) has been supported as Ibis Rice farmers must follow sustainable agriculture requirements (organic and wildlife friendly rules), ensuring conservation of biodiversity, to qualify for the incentives that drive the scheme.

**Aichi Target 11** (*areas of particular importance for biodiversity and ecosystem services, conserved through protected areas integrated into the wider landscape*) has been supported through the land-use planning undertaken and the zoning, creation and registration of PAs which then contributes to landscape-scale management - the project improve the PAs management with new technics and patrols.

**Aichi Target 12** (*the extinction of known threatened species prevented and conservation status improved and sustained*) has been supported through the reduction in hunting that is another core part of farmer compliance (Wildlife friendly commitment).

**Aichi Target 14** (*ecosystems that provide essential services, contribute to health, livelihoods and wellbeing of the poor and vulnerable*) has been supported by the project using government endorsed land-use plan to secure access to essential ecosystem services for poor and vulnerable rural communities while transferring the monetary value of these services on to the consumers that purchase Ibis Rice.

**Aichi Target 18** (*knowledge, innovations, practices and use of biological resources of local communities respected and with their full and effective participation*) has been supported as the

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<sup>1</sup> The descriptions of the targets given in italics are paraphrased and focus on the parts of the target most relevant to the project.

planning process being used integrates and protects the rights and knowledge of local communities and secures their land tenure.

Progress towards the Aichi Targets is being achieved through addressing five themes of the **Cambodia National Biodiversity Strategic Action Plan (NBSAP) 2016**. The project has been designed to address specific Strategic Objectives and associated Key Actions under each Theme. Supporting evidence is given in section 3.5 above and in the logframe below and is not repeated here.

The project has interacted with Cambodian Convention focal point, with the proposal reviewed by Mrs. Chan Somaly, CBD focal point, and the Darwin Initiative Project Half Year Report also sent to the focal point. The focal point also attended the 3ie impact evaluation workshop.

### **4.3 Project support to poverty alleviation**

The IBIS Rice program has benefited from an Impact evaluation conducted by The International Initiative for Impact Evaluation (3ie), aiming to quantify the environmental and human wellbeing impacts of Protected Areas (PAs) and Payments for Environmental Services (PES) interventions in the Northern Plains landscape of Cambodia. In this evaluation, the three following PES interventions were selected: protection of nests of globally threatened birds; a community-managed ecotourism intervention and the IBIS Rice program.

The evaluation built on a nine years monitoring program (2008 to 2017) and socio-economic household survey with the same panel of households every three years (2008, 2011, 2014, 2017), from the 11 villages participating in IBIS Rice program (treatment) and 5 not participating villages (control).

The household wellbeing was analysed following 3 measures:

- the main measure, derived from the Basic Necessity Survey, was calculated using a list of 26 items of households assets and basic services weighted by the proportion of respondents that thought they defined as the minimum requirement for living that all households of the community should have;
- the household total annual rice harvest;
- an indicator of household food security, calculated as the total annual rice harvest minus the household's expected consumption needs over the year.

Finally, a randomised control trial (RCT) was conducted in 2018 to assess the behaviours of IBIS Rice members (87 households in total) in whether or not the participation in the program impacted their respect of the compliance rules, and especially the respect of no forest clearing.

For the three PES interventions studied, participation in the Ibis Rice intervention was found to be the most positively associated with increased economic status, increased rice harvest and improved household food security in the period from 2014 to 2017. This coincides with a period of significant expansion of the intervention to include 5 more of the within-PA villages, as well as a transition to organic certification and subsequent significant growth of the end market for the product. However, as the study panel suggested, it is households that already produced more rice and had the capital capability enabling them to do so, who were more likely to choose to participate in the IBIS Rice program. Participants in the Ibis Rice programme had an average annual surplus of 381kg more than matched non-participants, with the effect being positive in 95.0% of model runs.

The effect of participating in the IBIS Rice programme was estimated to increase household economic status by 0.34 (increase in poverty alleviation compared with the baseline data), with the effect positive in 95.6% of model runs. This was approximately equivalent to the estimated effect size of owning a mini-tractor, which is known to have a transformational impact on household productive capacity.

Even if results between 2017 and 2021 could not be assessed in details (last data collected following the same methodology were in September 2020, and are still analysed), the findings of the evaluation are broadly positive for the interventions assessed, as household wellbeing was found to be significantly higher for participants of the Ibis Rice programme in comparison to non-participants. This is a particularly encouraging result, as it suggests that the intervention has evolved to a state where households are benefiting through their participation and that these

benefits are not just financial but also relate to household food security, a key target of the Sustainable Development Goals. Similarly, the study showed that management of the PAs has had a positive impact on households living inside PA boundaries and has significantly reduced deforestation relative to matched control villages.

Furthermore, the project has benefit directly to 574 IBIS households from high-quality seeds provided by SMP and a 60% premium price as well as steady market prices. 2,753 families from the 11 target villages are also indirectly benefiting from the IBIS Rice program.

*For more details, please see Output 4. (Annex 7, items 2,3, 28, 33, 35 and 36)*

#### **4.4 Gender equality**

In 2019, a Women Economic Empowerment (WEE) Program manager has been recruited by SMP to facilitate and coordinate the development of a WEE strategy for another project implemented in Kampong Thom province, as well as for SMP as an organization. In this regard, a Gender Policy has been created for SMP and obliges each staff, consultant, volunteer, intern to follow its guidelines, as representatives of the NGO.

All along the project, SMP team is careful about strengthening the targeted villages women inhabitants capacities, specifically by:

- ensuring that they benefit fully from trainings (being careful that women are fully represented during the program meetings/trainings/activities and participate) ;
- encouraging more women to take up leadership positions (ensuring their membership on the VMN);
- making sure that the training methods used are appropriate for women as well as men;
- ensuring that women receive information and equal opportunities for men and women to access trainings in agronomy and Climate Change Adaptation rice farming as well as access to premium markets;
- keeping to improve monitoring of effectiveness of women-focused and gender-focused interventions.

In monitoring the program, SMP maintains gender-disaggregated data, noting female-headed households on the Approved Farmer List, promoting (and counting) female participation in all training workshops, and disaggregating by sex in activities relating to the monitoring of poverty status of beneficiaries.

#### **4.5 Programme indicators**

- **Did the project lead to greater representation of local poor people in management structures of biodiversity?**

All along the project, SMP and its partners, worked to involve local communities and give them a greater representation in the project structures as well as in management structures of biodiversity.

Village Marketing Networks (VMNs) were established in the 11 target villages, and their representatives (3 to 5 members) were elected for 5 years. VMNs were often supported by the Villages Chiefs. The implementation of IBIS Rice project in the villages gave local authorities, VMN Committees members and farmers households participating to the project, a better understanding of the importance of their local biodiversity and how to maintain an efficient monitoring of compliance, knowledge and practices to protect their fields from chemicals and improve the soil, long-term solutions of resilience to climate change effects, and local biodiversity protection.

WCS has continued to work with ranger patrols and Community Protected Areas (CPAs) to monitor the land use and deforestation rates, as well as data on endangered bird species. Birds nests protectors from the target villages were paid to protect endangered birds until they fledge.

- **Were any management plans for biodiversity developed and were these formally accepted?**

WCS has worked all along the project with local communities in implementing PLUP in the 3 PAs (please see Partnerships and Output 4).

IBIS Rice and its associated compliance systems have heavily influenced the project design for a REDD+ project that is in development for the project area.

- **Were they participatory in nature or were they ‘top-down’? How well represented are the local poor including women, in any proposed management structures?**

VMN Committees members are elected for 5 years by farmers, at the beginning of implementation of the project in villages. In 2021, 31% of VMN Committees members were women. SMP continues to include women in all trainings/demonstrations and promote women in positions of leadership.

Compliance framework is made as participatory as possible, with VMN inspectors trained every year and aimed to replace SMP staff on the long-term. Non-compliance meetings are held twice a year, and are participatory, with local authorities and potential identified perpetrators joining so they can defend their case. Annual reflection meetings are organized in all villages by SMP to reflect with farmers, local authorities and VMNs on achievements and challenges of the previous rice season.

- **How did the project positively influence household (HH) income and how many HHs saw an increase?**

Participatory households (direct beneficiaries of the project) income increased due to their sale to IRCC, for which they benefited from a premium of 40% to 60% (depending on years) above the market price. They also received dividends, calculated on the quantity of paddy sold to IRCC. In 2020 (last harvest), 579 households joined the project and 425 among them passed the entire process of ICS, making them able to sell paddy to IRCC, which represent more than 73% of the total households registered. Among the 4 years, 740 households were found compliant. Even though, the IBIS households are not found compliant during the ICS process, they still benefit from high-quality drought-resilient seeds, various trainings and field visits demonstrating soil improvement and best agronomy and harvest practices.

