Sustainability Project Fund Application Form

Project Title: Farm to School Project
Budget Requested: 1040$
Applicant/Project team:

David Chen
Faculty of Agricultural and Environmental Sciences, International Agriculture & Food Systems
david.chen3@mail.mcgill.ca
514-501-9206

Clémence Braind-Racine
Faculty of Agricultural and Environmental Sciences, Environmental Biology
clemence.briand-Racine@mail.mcgill.ca
514-816-7244

Valérie Toupin-Dubé
Faculty of Agricultural and Environmental Sciences, Professional Agrology
valerie.toupin-dube@mail.mcgill.ca
438-881-1666

Julien Malard
Faculty of Agricultural and Environmental Sciences, International Agriculture & Food Systems
Julien.malard@yahoo.ca

Under supervision of
Dr. Caroline Begg
Faculty of Agricultural and Environmental Sciences, Plan Science
Caroline.begg@mail.mcgill.ca

Farm to school project overview

Summary

The farm to school project seeks to re-establish the link between the food students eat and where it comes from through the medium of hands-on constructive education. The pilot project is in collaboration with the elementary school Joseph-Henricot located in Baie-d'Urfé, where learning will take place through the establishment and integration of a schoolyard garden.

As students benefitting from high quality education, we strongly believe that it is our responsibility to share knowledge in all fields, ultimately building stronger, educated communities. Our goal is to bring context back to the knowledge surrounding agriculture as sustenance in children's lives. This project is headed under the course AGRI 482 Special topics: Education and school gardens with Dr. Caroline Begg.

These goals will be developed through the following strategies:

1) A **permanent garden plot** in the schoolyard will be used to teach the students to plant and sow their own vegetables and follow the process from seeding to harvest. Furthermore, Joseph-Henricot has been designated as an entrepreneurial school by its school board the *Commission Scolaire Marguerite-Bourgeois*. Students will be able to develop entrepreneurial skills by processing and making products from the produce grown and selling it at school events, while educating their community about healthy eating and the importance of agriculture as sustenance. See Appendix A (p.6) for further contextualization and perspective on the benefits and importance of schoolyard garden-integrated education.

2) **Hands-on learning activities** that integrate various components of curriculum in an applied learning experience. Educational modules have been developed through the AGRI 482 course. These follow Quebec's elementary school curriculum to allow teachers to easily integrate schoolyard garden and environmental education into current lessons and teaching goals. These modules are written and organized by team Farm-to-school team members with input from Joseph-Henricot teachers, and will be used in workshops and exercises as well.

3) **Class visits and workshops** at McGill's MacDonald Campus (a 15 minute walk away from Joseph-Henricot), where concepts learned in class will be expanded upon through university-student-led workshops. As examples, workshops with the beekeeping society, farm visits, a canning workshop with the student-run Out of the garden café etc. are in the works.

Timeframe

A preliminary garden will be established throughout the summer of 2013. Following the establishment of the garden, the McGill team will ideally only be peripherally involved with certain workshops and visits etc., with the written modules letting the teachers at Joseph-Henricot be autonomous in their choices for integration of garden and curriculum.

A measure of success used will be surveys of the elementary school teachers using the modules, which will provide feedback on whether the modules developed are being effectively implemented, with improvements made as needed. Joseph-Henricot wants to create diverse spaces with the help of McGill students in future years, including a butterfly garden, permanent raised beds, and other installations in successive years. These should not require external funding as the principal of the school has mentioned that they do have funding available.

Des Mésange elementary school has also shown interest in the project, and wants to start a farm to school project in collaboration with MacDonald students, using the already-established affiliation with Joseph-Henricot as a template. (see Appendix C p.9)
In the long term, the farm to school project will be economically viable because the participating elementary schools have their own budgets that cover the costs of the Mac visits and future installations, allowing the McGill team to be free of reliance on internal or external funding.

Stakeholders

Key stakeholders include the faculty and staff of Joseph-Henricot, who will be able to run the project semi-autonomously once the garden is established. While still connected with McGill for resources and workshop expertise, as well as field trips, the teachers at the elementary will have the means to teach concepts based on the garden autonomously using the modules. This allows for better continuity of the project, and ensures continuation even when team members graduate or withdraw from the project.

