PART I: Details of Your School

1. Name of your school: **MUNTING ILOG NATIONAL HIGH SCHOOL**

2. Full address: **MUNTING ILOG, SILANG, CAVITE**

3. Postcode: **4118** 4. Country: **PHILIPPINES**

5. School's telephone number (country code+city code+telephone number): **+63-917-315-5152**

6. School's fax number (country code+city code+fax number): **NONE**

7. School's email Address:

8. Name of the Head Master/Principal/School Director: **CRISTINA M. AUSTRIA**

9. Name of the Teacher Coordinator: **MARIELLE R. TRINIDAD**

10. Email address of the Coordinator: **marielle.trinidad@deped.gov.ph**

11. School website (if available): …….

12. Educational level (Such as Kindergarten 1 to Grade/Year 9): **JUNIOR AND SENIOR HIGH SCHOOL**

13. Total number of teachers in your school: **66**

14. Approximately number of teachers participated in this programme: **66**

15. Total number of students in your school: **1,554**

16. Approximate number of students participated in this programme: **1,554**

Title of the School's Program:
Revitalizing Ecological Agricultural Practices ("REAP")

Summary of the programme

Munting Ilog National High School Integrated Farm is sustained following the construct of a Natural Farm which ways promote economic at the same time ecological raising of crops, hogs, and poultries.

The school starts with raising seedlings through effective nursery management. In order to further maximize the farming site, the community practices crop rotation, intercropping, and multicropping system of planting. These are forms of polyculture which consider all types of seasons and crops suitable for simultaneous farming. This way more harvests are reaped at the end of the season without sacrificing quality of the produce. Moreover, these methods allow planting of pest-repellant plants which does not only abide by the expectations of natural farming it also deviates from commercialized use of pesticides to secure healthy harvest. The advantage in natural farming is the low maintenance it demands farmers. In the case of irrigation, manual irrigation and Overhead Sprinkler Irrigation (for nursery) are proven efficient at the same time economical. The same goes with fertilizer management which capitalizes on composting. The school applies concoctions, use of animal manure, and vermicomposting. These practices not only reinforce natural farming they also accommodate and take advantage of systemic waste management. As mentioned earlier, insect repellant plants like 'tanglad' and "oregano" are grown in the site which adapts the practice of Biological Pest Control. Weeds are controlled through manual weeding.

MINHS advances agriculture through multimedia advertising and Annual Inter-Senior High School Congress and Bazaar. It also partakes in Young Farmers Field School (YFFS) conducted by Department of Agriculture of Silang and Farm Business School initiated by International Institute for Rural Reconstruction. These partnerships led to opportunities like organic farm tour and helped in the National Certification of Agriculture students.

Natural farming takes advantage of the agricultural potentials of Munting Ilog and the economical yet efficient practices it promotes aid individual success of budding agriculturists series of training and farm tours.

Background information or reasons why the school created this program

Youth nowadays will choose to be an engineer, architect, policemen or accountant rather than being a farmer. They shun farming because of the typical image of "magsasaka". This mentality is not only true among city people but even from agriculturally driven provinces which originally cover the greater portion of Cavite.

Silang is one of the progressive towns in Cavite because of its vast land suitable for agricultural but same as Laguna the continuing urbanization and industrialization brought massive conversion of agricultural lands to industrial, commercial and residential purposes.
This is the reason why the local government and the academe are restoring farming in Silang by offering agriculture strand in secondary schools like Munting Ilog National High School. Natural farming is adopted in the school wherein no chemical fertilizers and pesticides are used. Organic waste generated in the school are used to make compost and fertilizer.