- **How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?**

For calculation on HH income increase, please see above and the 4.3 Poverty alleviation part.

#### **4.6 Transfer of knowledge**

The key mechanism for knowledge transfer for this project has been through the development and updates of the Compliance manual (*Annex 7, item 30*). This document has allowed the approach developed under this project to be replicated with multiple organisations across multiple landscapes in Cambodia and in a sense be adopted as a national strategy. Multi-disciplinary conservation teams from WCS, Conservation International and Birdlife International and Provincial Departments of Environment in Preah Vihear, Stung Treng, Ratanakiri, Mondulkiri have been trained on and then adopted the monitoring and management principles of the IBIS Rice compliance manual for all incentive based models. Indeed this proven and robust approach has lead to multiple projects, (including complimentary Darwin projects in Siem Pang and Lomphat) to take these principles to varying landscapes and situations through a unified approach and connect farmers to premium markets through IRCC.

#### **4.7 Capacity building**

Beginning of Year 3, SMP internally promoted its previous Program Manager to the position of Executive Director, making SMP composed of a large majority of Cambodian nationals, bringing their qualifications and expertise in all the aspects of SMP management and projects. Among the

29 SMP staff, 9 are women, involved in Administrative/Program team as well as in the fields as Community Officers, Agronomists, Data Officer.

During Y4, a lot of attention was given to the project visibility, especially among Cambodian national authorities, which will for sure extend the reach of the project and ensure its sustainability (for more details, please see Output 5 and Darwin identity). Moreover, during the 4 years, IBIS Rice scheme was extended to 5 other Protected Areas in Cambodia, reaching more than 1,500 households registered with the program in the country.

## **5 Sustainability and Legacy**

The IBIS rice initiative through support from Darwin is now a nationally recognised approach. As reported in section 1 of this report, the partnerships that are being developed are allowing the challenges faced in Preah Vihear under this project to inform National level management plans and decision making tools under the zoning process. The sharing of impact evaluations and training partners on our compliance processes.

The IBIS rice initiative is being supported by a wide range of partner organisations and donors to expand within existing areas as well as new landscapes. As the initiative expands it gives scale and resilience to the business model that benefits the communities.

IBIS rice is now also imbedded as a strategy within one existing REDD+ (Keo Seima wildlife sanctuary MoE and WCS) project and two projects; Northern Plains (GPL, MoE and WCS) and Prey Lang (Conservation International, Mitsui, MoE). These sustainable financing mechanisms support the Protected Area management that is needed for the IBIS rice approach long-term as well as provide benefit sharing and performance management mechanisms that the initiative is influencing and can integrate with going forward.

The successes of the innovation supported by this project have allowed SMP to leverage many new funding sources to expand and diversify the project, including funding through the Greening Prey Lang project, a USAID funded project working in Preah Vihear and Prey Lang <https://usaidgreeningpreylang.exposure.co/organic-growth>. A CEPF grant in the target villages of this project over 2 years from June 2020 to look at wildlife friendly ponds and climate resilience. Mitsui via Conservation International are supporting SMP to integrate the IBIS rice initiative in their REDD+ project in Prey Lang Wildlife Sanctuary over 2 years to establish the VMN and initiate the project.

IRCC is also pursuing the increase of its current credit facility to ensure ability to procure all products from farmers and absorb the expansion. The long term sustainability and legacy of the project are greatly supported now by the commercial progress of IRCC with a round of equity investment being planned for 2022 to invest in a Preah Vihear milling and inspiration hub as well as marketing of the brand in developed markets, particularly the UK. Developing international markets with committed consumers means that the project is moving closer to being sustainably financed year on year.

## **6 Lessons learned**

The long-term good cooperation with SMP partners has permitted the implementation of a wildlife-friendly compliance framework, which ensures that all households selling their paddy to IRCC are compliant with the regulation of Protected Areas (PAs). Non-compliant farmers were able to re-join the project the next year, which a lot of them did, which proves the benefits of participating to the IBIS Rice project. However, growing prices of lands in and around the PA caused some non-compliant households not to return to the project. Some farmers expressed the fact that the income from selling new land was much higher than selling paddy to IRCC and that no action was taken about farmers clearing new lands.

Indeed, a lot of non-compliant cases were related to land clearing, which is difficult for SMP to mitigate because the organization doesn't have the authority to deal further with these cases (to take further legal action is the Park Director's authority), but we are working with WCS and PDoE to have the approval of zoning from Ministry of Environment.



The conversion to organic production was a challenge, especially in terms of record keeping for VMNs and IBIS households, however it was a large success, with more than 75% of the total paddy sold to IRCC certified as organic, in 2020. The identification and scale-up of various drought-resilient seeds improved significantly the quality of local production, and improved on the long-term the capacities of farmers in seed production. Overall, SMP has now a large range of rice cultivars from fragrant, waxy, coloured to aerobic rice. This is an advantage bringing additional options to farmers (diversify rice cultivars, breaking pests/diseases cycle, adaptability to climate change) and to consumers.

SMP has observed the increased use of chemical fertilizers and pesticides these few last years in some villages. To mitigate these issues, SMP has increased its visibility at the village level, and is focusing its trainings more on soil fertility improvement, nutrient and pest management. Demonstrations were settled on technics reducing weeds and improving the water distribution. Three varieties of cover crops have been identified and a first pilot collective compost pile was established using these same crops, for a low-cost soil fertility enhancer, certified for organic production. The compliance framework helped us to identify other local agri-products, that are now under pilot for scaling-up (such as sesame, cashew, mungbean). It should give the possibility to other farmers' households to join the project and diversify the offer to meet the market's demands.

Finally, some of the indicators were identified during and at the end of the project, as not totally best reflecting SMP's progress towards its outputs and outcomes. It helped the organization to re-think its M&E indicators, and will serve to better monitor and communicate SMP's achievements in the future.

## **6.1 Monitoring and evaluation**

SMP has an annual operational planning meeting, an annual pre-harvest operational planning meeting, and monthly program, finance and operational reflection and planning meetings. Its key planning documents are the annual operational plan, the Approved Farmer List, which documents annually the details of participating Ibis Rice farms, and the range of documentation related to the ICS. These systems are in place and robust. SMP met with project partners on a regular basis to determine next steps and partners provided written reports to SMP.

During the length of the project, SMP continued to strengthen its own organization, with the recruitment of a Financial assistant working in the Headquarters, but also with the promotion of a Project Coordinator in Preah Vihear, to improve the project monitoring quality. Moreover, in order to improve the management of the ICS system and compliance data, a Compliance Manager has been recruited for all SMP projects, as well as a Data Officer for Preah Vihear location.

To demonstrate project impacts, we engage a mix of direct measures of performance (e.g. number of beneficiaries participating in trials, uptake of drought-resilient methods etc.) with less direct measures (e.g. overall income increases; improvements in conservation of critically endangered birds' nests). The implementation of the ICS is also a strong and complex process which takes into account a large range of data which have to be assessed all along the year, to have a quality compliance system and submit the details summary to an organic external auditor which can officially certify the products of IBIS households as organic following international standards.

At the beginning of Year 4, we sent to DARWIN a request for change on the project's logframe to modify some indicators (which were approved), that we identified as needing to be updated in order to better reflect the progress made by SMP and its partners among objectives. Therefore, indicators 0.1 and 4.1 have been modified to include a distinction between direct (IBIS households registered) and indirect beneficiaries (families living in the target villages) of the project. SMP also suggested to add a new indicator (4.2): the number of sale agreements signed between the compliance households and IRCC before the harvest, to measure the number of households compliant with the project and able to receive a premium price for their sales to IRCC.

Indicator 1.1 was also modified to assess the capacity of VMNs in managing Ibis Rice compliance by themselves. Instead of monitoring a percentage of understanding, which would have been difficult to evaluate, it was decided to monitor the number of VMN Committees members able to manage Ibis Rice compliance, by monitoring the number of VMN Committees members recognized as “solo inspectors” able to write a complete ICS report by themselves.

After the end of this project, we estimate that some indicators identified at the beginning were finally not the easiest to follow or did not work as best to evaluate the progress of this specific projects on the implementing period. Specifically, the deforestation rate baseline (indicator 3.1) was established based on an algorithm developed by GEF, which finally was abandoned as it lacked the capacity to identify appropriate control villages. The project continued to assess the deforestation around the villages based on its compliance system implemented by both SMP and WCS, as well as the deforestation in the PAs via UTM data collection and analysis from Satellite imageries. However, the data compiled cannot be exactly compared with the baseline, and do not permit a sound analysis of the deforestation rate around the target villages against the wider landscape. The project benefited though from a rapid assessment conducted by its partner GPL, beginning of 2021, which helps to demonstrate the impact of IBIS Rice target villages on deforestation, when comparing forest cover loss among CPAs in the Northern Plains.