Outreach

This project allows elementary school students to be exposed to the environmental and agricultural learning platforms available at MacDonald Campus. For example, the MacDonald farm is very welcoming for visits, especially the rotational-grazing chicken caravan (planned for 2013), and the MacDonald Student-run Ecological Gardens are a source of hands-on vegetable production knowledge, having already welcomed a group this past summer for a planting day. As well, the on-campus butterfly and community gardens will also serve as models for Joseph-Henricot's own butterfly gardens planned.
The community outreach will give young students in the surrounding community greater exposure to sustainability issues through the very tangible concepts that a garden and workshops demonstrate.

Impacts and Benefits to the McGill Community

By having students give the workshops, this allows McGill students to share their skills and knowledge with a younger generation. This allows students to learn mentorship skills while demonstrating the importance of science in education, while also showing that environmental science can fun. As well, we believe that part of the educational experience is to share education with high school and elementary school students. Many students at Macdonald campus have realized that interest in sustainability issues in the general public depends on education foremost, leading to the proliferation of multiple groups that do educational work with elementary and high schools. This project will be able to serve as a formalized framework for effective and lasting educational projects for other groups at McGill. As well, this project will provide interested students an opportunity to work on the project itself as it expands in scope to other schools, allowing McGill students to earn credits through the special topics course and have the opportunity to learn the intricacies of educational work. Finally, this project emphasizes ties between McGill and the community around it, creating sustainable and relevant community-university linkages. These linkages

will allow for exchange of knowledge between the community and McGill, where McGill will be able to demonstrate the various sustainability initiatives being done, and possibly create linkages for applicability in the community.

Expenses

2013 expenses:

Expense	**Cost ($)**
Tools and equipment for the garden (shared with community garden)	In kind support
Operation materials: (compost, seeds-free, row covers all donated by the community garden)	In kind support
Tools and rental of plot	In kind support
May salaries (3 day visit 8h/day, $10/h, 3 students facilitating) including preparations and meetings	$240
Part-time summer salaries($10/h, for --2 students @ 3h/week during for 8 weeks(july and august)	$480
september salaries(4 days of visit 8h/day, $10/h, 3 students facilitating) including preperations and meetings	$320
Total	**$1040**

The plot is 3.6m x 3.6m : half of the plot is dedicated to early transplant such as herbs and lettuce. The other half will be dedicated to winter squashes (10 ft by 10 ft)

The salaries for May and for September are for the MGill students' preparation of the garden as well as facilitation of the visits at mac with the elementary school.

Appendix A

Sources and Further Readings

Vermont FEED, 2009. Food, Farm and Nutrition Curriculum Units Developed by Vermont Teachers. Retrived on March 11th 2013 from www.vtfeed.org

Farfan-Ramirez, L., Diemoz, L., Gong, E. J., & Lagura, M. A. (2011). Curriculum intervention in preschool children: *Nutrition Matters! Journal of Nutrition Education and Behavior, 43*(4S2), S162-S165. doi: 10.1016/j.jneb.2011.03.007

Morris, J., Neustadter, A., & Zindenberg-Cherr, S. (2001). First-grade gardeners more likely to taste vegetables. *California Agriculture, January-February*, 43-46.

Morris, J., & Zindenberg-Cherr, S. (2002). Garden-enhanced nutrition curriculum improves fourth-grade school children's knowledge of nutrition and preferences for some vegetables. *Journal of the American Dietetic Association, 102*(1), 91-93.

Phelps, J., Hermann, J. R., Parker, S. P., & Denney, B. (2010). Advantages of gardening as a form of physical activity in an after-school program. *Journal of Extension, 48*(6),

Children, youth and environments center for research and design, www.cudenver/cye

Alice Walters, http://edibleschoolyard.org/our-story/our-work

Smith,t & S.R-L(2006). Element of ecology. 6th edition, p.2-3

Appendix B

<u>Context and perspective of educational changes</u>

A Schoolyard Garden is an incredibly positive asset to a school and the community around it:

- It demonstrates real-world ecological and environmental concepts in practice to students,

- It makes young students more receptive to eating fresh fruits and vegetables, provides a space for accessible physical activity, and in doing so prevents childhood obesity,

- It educates students about the value of nature and the environment, exposing them to sustainability issues early in their education.

1) Ecology and Environment:

Ecology studies the relationship between organisms and their environment.Environment includes not only the physical conditions but also the biological or living components that make up an organism's surroundings. Relationship includes interactions with the physical world, as well as with members of the same and other species.The term *ecology* comes from the greek words oikos, meaning" the family household," and l*ogy,* meaning" the study of." It has the root of word as economics, meaning " management of the house-hold."

