**Results Matrix – FULL VERSION**

**Objective:** The general objectives of the program are reduce agricultural and livestock losses as well as to increase exports of Haitian agricultural products.. The specific objectives are to strengthen the government’s capacity to provide integrated, decentralized and sustainable agricultural health services, and to improve the plant and animal health conditions in the country.

| **IMPACTS** | **Baseline**  **2014** | **End of project target** | **Comments** |
| --- | --- | --- | --- |
| **IMPACT 1: Increase exports of Haitian agricultural products** |  |  |  |
| **Indicator 1:** Quantity of mango “Francisque” exports to the USA *(in Tons/Ha)* | 10,600 | 11,639 | **Source and year of baseline:** MARNDR(2014) and USDA (2014)  **Source of Target:** Economic Analysis of the project.  **Verification means:** BRH Website and Impact Evaluation. |
| **IMPACT 2: Reduce losses of agricultural crops** |  |  |  |
| **Indicator 1:** Percentage of agricultural crops lost by crazy ants’ infestation *(in %)* | 93,9 | 70,5 | **Source and year of baseline:** Assessment of Haitian Mango Value Chain (CRS, 2010) and baseline surveys for crazy ant diagnosis (IDB/MARNDR, 2014). This will be corroborated in 2015 with baseline surveys for the Impact Evaluation.  **Source of Target:** Economic Analysis of the project for the case of crazy ants. For fruit fly is based on same estimates used for crazy ants.  **Verification means:** Impact Evaluation surveys. |
| **Indicator 2:** Percentage of agricultural crops lost by fruit-fly infestation *(in %)* | 50 | 37.5 |
| **IMPACT 3: Reduce losses of livestock production** |  |  |  |
| **Indicator 4:** Average annual loss of pigs caused by the classical swine fever *(in US$)* | 593,685 | 148,421 | **Source and year of baseline:** Economic Analysis and MARNDR(2013).Will be revised before the vaccination campaign through an epidemiological survey (see output 3.3) in 2015.  **Source of Target:** Economic Analysis  **Verification means:** 2nd epidemiological survey, after the vaccination campaign. |
| **Indicator 5:** Average annual loss of pigs caused by the Teschen disease *(in US$)* | 449,421 | 112,355 | **Source and year of baseline:** Economic Analysis and MARNDR(2013).Will be revised before the vaccination campaign through an epidemiological survey (see output 3.3) in 2015.  **Source of Target:** Economic Analysis  **Verification means:** 2nd epidemiological survey, after the vaccination campaign. |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **COMPONENT I: INSTITUTIONAL MANAGEMENT** | | | | | | | | |
| **OUTCOMES** | **Base**  **line** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **End of Project** | **Comments** |
| **OUTCOME 1 : Agricultural health services decentralized to the field** |  |  |  |  |  |  |  |  |
| **Indicator 1.1.** Number of farmers who will benefit from provision of descentralized plant and animal health services *(in: # of farmers)* | 0 |  |  |  |  | 640,000 | 640,000 | **Source and year of baseline:** 2009, General Agricultural Census (for the number of farmers)  **Verification means:** independent final evaluation.  Observation: the target corresponds to the number of farmers in the 5 departments (Ouest, Artibonite, Centre, Sud, Nord’Ouest) were a decentralized agricultural health center will be operating. |
| **OUTCOME 2: Cost recovery system established for key functions/programs** | 0 |  |  |  |  |  |  | **Targets for indicators 2.1 to 2.5 are based on the average cost recovery rate observed in other countries of the region, but they may be revised in Y2 following the recommendations of the firm that will design the cost recovery system. Fees should cover most consumables and activities performed by private sector agents; remaining costs will be covered by Public Treasury (i.e. salaries of MARNDR’s staff, fuel…)** |
| **Indicator 2.1:** Percentage of operationalcost covered by fees in the Fruit Fly monitoring and control program *(in: % of total costs)* | 0 |  |  |  |  | 50% | 50% | Operation HA-L1094 will finance the Fruit Fly control program for 2 years only. Cost recovery (and Public Treasury) should finance the program for the subsequent years.  **Source and year of baseline:** 2014  **Verification means:** internal reports by the financial service of the Agricultural Health Unit. |