The poverty alleviation standards evaluation (indicator 0.5) benefitted from a large and multi-dimensional impact evaluation aiming to quantify the environmental and human wellbeing impacts of Protected Areas (PAs) and Payments for Environmental Services (PES) interventions in the Northern Plains landscape of Cambodia. In this context, a socio-economic household survey was conducted between 2008 and 2020, however the last data were not yet analysed at the time of writing this report. It is then complicated to evaluate the progress on the exact period of this project. Moreover, the target and methodology identified during the proposal phase for the indicator are not reflecting at best the methodology used by the researchers. However, this impact evaluation remains a strong scientific evaluation of the benefits for households in participating to the IBIS Rice project which proved to be the most positively associated with increased economic status, increased rice harvest and improved household food security among the three PES interventions studied.

## **6.2 Actions taken in response to annual report reviews**

All feedbacks received on SMP annual reports were addressed and answered during the next annual reports.

The main feedbacks provided from the last annual report (Y3) were related to the need to change a few indicators, to better reflect the progress made by the project. This was done by sending a Request for change to DARWIN, which was officially approved beginning of 2021. Some other indicators not modified at this occasion are discussed above in the part 6.1 Monitoring and evaluation. Moreover, the impact evaluation report, by 3ie, is submitted as evidence along with this report.

Finally, the difference in the number of VMN Committees between the baseline and the endline is addressed in the logframe (Output 4.4).

## **7 Darwin identity**

Along the 4 years of the project, a lot of attention has been given to communication around the project. A media consultant has continued to promote the project but with a focus on product quality and linking impact to product in a consumer-friendly way. This has included videos that have gained engagement rates of more than 200k and involved the launch of IBIS Rice on Instagram. The website has been updated to reflect this strategy and recipe videos have been very successful across media. The increased brand awareness has brought a wider audience to the initiative and the impacts supported by DARWIN Initiative. <https://ibisrice.com/>  
<https://www.instagram.com/ibisrice/>.

After the official institutional separation between IRCC and SMP, the latter has focused on developing its own social media presence in 2020, separate from the products sites where more detailed project information can be published and then shared by the product focussed sites where appropriate: <https://sansommluprey.wixsite.com/smpcambodia>  
<https://www.facebook.com/sansommluprey/>

In the second half of Year4, a DARWIN mini-campaign was launched to promote lessons learnt and legacy of the project, and reached a total of 3,550 people and received 292 Likes, Comments & Shares. The new UK Ambassador to Cambodia has been sent a summary of the project as well as seen videos on our social media, and in June 2020, SMP could officially welcome the UK Ambassador, on a field visit to IBIS Rice project in Preah Vihear province, an opportunity to see the project's benefits on site. Finally, a video was produced in coordination with the British Embassy, "acknowledging the project as a conservation champion" in context of the COP26. A lot of workshops and sites visits were organized with the Government of Cambodia to widen the visibility of IBIS Rice project and sustain the long-term existence of the project (*for more information on this subject and different media produced under the project, please see the Output 5*).

The DARWIN project has taken IBIS Rice to form a well-known concept within conservation practitioners in Cambodia to a nationally recognised strategy and indeed brand, with ever growing international recognition. The lessons learnt from this project have been shared globally through WCS's networks.

*(Annex 7, items 14, 35 to 43)*

## **8 Impact of COVID-19 on project delivery**

The project, as many others, has been impacted by the worldwide COVID-19 health crisis, in Years 3&4. To prevent the spread of the virus, SMP stopped all of its field activities from March to May 2020 and from February to May 2021, with teams working from home. Between these two periods, due to lower number of reported cases in Cambodia, SMP decided to resume its work in provinces, and focused efforts on implementing and following-up on activities that couldn't be done during the previous months, especially land mapping and preparation of the rice seasons (for both years). However, the field teams continued to observe requirements of social distancing, which limited the implementation of the activities related to climate-smart and soil improvement trainings. Demonstration sites could be established and coaching provided to a few members, but most of large trainings had to be cancelled.

However, in Year 4, decision was made to recruit Sale agents within voluntary VMNs and long-term involved IBIS members, in order to support the recruitment of new farmers and specifically previous non-compliant farmers to re-join. These sale agents were then paid based on the number of households (re-)joining the project. This method proved to be efficient, and was also a big support to SMP teams, as the COVID-19 situation made it difficult for SMP to access some villages.

This has also affected the partnership with CIRAD, as all activities in the field were paused between the pre-planting season. Therefore, no contract was signed with CIRAD during Year 4, and SMP continued to implement the activities related to cover crops, seed production and soil fertility trainings, previously carried on by its partner (this was previously presented by SMP in a formal Request for change, which was approved by DARWIN).

These limitations in activities implementation had an effect on the expenses during Years 3&4, especially in Travel and Subsistence as well as Operating Costs headings – as shown in the 9.1 Project expenditures.

Results from Output 3 have also been generally impacted by COVID-19 sanitary crisis, especially regarding the protection of globally threatened birds, as income from ecotourism was no longer

available (which had a big impact on Red-headed vultures' conservation), as well as on conservation in general in the Northern Plains. Indeed, communities were more likely to return to illegal activities for sustenance). This can explain the decrease in the number of globally threatened birds nests protected.

## 9 Finance and administration

### 9.1 Project expenditure

Project spend (indicative) since last annual report	2020/21 Grant (£)	2020/21 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
<b>Overhead Costs</b>				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
<b>TOTAL</b>				

Staff employed (Name and position)	Cost (£)
Doung Taingkou, Provincial Coordinator	
Sopheak Phearun, Senior Agronomy Officer	
Leang Chatheavy, Data Officer	
Choeun Piseth, Team Leader	
Pum Leakhena, Field Staff	
Thy Vaty, Field Staff	
Keo Socheat, Executive Director	
Chan Sambath, Operations Manager	
Nathaniel Maddix, Communication Coordinator	

Maiwenn Piquet, Grants and M&E Manager	
Long Lida, Head of Finance	
Lor MengY, Finance Officer	
<b>TOTAL</b>	

Please find below the summary of the Change request that was submitted to DARWIN, end of 2020, and officially approved:

1 – Travel and Subsistence: As an impact from COVID-19, SMP was not able to sign another contract with the CIRAD, as all activities in the field were paused between March and May 20 (pre-planting season). Therefore, SMP requested the possibility to use the budgeted amount to continue by itself the implementation of activities previously undertaken by CIRAD. However, SMP was not able to spend all the budget allocated (please see the headline Travel and Subsistence).

2 – In Equipment (Capital Items): a GPS was already budgeted and approved. However, the amount was insufficiently budgeted to purchase a good quality GPS, which will support the SMP teams in their implementation of the Internal Control System (ICS). SMP therefore requested to use the amount budgeted for the Grain moisture meter, which was covered by another grant, to purchase a good quality GPS. Finally, based on the needs of the teams, SMP used the remaining budget as well as some remaining budget in Other costs headline, to purchase a second GPS.

3 - In Other Costs: SPOT satellite imagery fees were covered in Y4 by another grant, then SMP requested Darwin to use this amount to purchase direct rice seeding machines, Foundation seeds and cover crops seeds, to support its agronomy activities. Finally, 2 direct seeding machines only were purchased (due to the difficulty to find suppliers for these specific items in Cambodia) and only cover crops seeds were covered by Darwin (no Foundation seeds needed to be purchased on Y4). The remaining amount was used to purchase 8 high quality tablets, which are important to conduct Internal Control System in the field (ICS is a complex compliance process, which enables us to control participants farmers in light of the IBIS Rice project rules: organic and wildlife-friendly production rules).