Objectives/ goals of the programme

1. Restore agricultural interests among students in Silang
2. Practice natural system of farming
3. Manage the school's biodegrable waste through composting

Brief information about local wisdom that the school has applied in the program

Multi-cropping, intercropping and crop rotation are applied in the school's farm wherein root crops (radish), fruit bearing plants (okra, tomatoes, eggplant), leafy vegetables (mustard, cabbage), and legumes (string beans, and beans) are planted. These systems have resulted to increased farm production and cycle of nutrients in the soil. Composting of kitchen waste and leaves and vermicomposting are also practiced to make soil conditioner. Chicken manure which has been used by the locals for a long time was also used in the farm as soil fertilizer. Concoction of fermented plant juice (banana trunk, cacao de nance, horseradish, and ipil ipil), fermented fruit juice (banana, squash, and papaya), and fish amino acid (from fishbone, intestines, gills, and scales) were applied to soil to increase the NPK of the soil.

Values for environmental conservation

Farming helps in the mitigation of climate change by decreasing carbon dioxide levels in the air. Silang shows a progressive fluctuation in the rate of commercialization in the municipality. The problem may not be as worse compared with the situations in the metro but as commercialization reaches its peak climate change would be felt without initiating preventive measures. The trend dramatically affects turnover of land masses to land developers, with this in projection agricultural lands will continually be converted to subdivisions and technological parks. Revitalizing Ecological Agricultural Practices will not only revive agricultural interests among students but will impose demand to put premium on farming along with the rise of industries in the locale.

Polyculture such as crop rotation, intercropping and multi cropping allow the cycle of nutrients in the soil. It increases soil stability and local biodiversity. Moreover, compost which is a product of composting improves soil structure so that the soil can easily hold desirable amount of moisture, nutrients and air. It reduces garbage volume and a rich natural fertilizer that deviates from the use of chemical fertilizers. Furthermore, concoction of fermented fruit juice, plant juice and fish amino acid maintain the nitrogen, phosphorus and potassium content of the soil which are classified as plant's macronutrients. NPK are essential elements needed for plant growth.

Activities (Actions and Strategies of Implementation)

Munting Ilog National High School strengthens its agricultural practices through the launching of **"Young Farmers' Field School"** held on August 4, 2017. It is a continuous program that equips Senior High Students to adapt natural farming. With the help of Department of Agriculture-Silang, students attend intensive training for 16 consecutive Fridays. They were taught how to make fertilizers from leaves, trunks and fruits of the plants. They also learned to use the organic waste such as chicken manure, kitchen waste, leaves, and egg shell as soil conditioner. Students were also taught the importance of polyculture such as crop rotation, intercropping and

multi cropping. The effects of using chemical fertilizers were also emphasized. The training did not end in just teaching the students how to plant and make fertilizers and compost, **farm business school** was also launched in MINHS. This enables the students to know how to earn money from farming through business planning. This time it was International Institute of Rural Reconstruction (IIRR) who sponsored the program.

The school also maximizes the use of vacant lots, **"Gulayan sa Paaralan"** was given more attention and reinforcement. Vacant areas such as the backyard of SEDP building is used to plant vegetables. The produce were used to feed students who are underweight, severely wasted, and underprivileged.

Agriculture students conducted a research on the effects and efficacy of fermented animal manure to the growth of the plants. Their idea came from their grandparents who used fermented animal manure as fertilizer. The agri-site is also open for researches. In fact, one of the teachers in the school assess the heavy metal content of the soil and found out that the heavy metal contents (Cu, Zn, Pb and Cd) were within the tolerable limits and have high NPK content. This may be attributed to the use of natural fertilizers.

Teaching and learning approaches that the school has integrated the local wisdom for environmental conservation

Besides these occasional activities sponsored by agriculture agencies and institutions, teachers are also honed and groomed to be efficient instructors. The nature of the subject does not only demand content or knowledge or even theories but actual skills to grow crops, maintain, and abundantly harvest in the end. Beginning students are prepared through intensive lectures and site ocular. The flow of the lesson presentation is in abidance with the projection of competency development promulgated by Department of Education. The implementation, however, is not by the book. Actual farming practices in Munting Ilog is fused with instruction and the standards are bent to the appropriateness and applicability in the barangay most importantly. After intensive instruction, incidental teaching occurs during situational needs when learners are doing hands on activities. The old adage says "Walk the talk." True enough, agriculture students would only maximize learning by having an actual experience with the soil, the seedlings, and the bred animals. Similarly, instructors could only assess acquisition of skills through authentic modes of evaluation. The ties between Munting Ilong NHS and private institutions do not end with IIRR and DA Silang but with other established local farms, too. As a privilege, students join farm visits and assimilate observations with activities at school.