| **Indicator 2.2:** Percentage of operational cost covered by fees in the Classical Swine Fever and Teschen disease control and pig identification program *(in: % of total costs)* | 0 |  |  |  |  | 50% | 50% | Operation HA-L1094 will finance the Classical Swine Fever and Teschen disease control and pig identification program for the 1st year only. Cost recovery (and Public Treasury) should finance the program for the subsequent years  **Source and year of baseline:** 2014  **Verification means:** internal reports by the financial service of the Agricultural Health Unit. |
| **Indicator 2.3:** Percentage of operational cost covered by fees in the Anthrax control and cattle identification program *(in: % of total costs)* | 0 |  |  |  |  | 50% | 50% | Anthrax control and cattle identification will be financed by the World Bank but operation HA-L1094 will finance the cost recovery mechanism.  **Source and year of baseline:** 2014  **Verification means:** internal reports by the financial service of the Agricultural Health Unit. |
| **Indicator 2.4:** Percentage of operational costs covered by fees at LVCQAT *(in: % of total costs)* | 0 |  |  |  |  | 50% | 50% | **Source and year of baseline:** 2014  **Verification means:** internal reports by the financial service of the Agricultural Health Unit. |
| **Indicator 2.5:** Percentage of operational costs covered by fees in the Quarantine services *(in: % of total costs)* | 0 |  |  |  |  | 50% | 50% | Quarantine services will be financed by the World Bank but operation HA-L1094 will finance the cost recovery mechanism.  **Source and year of baseline:** 2014  **Verification means:** internal reports by the financial service of the Agricultural Health Unit. |
| **OUTPUTS** | **Baseline** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **End of Project** | **Comments** |
| **OUTPUT 1.1:** Departmental agricultural health and food safety centers built *(Unit: centers)* | 0 | 0 | 0 | 2 | 2 | 1 | 5 | The 5 departments are: Ouest, Artibonite, Centre, and Sud, Nord’Ouest  **Year of baseline**: 2014  **Verification means:** work acceptance report + visual observation during IDB field inspection visit |
| **OUTPUT 1.2 :** Departmental agricultural health and food safety centers equipped *(Unit: centers)* | 0 | 0 | 0 | 2 | 2 | 1 | 5 | Equipment are: vehicles, motorcycles, furniture, IT equipment, incinerators, and generators.  **Year of baseline**: 2014  **Verification means:** assets inventory register + visual observation of equipment during IDB field inspection visit |
| **OUTPUT 1.3:** Administrative and financial procedures, plans and manuals prepared, officially approved and published on the MARNDR Website *(Unit: procedures/ plans/ manuals)* | 0 | 4 | 0 | 0 | 0 | 0 | 4 | **Year of baseline**: 2014  **Verification means:** MARNDR Website |
| **OUTPUT 1.4:**Key functions/programs of the Agricultural Health Unit (UPS) with a cost recovery mechanism defined, officially approved and published (with applicable fees) on the MARNDR Website *(Unit: functions/programs)* | 0 | 1 | 1 | 1 | 2 | 0 | 5 | Y1: Classical Swine Fever and Teschen Disease control program; Y2: Anthrax control and cattle identification program; Y3: Fruit Fly monitoring and control program; Y4: Quarantine and LVCQAT.  **Year of baseline**: 2014  **Verification means:** MARNDR Website |
| **OUTPUT 1.5:** Integrated Information System (plant health, animal health, quarantine, laboratory) available on the MARNDR Website *(Unit: information system)* | 0 | 0 | 0 | 1 | 0 | 0 | 1 | **Year of baseline**: 2014  **Verification means:** MARNDR Website |
| **COMPONENT II: PLANT HEALTH** | | | | | | | | |
| **OUTCOMES** | **Baseline** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **End of Project** | **Comments** |
| **OUTCOME 3: Improved performance of plant health services** |  |  |  |  |  |  |  |  |
| **Indicator 3.1:** Score PVS/IICA (*in %)* | 12.5 |  |  |  |  | 40 | 40 | **Source and year of baseline:** IICA, 2011  **Verification means:** PVS/IICA evaluation  The target has been calculated based on the assumption that (i) the proposed project and the series of PBGs will allow to improve several of the 28 IICA criteria (ii) each criteria benefitting from an intervention included in the project or the PBGs will improve its individual score between 10 to 100% (depending on the effect expected from the specific intervention). |