<b>Capital items – description</b>	<b>Capital items – cost (£)</b>
GPS Garmin X64s	
<b>TOTAL</b>	

<b>Other items – description</b>	<b>Other items – cost (£)</b>
Bank Charge	
Postage and Delivery	
Cover Crop	
Tablet (From Satellite budget)	

GPS (From Satellite budget)	
Seeding Machine (From Satellite budget)	
Cover Crop (From Satellite budget)	
Case for Tablet (From Satellite budget)	
<b>TOTAL</b>	

## 9.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	Total (£)
WCS in kind salary cost over the four years (supported by WCS but from staff working directly on this Darwin initiative project)	
CEPF Grants	
USAID Greening Prey Lang (GPL) Grants	
IRCC Paddy purchases	
<b>TOTAL</b>	

Source of funding for additional work after project lifetime	Total (£)
USAID Greening Prey Lang (GPL) Grants	
REDD+ Northern Plains & Keo Seima (ongoing)	
<b>TOTAL (estimation)</b>	

## 9.3 Value for Money

SMP developed its own strict procurement policy, which compiles it to commit to fair, open, and ethical practices to procure the goods and services required for its operations, so as to comply with applicable laws and donor requirements, make the best possible use of its resources, and encourage competition and sound business relationships with vendors and suppliers. This policy applies to all purchases of goods and services by SMP and its affiliates worldwide using all sources of funds, including the procurement of services from individuals such as independent contractors and consultants.

Moreover, SMP has always sought to involve VMN Committees and local communities in implementing activities with support of SMP teams. This enables SMP to ensure its actions are well aligned with the local situation and needs, and support SMP in the quality of its impacts. Moreover, it provides local communities with an additional source of income, and ensures the long-term sustainability of the project.

*(Annex 7, item 45)*

## 10 OPTIONAL: Outstanding achievements of your project during the (300-400 words maximum). This section may be used for publicity purposes

I agree for the Darwin Secretariat to publish the content of this section.

“From conservation project to a national strategy and a global brand”

Replicability and sustainability are two often hard to come by elements of community based conservation project. This Darwin project has allowed SMP and our partners to refine a farming and certification model that has built-in marketability, climate resilience and conservation compliance.

At the project start the private sector partner IRCC was not established and the IBIS Rice model was only being implemented in one landscape. By testing climate resilient and marketable rice varieties and expanding capacity in organic certification the project created a scalable solution and a market demand that exceeded supply. This has given confidence to multiple implementing parties to expand participation now in 8 wildlife sanctuaries, 37 villages and nearly 1,800 HH.

At the same time it has instigated the creation of a company dedicated to servicing these communities for a generation. This company has managed to access working capital and has over the project bought nearly \$2m of paddy at premium prices from farmers. IRCC is now supplying a growing global market with premium, wildlife friendly, organic food products that sustain ever growing and deepening impact. In fact by September 2021 UK consumers will be able to enjoy these products through multiple supermarkets and online stores.

*(Annex 7, item 43)*



## Annex 1 Project's original (or most recently approved) logframe, including indicators, means of verification and assumptions.

Note: Insert your full logframe. If your logframe was changed since your Stage 2 application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert the Stage 2 logframe.

An official Change request was submitted from SMP to DARWIN on the logframe, which was approved beginning of 2021. The indicators modified are in **BOLD** in the logframe below:

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p><b>Impact:</b> Long-term conservation of biodiversity and maintenance of ecosystem services in Cambodia is ensured even in a rapidly changing environment, through linking poverty reduction, security of land tenure and community-based conservation.</p>			
<p><b>Outcome:</b> Future-proof Ibis Rice by linking organic accreditations and drought resilient agricultural practises with international markets, thus safeguarding livelihood improvements for &gt; 2,500 families, protecting threatened species and preventing deforestation across &gt;400,000ha.</p>	<p><b>0.1 The number of families benefiting directly from the Ibis Rice project exceeds 600 and indirectly exceeds 2,500 (baseline 2016 Direct beneficiaries : 291 / baseline 2015/16 Indirect beneficiaries: 1,230)</b></p> <p><b>0.2</b> The number of households participating in drought-resilient agriculture practises exceeds 1,250 (Baseline mid-2015: 0)</p> <p><b>0.3</b> The number of incidents of illegal clearance of forest around participating villages declines by 25% against the 2015 baseline of 72 incidents per annum)</p> <p><b>0.4</b> The number of critically threatened bird species, Giant and White-shouldered Ibis, that fledge successfully is 25% more than the</p>	<p><b>0.1</b> Signed conservation agreements, land-use plans, household records, receipts for rice purchase.</p> <p><b>0.2</b> Signed and verified farmer diaries showing adoption of at least one resilient practice.</p> <p><b>0.3</b> Monitoring reports from WCS rangers and satellite images.</p> <p><b>0.4</b> Monitoring reports from WCS rangers</p>	<p>The primary assumption is that through developing and trialling a comprehensive climate smart agricultural system, including more stress tolerant varieties and associated soil conservation techniques, the Ibis Rice scheme will continue to grow in size and impact.</p> <p>The evidence gathered during a previous Darwin project (20-014) indicates that this switch to drought resilient organic rice is necessary. Without this, farmers would be a greater risk from climate variability and Ibis Rice would become financially unsustainable and lose the trust of the farmers, with consequences for biodiversity conservation and poverty alleviation gains made during the previous 3 years.</p>

	<p>2015 baseline of 29 nests, 39 Chicks</p> <p><b>0.5</b> The poverty standards of participating households increases by 20% against the 2016 baseline</p>	<p><b>0.5</b> Household poverty surveys (using Basic Necessity Survey).</p>	
<p><b>Output 1</b> Village Marketing Network (VMN) have the capacity to manage the expansion of Ibis Rice compliance, Organic internal controls and production independently</p>	<p><b>1.1 By the end of the project, 20 VMN Committees members are able to manage Ibis Rice compliance by conducting their own internal control systems (baseline : 2016 : 0).</b></p>	<p><b>1.1</b> Number of VMNs conducting their own internal control systems, measured using number of inspection reports signed by VMNs.</p>	<p>The primary assumption is that trainers are available and VMN are willing to learn new skills. Trainers have already been identified and prior to this project VMN have demonstrated that with the specialised and focused capacity building this project will deliver; they will be ready to manage the expansion of Ibis Rice compliance, marketing, production and sale.</p>
<p><b>Output 2</b> Ibis Rice farmers have tested and adopted drought-resilient agricultural practices and complementary soil conservation techniques along with levelling and water efficiency trials.</p>	<p><b>2.1</b> Number of Ibis Rice farmers taking part in stress-tolerant rice trials exceeds 20% of all Ibis Rice farmers by the end of Year 1 (baseline: 2015/16:3%)</p> <p><b>2.2</b> Number of Hectares cultivated using stress tolerant rice seed produced during trials is at least 400Ha by end year 2 (baseline: 0)</p> <p><b>2.3</b> Number of farmers willing to adopt drought-resilient agricultural practises (legume trials and land levelling) exceeds 1,250 families by end of Year 4 (baseline: 0)</p>	<p><b>2.1</b> SMP, organic certifier and VMN farmer records.</p> <p><b>2.2</b> SMP, organic certifier and VMN farmer records.</p> <p><b>2.3</b> SMP, organic certifier and VMN farmer records.</p>	<p>The primary assumption is that locally appropriate stress tolerant jasmine rice strain can be developed. Potentially appropriate drought-resilient seed-stock have already been identified, and methods for developing and testing organic seed stock have been obtained from relevant experts.</p> <p>Agronomists that support this activity will also identify paddy field that need most physical intervention for water efficiency.</p>

	<p><b>2.4</b> Number of tons certified organic rice produced grows by 50% between Year 1 and Year 3 (baseline: 187 2015/16)</p>	<p><b>2.4</b> SMP, organic certifier and VMN farmer records</p>	
<p><b>Output 3</b></p> <p>Critically endangered species populations increase as a result of improved protection around Ibis Rice villages</p>	<p><b>3.1</b> Deforestation rates around target villages are lower compared to deforestation rates in the wider landscape (baseline 2012-2015: 0.93% around target villages, 3.53% in wider landscape)</p> <p><b>3.2</b> Number of critically endangered birds' nests protected are 20% higher when compared to baseline 2014/15: 29.</p>	<p><b>3.1</b> Deforestation rate analysis based on remotely-sensed images.</p> <p><b>3.2</b> Ranger nest protection reports and monitoring team data records.</p>	<p>The primary assumption is that villagers value the premium paid for Ibis Rice, and that it is sufficient to change behaviour. Experience from partnerships with DARWIN projects indicates that the premium and other benefits of the Ibis Rice scheme do change behaviour. This project will further increase the financial incentives to farmers to take part in the scheme as the purchase of organic rice will effectively double the premium paid. A secondary assumption is that Cambodian law is enforced by government park rangers proportionately throughout all zones within the protected area network.</p>
<p><b>Output 4</b></p> <p>Community members living within the target protected areas experience reduced poverty and increased income as a result of Ibis Rice</p>	<p><b>4.1</b> The number of families benefiting indirectly from the IBIS Rice project increases by 15% per annum and exceeds 2,500 (baseline 2015/16 : 1,230).</p> <p><b>4.2</b> The number of households which have signed a sale agreement with IRCC. By the end of the project, this number reaches : 494.</p> <p><b>4.3</b> The number of tonnes Ibis Rice purchased per annum by SMP from participating farmers exceeds 1,000 by the end of the project (baseline 2015/16: 557)</p>	<p><b>4.1</b> Database of households benefiting from Ibis Rice, VMN farmers records</p> <p><b>4.2</b> Signed conditional agreements</p> <p><b>4.3</b> Receipts and SMP ledger records.</p>	<p>The primary assumption is that the market for Ibis Rice will continue to grow, and that organic certification will open up new markets. Market research and consumer trends indicate that there is no shortage in market demand for Ibis Rice, and projections by commodity traders suggest global demand for organic rice will outstrip supply for several years to come. The primary limiting factor is the number of farmers taking part and the number of tons Ibis Rice produced.</p>