A. Participation with the community (How the school and community work together in planning and implementing the school programme)

The local government work hand in hand with the school needs. Agricultural land (2496 m^2) was provided by the Silang Municipal Government through the leadership of Hon. Mayor Emilia Lourdes and Poblete and Hon. Vice Mayor Aidel Paul Belamide. Rotary Club of Silang (members are alumni of the school) donated agriculture tool. International Institute of Rural Reconstruction sponsored a seminar about "Farm Business Planning". Students from elementary schools in Silang had their farm tour in our agri-site. They were taught how to make natural fertilizers.

B. Engagement of partners in community and their roles/contribution

Name of Partners	Roles and Contribution
Rotary Club of Silang	Donated 179 agriculture tools
Department of Agriculture Silang	Donated 70 seedlings and training on how to make natural fertilizers
Department of Agriculture IV- A CALABARZON	Farm equipment and input (seeds, organic fertilizer)
International Institute of Rural Reconstruction (IIRR)	Seminar and workshop on Farm Business School
Teofely's Silang, Cavite	Training and farm tour
Gourmet Farm	Farm tour
Agricultural Training Institute	Training about natural farming
Villar Foundation	Training about natural farming
CAFFMACO	Training about swine production

Activities that the school has contributed to the community related to the school programme and when

A project entitled "Kasanayan at Kabuhayan: Pagbibigay ng Oportunidad para sa Maunlad na Paaralan at Pamayanan" will be conducted on August 20, 2018 Parents from indigent families or those who belong to 4Ps from Munting Ilog Silang, Cavite will be invited to attend a seminar workshop on how to start their own natural farm and the practices that they can apply in growing crops. They will be taught how to make money from farming and emphasize the significance of business planning. This will not only provide food for their families but also can become steady source of income. Approval from Municipal Office was already secured.

Monitoring and evaluation mechanisms and summary of results

Monitoring and evaluation mechanisms

A program may only continue to succeed given that it is regularly monitored and evaluated. Risk Management is a common practice in identifying loopholes or challenges that may confront an implementation. This also helps the agriculture instructors and the school administration to devise contingency plans which will resolve problems upon occurrence. Included in the team of monitors and evaluators are the teachers themselves, unit heads, administration, and representatives from Department of Agriculture.

In order to see the movement in the implementation, farm visits and harvests are recorded. Inventory of tools, seedlings, etc. are also meticulously secured to statistically and objectively layout future plans or corrective and preventive actions. Soil pH is one of the many things that is monitored regularly.

A summary of findings is presented to the administration for actions and are sometimes referred to the Department of Agriculture for a more comprehensive interpretation.

Resources used for programme implementation

The program has been surviving first because there remains interested families who send their children to agriculture schooling. As the demand grows, the school maximizes its connections and linkages and solicit as much support and help from other stakeholders which at times include private individuals. Private sectors and the local government are also strong driving forces which keep MINHS agriculture at pace and at the right direction.

Benefits/ Impacts/ positive outcomes of the programme to students, school and the wider community

Needs assessment is conducted before a project or a program is launched. Vocational courses spring from all directions. The rise of BPO industries, although significantly contributive, leads to the declining agricultural interest these days even when contradictingly, a locale highly suggests it. MINHS is a formative venue for sustaining the development of the agriculture industry in Silang specially that most of the land masses here are agriculture lands.