| **Indicator 3.2:** Number of farmers who benefit from improved plant health (fruit fly and crazy ant pilots) *(in: # of farmers)* | 0 |  |  | 27,000 |  |  | 27,000 | **Source and year of baseline:** General Agricultural Census, 2009  **Verification means:** Plant Health Directorate supervision/monitoring reports |
| **OUTCOME 4: Improved plant health conditions** |  |  |  |  |  |  |  |  |
| **Indicator 4.1**: Maximum Fruit Fly infestation rate *(in flies per**trap per day)* | 7 |  |  | < 2 | < 2 | < 2 | < 2 | Above 2 flies per trap per day, the infestation rate makes the exports too risky. This will be measured in the area of intervention: Gros Morne and Terre Neuve municipalities  **Source and year of baseline:** Plant Health Directorate and USDA, 2014  **Verification means:** Plant Health Directorate supervision/monitoring reports + specific surveys |
| **OUTPUTS** | **Baseline** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **End of Project** | **Comments** |
| **OUTPUT 2.1.:** List of plant pests and diseases prepared/updated, submitted to the IPPC and published on the MARNDR’s Website *(Unit: List)* | 0 | 0 | 0 | 1 | 1 | 1 | 3 | **Year of baseline:** 2014  **Verification means:** MARNDR’s Website |
| **OUTPUT 2.2.:** Farmers members of the voluntary plant surveillance network, trained *(Unit: Farmers)* | 0 | 0 | 5,500 | 5,500 | 5,500 | 5,500 | 22,000 | Farmers will be trained on the identification of pests and diseases included in the list (output 2.1) and on the procedure to follow to notify the Ministry, in case of suspicion.  **Year of baseline:** 2014  **Verification means:** Plant Health Directorate reports |
| **OUTPUT 2.3.:** Monthly plant health surveillance bulletin distributed on the field and available on the MARNDR Website through the UPS information system (*Unit: Monthly bulletin*) | 0 | 0 | 0 | 0 | 12 | 12 | 24 | **Year of baseline:** 2014  **Verification means:** MARNDR Website + IDB field supervision visits |
| **OUTPUT 2.4:** Traps for Fruit Fly control installed and refilled every week with baits without discontinuity during the entire control campaign *(Unit: Traps)* | 0 | 98,000 | 196,000 | 0 | 0 | 0 | 196,000 | **Year of baseline:** 2014  **Verification means:** Plant Health Directorate supervision/monitoring reports  Nb: during the second year, 98,000 additional traps will be installed but the totality of the traps installed (196,000) will have to be refilled (operation that represents most of the efforts and costs) |
| **OUTPUT 2.5:** Traps for “Crazy Ant” control installed and refilled every week with baits without discontinuity during the entire control campaign *(Unit: Traps)* | 0 | 0 | 109,125 | 218,250 | 0 | 0 | 218,250 | **Year of baseline:** 2014  **Verification means:** Plant Health Directorate supervision/monitoring reports.  Nb : during the second year, 109,125 additional traps will be installed but the totality of the traps installed (218,250) will have to be refilled (operation that represents most of the efforts and costs) |
| **OUTPUT 2.6:** Phytopathology and virology sections of the Plant Health Laboratory equipped *(Unit: Sections)* | 0 | 0 | 2 | 0 | 0 | 0 | 2 | The laboratory will be equipped with binoculars, autoclave, centrifuge, etc (exact list already defined).  **Year of baseline:** 2014  **Verification means:** assets inventory register + visual observation during IDB field inspection visit |
| **OUTPUT 2.7.:** Biosecurity and Quality Plan and Laboratory Protocols prepared, officially approved by MARNDR authorities and published on the MARNDR Website *(Unit: Plan/Protocol)* | 0 | 0 | 2 | 0 | 0 | 0 | 2 | **Year of baseline:** 2014  **Verification means:** MARNDR Website |
| **OUTPUT 2.8. :** Staff of the Plant Health Laboratory trained *(Unit: Staff)* | 0 | 0 | 4 | 0 | 0 | 0 | 4 | Staff will be trained on the proper implementation of the biosecurity and quality plan and laboratory protocols (output 2.7).  **Year of baseline:** 2014  **Verification means:** Plant Health Directorate reports |