	<p><b>4.4</b> Number of functioning VMNs exceeds 20 (baseline 12 in 2016)</p> <p><b>4.5</b> Poverty status of people in Ibis Rice villages improves (baseline to be established at project inception 2016/17)</p>	<p><b>4.4</b> SMP farmer records.</p> <p><b>4.5</b> Basic Necessity Survey (BNS) scores.</p>	
<p><b>Output 5</b> Impacts of Ibis Rice program on threatened bird populations, habitat trends and human livelihoods are monitored, recorded and disseminated to a wide audience, including relevant national and regional PES policy-makers.</p>	<p><b>5.1</b> Two peer-reviewed journal articles published in academic journals by WCS &amp; RUPP researchers.</p> <p><b>5.2</b> Press releases, and social media used at least monthly to disseminate impacts of the Darwin Post project</p>	<p><b>5.1</b> Data on changes in household poverty, species populations and habitat trends; peer reviewed journal articles.</p> <p><b>5.2</b> Number of Facebook posts, tweets and news stories about Ibis Rice</p>	<p>Research permits will be granted. Excellent relationship with MoE means that this should be no problem.</p>
<p><b>Activities</b> (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)</p>			

## Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
<p><b>Impact:</b></p> <p>Long-term conservation of biodiversity and maintenance of ecosystem services in Cambodia is ensured even in a rapidly changing environment, through linking poverty reduction, security of land tenure and community-based conservation.</p>		<p>The project has contributed to a higher impact of biodiversity conservation by developing, testing and implementing new models for conservation and development that when widely adopted will result in broad behaviour change in Cambodia and beyond. By incentivising behaviour change in communities that results in conservation and improved protected area (PA) management and integrity, while also creating associated increases in livelihoods, social adaptive capacity and empowerment, the project is demonstrating a new model that is broadly applicable.</p>
<p><b>Outcome</b></p> <p>Future-proof Ibis Rice by linking organic accreditations and drought-resilient agricultural practises with international markets, thus safeguarding livelihood improvements for &gt; 2,500 families, protecting threatened species and preventing deforestation across &gt;400,000ha.</p>	<p><b>0.1</b> The number of families benefiting directly from the Ibis Rice project exceeds 600 and indirectly exceeds 2,500 (baseline 2016 Direct beneficiaries : 291 / baseline 2015/16 Indirect beneficiaries: 1,230)</p> <p><b>0.2</b> The number of households participating in drought-resilient agriculture practises exceeds 1,250 (Baseline mid-2015: 0)</p> <p><b>0.3</b> The number of incidents of illegal clearance of forest around participating villages declines by 25% against the 2015 baseline of 72 incidents per annum)</p> <p><b>0.4</b> The number of critically threatened bird species, Giant and White-shouldered Ibis, that fledge successfully is 25% more than the</p>	<p><b>0.1</b> By the end of the project, the number of families benefiting directly from the IBIS Rice project reaches 574 and indirectly 2,753. From Year 1 to Year 4, 740 different households have been found compliant with IBIS Rice project rules.</p> <p>In almost doubling the number of participants both directly and indirectly over the length of the Grant, IBIS Rice project proves its model long-term strategy and efficiency in safeguarding livelihood improvements and protecting threatened species as well as preventing deforestation in the Northern Plains.</p> <p><i>(Annex 7, items 1 and 2)</i></p> <p><b>0.2</b> The number of households participating in drought-resilient agricultural practises reaches 574 at the end of the project. However, we estimate that 2,753 farmers are willing to adopt these practices, as based on interviews and feedbacks, most of them are interested as they see the benefits of the demonstration fields. The constraint remains in the inputs (financial and technical) that these agricultural practices application present</p> <p><b>0.3</b> On Year 4, the number of incidents of illegal clearance of forest around the participating villages was of 142, which represents an increase of 97%. However, these data have to be compared to the wider landscape deforestation rate (<i>please, see Output 3 and Monitoring and Evaluation</i>).</p> <p><i>(Annex 7, item 24)</i></p> <p><b>0.4</b> In Year 4, 36 chicks of critically threatened bird species, Giant and White-shouldered Ibis, successfully fledged, which represents a decrease of 8% compared to the 2015 baseline. However, this number reflects a trend in a general decrease of globally threatened birds nests protected in</p>

	<p>2015 baseline of 29 nests , 39 chicks</p> <p><b>0.5</b> The poverty standards of participating households increases by 20% against the 2016 baseline</p>	<p>the Northern Plains, since the beginning of the COVID-19 which had an important impact on income generation for the local communities.</p> <p><i>(Annex 7, items 21 and 25)</i></p> <p><b>0.5</b> In the context of a long-term research on impacts of PES systems in the Northern Plains, poverty status data (using BNS scores, rice harvest and food security) were collected in Years 1&amp;2 from 16 villages (including both target and matched control villages). Correlated data were collected in September 2020 but are still under analysis, however the survey conducted from 2008 to 2018 analysis showed that the effect of participating in the IBIS Rice programme was estimated to increase household economic status by 0.34 (increase in poverty alleviation compared with the baseline data). This was approximately equivalent to the estimated effect size of owning a mini-tractor, which is known to have a transformational impact on household productive capacity.</p> <p>The participating households are however receiving a 60% premium price by selling their paddy to IRCC compared to the local market. They also receive dividends based on their sale (KHR 35 to KHR 50/kg).</p> <p><i>Please see Output 4.5.</i></p> <p><i>(Annex 7, items 2,3, 28, 33, 35 and 36)</i></p>
<p><b>Output 1.</b> Village Marketing Network (VMN) have the capacity to manage the expansion of Ibis Rice compliance, Organic internal controls and production independently</p>	<p><b>1.1</b> By the end of the project, 20 VMN Committees members are able to manage Ibis Rice compliance by conducting their own internal control systems (baseline: 2016 : 0).</p>	<p><b>1.1</b> In 2020 (last ICS conducted until the end), 6 VMN Committees members were able to manage IBIS Rice compliance by conducting their own internal control systems (solo inspection). 25 other members were able to conduct their own ICS, as 15 VMN Committees are able to conduct shadow inspection and 10 more are able to conduct witness inspection.</p> <p>SMP estimates that in 2021, 8 VMN Committees members will be able to conduct solo inspections, and 20 others will conduct shadow inspections.</p> <p><i>(Annex 7, items 6 and 9)</i></p>