Specifically, the school aspires to widen awareness on the rising number of agricultural imports when the Philippines could basically produce them, the imported rice amounting to dollars for one. There is an urgent need to influence and educate because agriculture borne farmers are aging and the percentage of millennial participants in farming is alarming. This program also addresses job creation and alignment and more significantly business planning. A land owner has every opportunity to earn and provide agricultural services only if they are well schooled. Farming helps in the prevention of much frightened flooding, starvation, etc.

Interrelationship of the school programme with other Sustainable Development Goals

In a community like Munting Ilog you cannot be impoverished only if you know how to strategically the masses of land one owns. Despite this notion, many still complain of poverty and financial challenges. The knowledge of agriculture would equip every family the skills and the knowledge which are aligned with the SDG eradicating poverty, establishment of businesses and therefore feeding families. It is a trend nowadays to go for natural products and do less with chemicals. Natural farming advocates good health and in entirety well-being. Education is a long process to ready individuals to be practically adapt with the environment and something that empowers them and prepares them for life is considerably good education. Farming also raised bars but this time magnified the roles of both men and women in the field. It is no longer gender restrictive as the trends demand for female personnel in quality sectors and field functions too. This eradicates inequalities too which span to regional origins and economic backgrounds. Anything natural respects nature and promotes the sixth SDG clean water and sanitation. Since natural farming banks on waste utilization for compost potentials it aids in maintain a clean environment. Philippines is also a very good territory to allow agriculture to bloom because we are not heavily industrialized considering most of the regions. This way we help improve the economic backgrounds of the locals by driving them to utilize their available resources. A community that grows feeds itself and this cycle helps sustain life in the place. The practice in waste utilization takes part in improving consumption and production. Not only waste management threatens environmental safety but even the irresponsible conversion of land masses. Without the use of chemicals and with responsible utilization of land we lower the threats of climate change. When the community is educated we prevent them from selling out their properties to business

tycoons who erects multibillion industries—the same fate an educated farmer could reach. Instead, programs like ours invite partnerships and linkages with interested stakeholders. All these help in sustaining life on land.

Plan for sustainability and plan for scaling – up/expansion

Plan for sustainability

The local practices about natural farming adapted by the school will be applied continuously and will be taught to the next batches of students. Subject Matter Experts in the person of active growers or farmers will also be tapped to share their knowledge of the field. The produce would cut expenses in community outreach and feeding programs.

The school would not stand on its own. It could do enough but with the help of established partner institutions it would do so much more.

Plan for scaling up /expansion

Project "Kasanayan at Kabuhayan: Pagbibigay ng Oportunidad para sa Maunlad na Paaralan at Pamayanan" will be extended to the barangays near Munting Ilog. Workshops and information dissemination of natural farming will be intensified to cascade potential business opportunities to farming inclined residents not only of Munting Ilog but neighboring barangays.

Achievements form the school's programme "Applying Local Wisdom for Environmental Conservation"

Students were educated about natural farming and were able to make compost and fertilizers from waste and from resources in the school premises. They adapted and applied the skills and knowledge they gain in their homes. Some of the students pursue Agricultural courses in college. Furthermore, the research on heavy metal concentration evaluated the properties of the area and identified which location is most suited for farming.

With the intensive instruction as well as the local practices inherently observed by students, the school achieved a 100% National Certification II passing rate for SY 2017-2018. As months rolled recently, there were already 15 students awarded with NC II in Agriculture and the school expects to have more as it covers the remaining quarter of the academic year.

Soil in the farm is fertile and not acidic because chemical fertilizers and pesticides were not practice in the farm. Reduction of waste was also achieved since biodegradable materials are composted and processed as fertilizers

List of Supporting Documents – see attached files

Launching of the 2nd Young Farmers' Field School

Munting Ilog National High School Agri-Site

Students making Natural Fertilizers

Giving of Certificates for National Certificate II Passers

Transferring of seedlings to the plot