| **OUTPUT 2.8. :** Staff of the Plant Health Risk Analysis Unit trained *(Unit: Staff)* | 0 | 0 | 0 | 3 | 0 | 0 | 3 | Staff will be trained on epidemiology and risk analysis methodologies.  **Year of baseline:** 2014  **Verification means:** Plant Health Directorate reports |
| **COMPONENT III: ANIMAL HEALTH** | | | | | | | | |
| **OUTCOMES** | **Baseline** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **End of Project** | **Comments** |
| **OUTCOME 5: Improved performance of animal health services** |  |  |  |  |  |  |  |  |
| **Indicator 5.1:** Score PVS/OIE (*in points/5*) | 1.58 |  |  |  |  | 2,8 | 2,8 | **Source and year of baseline:** OIE, 2010  **Verification means:** PVS/OIE evaluation  The target has been calculated based on the assumption that (i) the proposed project and the series of PBG will allow to improve several of the 46 OIE criteria (ii) each criteria benefitting from an intervention included in the project or the PBGs will improve its individual score between 1 and 5 points (depending on the effect expected from the specific intervention). |
| **Indicator 5.2**. Number of farmers who will benefit from improved animal health(CSF and Teschen disease vaccination campaign) | 0 |  | 611,000 |  |  |  | 611,000 | **Source and year of baseline:** General Agricultural Census, 2009  **Verification means:** Animal Health Directorate, supervision/monitoring reports |
| **OUTCOME 6: Improved animal health conditions in the country** |  |  |  |  |  |  |  |  |
| **Indicator 6.1:** Prevalence rate of the Classical Swine Fever at national level *(in: %)* | 4% |  |  |  |  | 1% | 1% | **Source and year of baseline:** Cuban veterinary mission at LVCQAT (2014) and MARNDR (2013). Will be revised before the vaccination campaign through an epidemiological survey (see output 3.3)  **Verification means**: control survey, after the vaccination campaign. |
| **Indicator 6.2**: Prevalence rate of the Teschen disease at national level *(in: %)* | 8% |  |  |  |  | 2% | 2% | **Source and year of baseline:** Cuban veterinary mission at LVCQAT, (2014) and MARNDR (2013). Will be revised before the vaccination campaign through an epidemiological survey (see output 3.3)  **Verification means**: after epidemiological survey, after the vaccination campaign. |
| **OUTPUTS** | **Baseline** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **End of Project** | **Comments** |
| **OUTPUT 3.1.:** Farmers members of the voluntary animal surveillance network, trained *(Unit: Farmers)* | 0 | 0 | 5,500 | 5,500 | 5,500 | 5,500 | 22,000 | Farmers will be trained on the identification of main animal pests and diseases and on the procedure to follow to notify the Ministry, in case of suspicion.  **Year of baseline:** 2014  **Verification means:** Animal Health Directorate reports |
| **OUTPUT 3.2.:** Animal blood, tissue and organs samples collected and transmitted to LVCQAT for analysis *(Unit: Samples)* | 0 | 0 | 0 | 35,000 | 35,000 | 35,000 | 105,000 | Passive epidemiovigilance will concern all animals suspect of pest or disease (not only swine)  **Year of baseline:** 2014  **Verification means:** Animal Health Directorate and LVCQAT records |
| **OUTPUT 3.3.:** Classical Swine Fever and Teschen disease epidemiological surveys completed *(Unit: Surveys)* | 0 | 2 | 2 | 0 | 0 | 0 | 4 | **Year of baseline:** 2014  **Verification means:** Epidemiological surveys reports |
| **OUTPUT 3.4.:** Monthly animal healthsurveillance bulletin distributed on the field and published on the MARNDR Website through the UPS information system (*Unit: Monthly bulletin*) | 0 | 0 | 0 | 12 | 12 | 12 | 36 | **Year of baseline:** 2014  **Verification means:** MARNDR Website + IDB field supervision visits |
| **OUTPUT 3.5.:** Veterinary private paraprofessionals trained or retrained *(Unit : Professionals)* | 0 | 0 | 350 | 350 | 300 | 250 | 1250 | Veterinary paraprofessionals will be trained on the procedures to follow during the vaccination campaigns and on basic veterinary medecine operations.  **Year of baseline:** 2014  **Verification means:** Animal Health Directorate reports |
| **OUTPUT 3.6.:** Pigs simultaneously vaccinated against Classical Swine Fever and Teschen disease and identified with a tag *(Unit: Pigs)* | 0 | 0 | 800,000 | 0 | 0 | 0 | 800,000 | **Year of baseline:** 2014  **Verification means:** Animal Health Directorate records |