<p>Activity 1.1</p> <p>Additional SMP staff &amp; VMN members are recruited and trained to manage Organic Ibis Rice internal controls, organic purchase, production, and institutional implementation.</p>	<p>Additional SMP staff were recruited since the beginning of the Grant both for field work as well as for management and financial support in SMP Headquarters. Especially for managing IBIS Rice Wildlife-Friendly and organic production, a Compliance &amp; Data Manager and a Data Officer were recruited in 2019. These 2 staff are mainly responsible for controlling the good implementation of provide training and support to SMP staff, VMN inspectors as well as partners every year.</p> <p>11 VMN Committees are now established and well-functioning (1 per village). 28 (including 11 women) VMN Committees members are heading these institutions at the village level and are trained by SMP to manage the IBIS Rice implementation, paddy organic production and purchase.</p> <p><i>(Annex 7, items 4 and 5)</i></p>		
<p>Activity 1.2.</p> <p>Training in organic internal control monitoring and record keeping provided to VMN members so that the organisation can be managed without the support of partners even after the switch to organic Ibis Rice which requires much more documentation than Wildlife-Friendly alone.</p>	<p>During the 4 years, training in record keeping (Farmer diaries training) have been provided both to IBIS members and VMN Committees members. In total, 740 persons from the 11 target villages have received training (including IBIS members and VMN Committees members).</p> <p>Each year, all VMN Committees members received training in organic control monitoring and record keeping facilitation from SMP, to facilitate the implementation of the ICS and the compliance of IBIS Rice rules.</p> <p><i>(Annex 7, items 7, 10 and 11)</i></p>		
<p><b>Output 2.</b></p> <p>Ibis Rice farmers have tested and adopted drought-resilient agricultural practices and complementary soil conservation techniques along with levelling and water efficiency trials.</p>	<table border="0"> <tr> <td data-bbox="616 884 1115 1461"> <p><b>2.1</b> Number of Ibis Rice farmers taking part in stress-tolerant rice trials exceeds 20% of all Ibis Rice farmers by the end of Year 1 (baseline: 2015/16:3%)</p> <p><b>2.2</b> Number of Hectares cultivated using stress tolerant rice seed produced during trials is at least 400Ha by end year 2 (baseline: 0)</p> <p><b>2.3</b> Number of farmers willing to adopt drought-resilient agricultural practises (legume trials and land levelling) exceeds 1,250 families by end of Year 4 (baseline: 0)</p> </td> <td data-bbox="1115 884 2130 1461"> <p><b>2.1</b> By the end of Year 1, 100% of IBIS Rice farmers were already taking part in stress-tolerant rice seeds trials, the majority of them growing Phka Romdoul. At the end of Year 4, a total of 574 farmers, from the 11 target villages, were growing Phka Rumdoul on 1,052.88 ha of lands.</p> <p><b>2.2</b> By the end of Year 2, 1,007.85 ha were under cultivation using stress tolerant rice seeds produced during trials.</p> <p><i>(Annex 7, item 18)</i></p> <p><b>2.3</b> All IBIS farmers have been trained to drought-resilient agricultural practises (legume trials, land levelling, water harvesting) and demonstration sites have been established in the target villages. We estimate that 2,753 farmers are willing to adopt these practices, as based on interviews and feedbacks, most of them are interested as they see the benefits of the</p> </td> </tr> </table>	<p><b>2.1</b> Number of Ibis Rice farmers taking part in stress-tolerant rice trials exceeds 20% of all Ibis Rice farmers by the end of Year 1 (baseline: 2015/16:3%)</p> <p><b>2.2</b> Number of Hectares cultivated using stress tolerant rice seed produced during trials is at least 400Ha by end year 2 (baseline: 0)</p> <p><b>2.3</b> Number of farmers willing to adopt drought-resilient agricultural practises (legume trials and land levelling) exceeds 1,250 families by end of Year 4 (baseline: 0)</p>	<p><b>2.1</b> By the end of Year 1, 100% of IBIS Rice farmers were already taking part in stress-tolerant rice seeds trials, the majority of them growing Phka Romdoul. At the end of Year 4, a total of 574 farmers, from the 11 target villages, were growing Phka Rumdoul on 1,052.88 ha of lands.</p> <p><b>2.2</b> By the end of Year 2, 1,007.85 ha were under cultivation using stress tolerant rice seeds produced during trials.</p> <p><i>(Annex 7, item 18)</i></p> <p><b>2.3</b> All IBIS farmers have been trained to drought-resilient agricultural practises (legume trials, land levelling, water harvesting) and demonstration sites have been established in the target villages. We estimate that 2,753 farmers are willing to adopt these practices, as based on interviews and feedbacks, most of them are interested as they see the benefits of the</p>
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	<p><b>2.4</b> Number of tons certified organic rice produced grows by 50% between Year 1 and Year 3 (baseline: 187 2015/16)</p>	<p>demonstration fields. The constraint remains in the inputs (financial and technical) that these agricultural practices application present.</p> <p><i>(Annex 7, items 15, 16 and 17)</i></p> <p><b>2.4</b> The number of tons of certified organic rice produced grew by 49,80% between Year 1 (480 tons produced) and Year 3 (719 tons produced). If compared between Year 1 and Year 4, the increase in quantity of certified organic rice produced reaches 80,40%, with a total of 866 tons produced in Year 4.</p> <p><i>(Annex 7, item 18)</i></p>
<p>Activity 2.1. Seed for drought-resilient jasmine rice strain purchased from CARDI</p>		<p>In total, SMP has purchased 680kg of drought-resilient jasmine rice strain from CARDI during the 4 years, and distributed them to IBIS seed producers to develop its own seed stock. The last year, no seeds were purchased from CARDI.</p>
<p>Activity 2.2. SMP develops and tests an organic-certified version of drought-resilient rice seed stock and new soil conservation techniques. Ibis Rice fields that have been certified as organic can be used to develop the seed-stock for organic drought-resilient Ibis Rice seed.</p>		<p>Since Year 1, the organic drought-resilient rice strains have been tested for further development in context of IBIS Rice paddy production. Identified rice strains with potential level of scaling-up have been grown in IBIS farmers' fields and Foundation seeds were distributed to some of them to develop IBIS Rice seed stock. Each year, between 13 and 46 seed producers were growing high-quality seeds, which were then sold back to IRCC and distributed back to IBIS farmers for the next season. In total, 155,086g of seeds were purchased by IRCC from the farmers over the 4 years (Phka Rumdoul: 123,792kg; DSMK: 3,019kg; HNN: 28,275kg).</p> <p><i>(Annex 7, items 17 and 18)</i></p>
<p>Activity 2.3. Evaluation of organic drought-resilient jasmine rice and fallow-year crops, including yield, ease of growing, ease of harvest, water requirements, and also taste and texture. Farmers, the VMNs and SMP will all be involved in the evaluation of the new rice strain and fallow-year crops.</p>		<p>SMP and its partner CIRAD conducted an assessment and trial of other drought-resilient jasmine rice varieties on a total of 38 rice varieties that belong to 4 groups, with the main objective to assess their yield, adaptability, cycle, grain quality and resistance to drought.</p> <p>To sustain rice productivity and income generation, trials on crop diversification of rice farming systems using cover crops after wet season rice, were conducted. 12 households took part on the trials, and IBIS farmers from other target villages could participate to trainings and visits to the demonstration fields. Finally, 3 crops (Sunhemp, Cowpea and <i>Stylosanthes guianensis</i>) were identified in Y4 as the most suitable for IBIS farmers.</p>

	<p>One Master research study assessing changes in soil functions between contrasted land uses, was conducted by a student from RUPP in 2019, and some of the findings were included in a peer-reviewed paper.</p> <p><i>(Annex 7, items 14 and 17)</i></p>
<p><b>Activity 2.4.</b></p> <p>VMNs promote organic drought-resilient jasmine rice and fallow-year crops across the Ibis Rice farmer network. In villages that have tested the organic drought-resilient rice, the VMNs can both promote the new rice strain to farmers within the village and to farmers in other Ibis Rice villages. At the same time they can provide training in growing the new strain of rice, based on their experiences during the trials.</p>	<p>VMNs play a large role in adoption of organic drought-resilient jasmine rice and fallow-year crops across the Ibis Rice farmers network and in their villages, as well as support the IBIS members in better farm management and promotion of soil conservation techniques.</p> <p>VMNs and voluntary IBIS farmers were involved in the soil conservation techniques as well as rice and fallow-year crops trials, all along the project. Theoretical trainings were provided to all 11 target villages IBIS farmers and field visits were organized to demonstration sites to present more in details the benefits and application of the techniques.</p> <p><i>(Annex 7, items 15 and 17)</i></p>
<p><b>Activity 2.5.</b></p> <p>Organic product grown in all Ibis Rice villages using soil conservation techniques. If the field trails are successful it is anticipated that the new organic drought-resilient jasmine rice strain will replace the existing jasmine rice strain used by Ibis Rice farmers across all of the villages, new and existing, that take part in the scheme.</p>	<p>The trial of the new organic drought-resilient jasmine rice strain (namely the Phka Rumdoul variety) was a huge success and replaced the previous strain for almost all farmers already since Year 1.</p> <p>At the end of Year 4, a total of 574 farmers, from the 11 target villages, were growing Phka Rumdoul on 1,052.88 ha of lands. On the totality of these farmers' lands, soil conservation techniques were applied following the standards of organic production.</p> <p>Other climate-smart techniques were applied to some voluntary IBIS farmers' fields as demonstration sites. Especially, on land levelling and water harvesting. Trainings and fields visits were organized for all the IBIS farmers from the target villages, in order to demonstrate the benefits of the techniques.</p> <p><i>(Annex 7, items 15 and 34)</i></p>
<p><b>Output 3.</b></p> <p>Critically endangered species populations increase as a result of improved protection around Ibis Rice villages</p>	<p><b>3.1</b> Deforestation rates around target villages are lower compared to deforestation rates in the wider landscape (baseline 2012-2015: 0.93% around target villages, 3.53% in wider landscape)</p> <p><b>3.1</b> Based on an assessment of forest cover change in the 27 CPAs of the Preah Vihear Landscape (conducted by GPL), the forest cover loss in the CPAs of the target villages between 2019 and 2020, was of 0.17% compared to 1.36% in all the CPAs of Preah Vihear Landscape.</p> <p><i>(Annex 7, items 22 and 23)</i></p>