| **OUTPUT 3.7**. : Maintenance services of the national network of solar-powered cold chain units completed (*Unit; Maintenance services)* | 0 | 150 | 150 | 150 | 150 | 150 | 750 | **Year of baseline:** 2014  **Verification means:** Animal Health Directorate records |
| **OUTPUT 3.8.:** Staff of the Animal Health Risk Analysis Unit trained *(Unit: Staff)* | 0 | 0 | 0 | 2 | 0 | 0 | 2 | Staff will be trained on epidemiology and risk analysis methodologies.  **Year of baseline:** 2014  **Verification means:** Animal Health Directorate reports |
| **OUTPUT 3.9.:** List of veterinary private professionals (i) identified (ii) accredited by the MARNDR (iii) members of the National Veterinary Council established/updated and published on the MARNDR Website *(Unit: List)* | 0 | 0 | 1 | 1 | 1 | 1 | 4 | **Year of baseline:** 2014  **Verification means:** MARNDR Website |
| **COMPONENT IV: TAMARINIER NATIONAL VETERINARY AND FOOD CONTROL LABORATORY** | | | | | | | | |
| **OUTCOMES** | **Baseline** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **End of Project** | **Comments** |
| **OUTCOME 7:** **Performance of the Tamarinier National Veterinary and Food Quality Control Laboratory (LVCQAT) improved** |  |  |  |  |  |  |  |  |
| **Indicator 7.1:** P2 Accreditation obtained (*in : Accreditation*) | 0 |  |  |  |  | 1 | 1 | P2 (ISO) accreditation (biosecurity and quality assurance) is delivered by an independent institution if:   * Infrastructures are in compliance with the norms * Equipment is in compliance with the norms (in terms of equipment type and calibration frequency) * Proficiency tests are passed (which demonstrates that procedures are in compliance with the norms and that the analyses are reliable)   **Source and year of baseline:** LVCQAT, 2014  **Verification means**: Accreditation certificate |
| **Indicator 7.2:** Number of different veterinary analyses that the LVCQAT is capable to do (*in: Number of analysis*) | 6 |  |  |  |  | 30 | 36 | The LVCQAT is currently capable to conduct analysis on CSF, Gomboro, NewCastle disease, Salmonellosis, ColiBacteriosis, and Avian Flu. The LVCQAT must be able to conduct 30 additional analysis to be able to obtain the certification.  **Source and year of baseline:** Cuban veterinary mission report, 2014  **Verification means**: Agricultural Health Unit’s Information System; Tuskegee University and Cuban veterinary mission reports. |
| **Indicator 7.3:** Average time between the reception of a sample and the transmission of the results of the analysis to clients (*in: Working days*) | 7 |  |  |  |  | 2 | 2 | **Source and year of baseline:** LVCQAT internal statistics, 2014  **Verification means**: Agricultural Health Unit’s Information System |
| **OUTPUTS** | **Baseline** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **End of Project** | **Comments** |
| **OUTPUT 4.1.:** LVCQAT infrastructures upgraded (*Unit: Infrastructures)* | 0 | 0 | 0 | 1 | 0 | 0 | 1 | The whole Laboratory will be entirely rehabilitated in order to meet the accreditation requisites.  **Year of baseline**: 2014  **Verification means:** work acceptance report + visual observation during Banks' field inspection visit |
| **OUTPUT 4.2.**: LVCQAT equipped (*Unit: Set of laboratory equipment)* | 0 | 0 | 0 | 1 | 0 | 0 | 1 | All laboratory equipment (binoculars, autoclave, centrifuge, chromatograph, incinerator, water treatment unit…) and reagents required to conduct the mandatory analysis (exact list of equipment already prepared by Tuskegee University).  **Year of baseline**: 2014  **Verification means:** assets inventory register + visual observation of equipment during IDB field inspection visit |
| **OUTPUT 4.3.:** LVCQAT procedures and laboratory protocols (on biosecurity, quality assurance…) prepared, officially approved and published on the MARNDR Website ***(****Unit: procedures)* | 0 | 0 | 0 | 3 | 0 | 0 | 3 | **Year of baseline**: 2014  **Verification means:** MARNDR Website |
| **OUTPUT 4.4.:** LVCQAT staff trained in quality assurance, biosecurity, laboratory practices, equipment maintenance (*Unit: Staff)* | 0 | 0 | 0 | 30 | 7 | 0 | 37 | **Year of baseline**: 2014  **Verification means:** LVCQAT reports |