	<p><b>3.2</b> Number of critically endangered birds' nests protected are 20% higher when compared to baseline 2014/15: 29.</p>	<p><b>3.2</b> On year 4, 31 nests of critically endangered birds' nests were protected (Giant ibis : 20 nests and 24 chicks fledging / White-shouldered Ibis: 8 nests and 12 chicks fledging / Red-headed vultures: 3 nests and 2 chicks fledging), which represents an increase of 7% compared to the baseline. <i>(Annex 7, items 21 and 25)</i></p>
<p>Activity 3.1.</p> <p>Birds nest protectors protect nests of key species and report to birds nest protection coordinator. Some of the birds nest protectors are also Ibis Rice farmers, who protect the birds that breed near to their fields. The species protected include six Critically Endangered species Giant and White-shouldered Ibis, Bengal Florican, Slender-billed, White-rumped and Red-headed Vultures, as well as a range of Endangered and Vulnerable species, such as Sarus Crane, Lesser and Greater Adjutants, Masked Finfoot and White-winged Duck.</p>		<p>Among the Grant period, a total of 769 nests of globally threatened birds were protected by birds nest protectors.</p> <p>From these 769 nests, 1,308 chicks successfully fledged. <i>(Annex 7, item 21)</i></p>
<p>Activity 3.2.</p> <p>Monitoring of forest cover and land-use change by WCS rangers and GIS team. WCS staff use remote sensing (LandSat and other satellite imagery) to monitor land-cover change. These data are cross-checked by the VMNs and all incidents recorded by the Compliance Unit, who maintain a field by field and farmer by farmer database.</p>		<p>Targeted Protected areas forest cover and land-use change have been continuously monitored by WCS rangers and GIS teams. Over the length of the project, 1,389 CPA patrols and 191 Joint patrols were conducted across KPWS and CWS-PRWS.</p> <p>These data have been cross-checked by the WCS and SMP Compliance unit, as well as the 11 VMN Committees during the Key persons non-compliance meetings, held 2 times per year in the target villages in presence of the local authorities and the potential perpetrators.</p> <p>In total, 2,121.6 of lands have been mapped by SMP teams in coordination with local authorities, as a baseline for the Internal Control System (ICS).</p> <p>On Year 3 (last harvest), 175 IBIS farmers have been identified as perpetrators of non-compliance incidents (following IBIS Rice compliance rules). <i>(Annex 7, items 8, 12, 13, 19, 20 and 24)</i></p>
<p><b>Output 4.</b></p> <p>Community members living within the target protected areas experience reduced poverty and</p>	<p><b>4.1 The number of families benefiting indirectly from the IBIS Rice project increases by 15% per annum and exceeds 2,500 (baseline 2015/16 : 1,230).</b></p>	<p><b>4.1</b> The number of families benefiting indirectly of IBIS Rice project has increased by 51.60% between Year 1 and Year 4, to reach 2,753 families at the end of the project. <i>(Annex 7, item 3)</i></p>

<p>increased income as a result of Ibis Rice</p>	<p><b>4.2 The number of households which have signed a sale agreement with IRCC. By the end of the project, this number reaches : 494.</b></p> <p><b>4.3</b> The number of tonnes Ibis Rice purchased per annum by IRCC from participating farmers exceeds 1,000 by the end of the project (baseline 2015/16: 557)</p> <p><b>4.4</b> Number of functioning VMNs exceeds 20 (baseline 13 in 2016)</p> <p><b>4.5</b> Poverty status of people in Ibis Rice villages improves (baseline to be established at project inception 2016/17)</p>	<p><b>4.2</b> In Year 4, 574 households have signed a sale agreement with IRCC. <i>(Annex 7, item 2)</i></p> <p><b>4.3</b> In Year 4, IRCC has purchased a total of 866 tons from participating farmers. <i>(Annex 7, item 33)</i></p> <p><b>4.4</b> By the end of the project, 11 VMN Committees are established and well-functioning (1 VMN Committee/village). 28 Committees members (including 11 women) have been elected to represent the VMN and IBIS Rice farmers' interests for 5 years (in Dangphlet village, 5 CPA members have been selected as VMN Committees members).</p> <p>Please note that the difference with the baseline is related to the fact that 4 villages were previously identified as IBIS Rice villages, but were removed since Year 1, as SMP rapidly recognized that the project could not be properly developed locally. Indeed, it was a majority of lowlands which were most of the year flooded, making rice really difficult to grow. Therefore, the project worked with 9 villages only, until Year 3 where 2 more villages were added. <i>(Annex 7, item 4)</i></p> <p><b>4.5</b> Direct IBIS Rice beneficiaries have received from their rice sale a 60% premium price compared to the local market price and received dividends from their participation to the project, based on KHR 35 to KHR 50/kg. Indirect beneficiaries from the target villages benefited from dividends shared to the Village development funds (KHR 5/kg), as well as other benefits, such as: better understanding of land-use plans and Protected Areas management regulations, effects of negative impacts from chemical inputs on the soil and farmers' health, improvement from the soil via the number of IBIS members participating to the project (by implementing improved agronomy techniques, and by following organic standards), high-quality organic rice seeds in the</p>
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		<p>villages, infrastructures constructed/repared with the Dividends received by the Villages development funds (wells, roads, schools, pagodas, ...).</p> <p><i>For poverty alleviation baseline, please see the indicator of Outcome 0.5.</i></p> <p><i>(Annex 7, items 2, 3, 28, 33, 35 and 36)</i></p>
<p>Activity 4.1.</p> <p>Village Marketing Networks (VMNs) established in target villages. The VMNs are a vital part of the Ibis Rice process. They are made up of members of the community, always including at least one woman. They are the link between farmers and SMP. As such, the VMNs are involved in promoting the scheme among farmers, and receive training that enables them to monitor compliance to conservation agreements and provide agricultural support to farmers.</p>		<p><i>Please, see the indicator of Output 4.4.</i></p>
<p>Activity 4.2.</p> <p>Participatory land-use planning conducted in target villages, and land-use plans agreed by government. Land-use plans are developed in a fully participatory process and denote areas where forest is of high importance for biodiversity and must be protected, areas that are farmed, and areas that are of low conservation importance and can be cleared for farming in the future with agreement from the VMN.</p>		<p>Participatory land-use planning (PLUP) forms the basis for the conservation agreements that Ibis Rice farmers sign up. Consultation meeting on planning were regularly conducted by WCS, in all target villages along the project.</p> <p>In 2018, village level awareness raising and PA zoning consultations were completed in 28 villages with participation from village representatives, commune council members, district representatives and provincial on KPWS. On this occasion, the principles of the four different management zones were explained and the proposed zoning boundary maps were presented by the working group members and endorsed by all participants.</p> <p><i>(Annex 7, item 29)</i></p>
<p>Activity 4.3.</p> <p>Conditional agreements explained and new members join VMNs. The conditional conservation agreements form the basis for Ibis Rice. Farmers can only sell their rice to SMP if the farmers adhere to the conservation agreements, and if they grow the correct type of rice (Jasmine Rice). The conservation agreements set out which species people are not allowed to hunt, and require them to adhere to the land-use plans; they are also not allowed use chemical fertilisers or pesticides.</p>		<p>Along the course of the project, 740 IBIS households have signed the IBIS Rice project conditional conservation agreements, compelling the participant farmer households to respect conservation as well as organic production requirements.</p> <p>On Year 3 (there was not yet harvest in Year 4), among the 579 IBIS farmers having signed the conservation agreements, 73% had successfully passed the ICS and external organic audit and were able to sell their paddy to IRCC.</p> <p><i>(Annex 7, items 32 and 33)</i></p>

<p>Activity 4.4.</p> <p>Training and seed provided to farmers as necessary.</p>	<p>Each year, high-quality seeds and trainings were provided to IBIS farmers as well as demonstration sites were established on seed production and pre-planting techniques.</p> <p><i>Please, see Activities 2.1 and 2.2.</i></p>
<p>Activity 4.5.</p> <p>VMNs identify eligible farmers and sell Ibis Rice paddy to SMP. Within each village, any land clearance must be authorised by the VMN, who make their decisions based on the land-use plan. Farmers who do not adhere to the conservation regulations cannot sell their rice to SMP, since it does not qualify as Ibis Rice. They weigh the rice before it is sold to SMP, which ensures that people in the village believe that they are getting a fair payment for their rice.</p>	<p>11 VMN Committees have been established and are still supported by SMP team. Based on PLUP data, and in coordination with WCS and local authorities, they support the identification of any illegal land clearance and prevent non-compliant IBIS members to sell back to IRCC, in accordance with the Compliance Unit Procedure.</p> <p>Compliance meetings are held at village level two times per year, where cases of non-compliance are exposed and discussed with the farmers involved. During the reporting period, a total of 175 households have been prevented from selling paddy to SMP due to issues of non-compliance. After the ICS cycle and before the beginning of the purchase, the non-compliance list of farmers is sent to the Provincial Department of Environment who takes the final decision and if necessary, will take further legal action.</p> <p>VMN Committees are trained by SMP in pre-harvest best practices, and support SMP in paddy quality checking and paddy weighing before the purchase.</p> <p>In total over the 4 years, IBIS compliant farmers from the 11 target villages sold 2,689 tons of paddy, for which they received a premium price going from 40% (Year 1) to 60% (Year 3) above the market price.</p> <p><i>(Annex 7, items 26, 27, 30 and 31)</i></p>
<p><b>Output 5.</b></p> <p>Impacts of Ibis Rice program on threatened bird populations, habitat trends and human livelihoods are monitored, recorded and disseminated to a wide audience, including relevant national and regional PES policy-makers.</p>	<p><b>5.1</b> Two peer-reviewed journal articles published in academic journals by WCS &amp; RUPP researchers.</p> <p><b>5.1</b> One research has been conducted by a lecturer of RUPP and involved researchers from RUA, CIRAD and the University of Montpellier. Their research looks at the impacts of conservation agriculture on soil health, and has been published in the journal <i>Soil and Tillage Research</i>, in November 2019.</p> <p>An impact evaluation has also been conducted on the long-term impacts of PAs and PES (including IBIS Rice program) in the Northern Plains, by post-doc social science researchers, and published in 3ie Impact Evaluation Report 106, <i>the International Initiative for Impact Evaluation</i>, New Delhi, March 2020.</p> <p><i>(Annex 7, items 14 and 35)</i></p>

	<p><b>5.2</b> Press releases, and social media used at least monthly to disseminate impacts of the Darwin Post project</p>	<p><b>5.2</b> In total, 32 Facebook posts were published on DARWIN Initiative. Specifically, a DARWIN mini-campaign was launched from November 2020 to March 2021, to widen the visibility of the project, and reached a total of 3,550 people and received 292 Likes, Comments &amp; Shares.</p> <p>The project impacts were also shared in articles and press releases, as well as during 25 other workshops, conferences and seminars held with Cambodian authorities, donors and media.</p> <p><i>(Annex 7, items 36 to 43)</i></p>
<p>Activity 5.1.</p> <p>Data on poverty status is collected from target villages and appropriate paired control villages</p>		<p>Data on poverty status have been collected from target villages and appropriate paired control villages from 2008 to September 2020 (with surveys conducted every 3 years). Last collected data are still under analysis.</p> <p><i>Please see part 6. Project support to poverty alleviation, Output 4.4 and Outcome 0.5.</i></p>
<p>Activity 5.2.</p> <p>Results of monitoring are used by Ibis Rice Compliance Unit, which works closely with the VMNs to ensure that SMP only purchases rice from farmers who have kept the conservation agreements.</p>		<p><i>Please see results from Output 4.</i></p>
<p>Activity 5.3.</p> <p>Peer-reviewed papers, reports, presentations and social media are prepared and published.</p>		<p>long the length of the project, 2 peer-reviewed were published, 1 Master research was conducted from a student of RUPP. Presentations on the project activities and impacts were presented during 25 workshops. During the course of the project many articles were published reporting on the growth of IBIS Rice and its impact as well as press releases and multiple videos including 4 cycle of rice videos, 1 explainer video, 3 mini-explainer videos were produced and released on social media.</p> <p>Since the beginning of the project, specific attention has been given to build the communication of SMP to disseminate more widely its activities and achievements. A Communication &amp; Development Coordinator was recruited in 2020, who focused on structuring SMP Facebook account (which counts now 789 followers) and website.</p> <p><i>(Annex 7, items 36 to 43)</i></p>



### Annex 3 Standard Measures

<b>Code</b>	<b>Description</b>	<b>Total</b>	<b>Nationality</b>	<b>Gender</b>	<b>Title or Focus</b>	<b>Language</b>	<b>Comments</b>
<b>Training Measures</b>							
7	Number of types of training materials produced for use by host country(s) (describe training materials)	36	Cambodian	Mixed	IBIS Rice rules	Khmer and English	Numerous training materials, as well as materials for IBIS Rice rules compliance and guidelines were produced and updated during the 4 years.
<b>Research Measures</b>		<b>Total</b>	<b>Nationality</b>	<b>Gender</b>	<b>Title</b>	<b>Language</b>	<b>Comments/ Weblink if available</b>
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies)	1	British Cambodian	M	Compliance Unit Procedure-3 <sup>rd</sup> Edition (2018)	English	The management plan has been developed after a long participatory and survey process involving local communities, local authorities, CPAs,

							partners involved in conservation and working in PAs.
11a	Number of papers published or accepted for publication in peer reviewed journals	2	British Cambodian French	2x male 1x female	1. "Measuring impacts of conservation interventions on human well-being and the environment in Northern Cambodia"  2. "Multi-functional assessment of soil health under Conservation Agriculture in Cambodia"	English	1. <a href="https://doi.org/10.23846/DPW1IE106">https://doi.org/10.23846/DPW1IE106</a>  2. <a href="https://doi.org/10.1016/j.still.2019.104349">https://doi.org/10.1016/j.still.2019.104349</a>

Dissemination Measures		Total	Nationality	Gender	Theme	Language	Comments
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	25	British Cambodian	Male	Project impacts and challenges	English Khmer	

Physical Measures		Total	Comments
22	Number of permanent field plots established		

<b>Financial Measures</b>		<b>Total</b>	<b>Nationality</b>	<b>Gender</b>	<b>Theme</b>	<b>Language</b>	<b>Comments</b>
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work <i>(please note that the figure provided here should align with financial information provided in section 9.2)</i>						

## Annex 4 Aichi Targets

	<b>Aichi Target</b>	<b>Tick if applicable to your project</b>
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	<b>X</b>
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	<b>X</b>
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	<b>X</b>
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	<b>X</b>
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	<b>X</b>

13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	
14	Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	<b>X</b>
15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	<b>X</b>
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	

## Annex 5 Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address etc)
Impact evaluation*	“Measuring impacts of conservation interventions on human well-being and the environment in Northern Cambodia”, Tom Clements, Maline Neang, EJ Milner-Gulland and Henry Travers ; March 2020	Henry Travers (UK)	International Initiative for Impact Evaluation (3ie), New Delhi	Henry Travers (M)	International Initiative for Impact Evaluation (3ie), New Delhi	<a href="https://doi.org/10.23846/DPW1IE106">https://doi.org/10.23846/DPW1IE106</a>
Scientific article*	“Multi-functional assessment of soil health under Conservation Agriculture in Cambodia”, Sambo Pheap, Clara Lefèvre, Alexis Thoumzeau, Vira Leng, Stéphane Boulakia, Ra Koy, Lyda Hok, Pascal Lienhard, Alain Brauman, Florent Tivet ; November 2019	Sambo Pheap (Cambodia) Clara Lefèvre (France)	Soil & Tillage Research	Sambo Pheap (M) Clara Lefèvre (F)	Soil & Tillage Research	<a href="https://doi.org/10.1016/j.still.2019.104349">https://doi.org/10.1016/j.still.2019.104349</a>

## Annex 6 Darwin Contacts

<b>Ref No</b>	24-028
<b>Project Title</b>	Future-proofing Cambodian Wildlife-Friendly farming: securing conservation and livelihoods
<b>Project Leader Details</b>	
Name	KEO Socheat
Role within Darwin Project	Program Manager and SMP Executive Director since 2020
Phone	
Skype	
Email	
<b>Partner 1</b>	
Name	SPENCER Nick
Organisation	IRCC
Role within Darwin Project	IRCC CEO, and previous SMP Executive Director
Skype	
Email	

- **Checklist for submission**

	Check
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	YES
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	
If you are submitting photos for publicity purposes, <b>do these meet the outlined requirements (see section 10)?</b>	No photos for section 10 submitted
<b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	YES (Annex 7)
<b>Do you have hard copies of material you need to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	NO
Have you involved your partners in preparation of the report and named the main contributors	YES
Have you completed the Project Expenditure table fully?	YES
Do not include claim forms or other communications with this report.	