In 1866, the ecologist Ernst haeckel has said:

> " *By ecology we mean the body of knowledge concerning the* ***economy of nature****- The investigation of the total relations of the relations of the animal both to its inorganic and to its organic; including above all, its friendlyand inimical relations with those animals and plants with which it comes directly or indirectly into contact- in a word, ecology is the study of all those complex inter-relationships referred to by Darwin as the conditions of the struggle for existence."*

A garden allows for students to explore the ecological relationships present in our ecosystem in a very direct way. They will be able to see how connections such as how plants are dependent on soil micro-organisms as well as insect pollinators, or how these plants provide soil nutrients and food for the insects in turn. A schoolyard garden is also small enough in scale that it facilitates student engagement through activities using aspects of the garden, and allows students to discover the impacts that human factors can have on the garden micro-environment as well.

2) Agriculture and Nutrition in the contemporary perspective

In contemporary North American urban society, there is a growing disconnect between popular knowledge and nature's role as provider of food. (VT Feed 2009). With a tripling in childhood obesity in the last 30 years (Healthy Canadians, 2011; Centers for Disease Control and Prevention [CDC], 2009), this epidemic of childhood obesity in North America has been attributed to both a decline in physical activity, especially in schools, as well as a lack of access to healthy food. (CDC, 2009) The adoption of schoolyard gardens across North America seeks to address the problem from both sides of the issue. School gardens have been shown to increase schoolchildren's nutrition knowledge as well as their willingness to try fresh fruits and vegetables *(Farfan-Ramirez et al., 2011; Morris and Zindenberg-Cherr, 2002; Morris et al., 2001).* Moreover, gardening provides a non-competitive and accessible form of physical activity for all students and encourages further physical activity (Kien & Chodo, 2003; Phelps et al., 2010).

3) Pedagogy and sustainable education:

> " What we are calling for is a revolution in public education – the Delicious Revolution. When the hearts and minds of our children are captured by a school lunch curriculum, enriched with experience in the garden, sustainability will become the lens through which they see the world." (Alice Walters)

University of Colorado has sucessfully shown that students who were actively engaged in garden projects tend to enjoy learning (University of Colorado). It has also been shown that student who participate in school gardening activities scored significantly higher on science tests than students who did not experience any garden-based learning activities. (Klemmer, Waliczek, & Zajicek, 2005 in www.cudenver/cye) Furthermore, exposure to healthy foods, moderate physical activity and positive social interactions while gardening in childhood lead to an applied education in sustainability, as children experiment with self-understanding, interpersonal relationships and the ability to work in groups.

Appendix C

Letters of support

École Joseph-henricot, Baie-D'Urfé
15 mars, 2013
Directeur, M.Christian Supino

À qui de droit,

"Farm to school'' est une plateforme idéale pour créer un pont entre le collège MacDonald, McGill et les écoles de la communauté.
Dans le but de créer une collaboration durable entre les divers niveaux étudiants, les élèves pourront s'initier concrètement à l'agriculture et obtenir un soutien pour leur projet entrepreneuriaux, conscients et environnementaux.

De plus, ils pourront connaître les enjeux environnementaux planétaires et apprendre à devenir des citoyens éco-responsables en achetant localement, en compostant, en naturalisant leur environnement tout en favorisant la culture biologique. Ils apprendront également l'utilité d'attirer des insectes pollinisateurs.

Avec ''Farm to school'' les sciences, les technologies et les valeurs entrepreneuriales dont la confiance en soi, la coopération, la responsabilisation, l'effort, etc. sont mises en valeur concrètement grâce aux modules éducatif, ce qui à mon avis sensibilisera beaucoup les enfants .

Il est toujours plus gratifiant de manger ce que l'on fait pousser et puisque c'est en forgeant que l'on devient forgeron, c'est en s'impliquant qu'un apprenant s'approprie la matière, les valeurs et devient donc responsable.

Madame Sophie Morin
Enseignante

École des Mésanges,
15 mars, 2013
Directeur, M. Éric Campeau

C'est avec un vif intérêt et enthousiasme que nous souhaitons participer au projet de *Farm to school* offert par la faculté d'agronomie et de nutrition de l'université Mcgill, le college Macdonald.

Les multiples plates-formes, tel le jardin pollinnisateur, le jardin étudiant écologique (Mseg), le café étudiants etc. permettront aux élèves l'expérience concrète de l'agriculture et de l'environnement, en lien avec le curriculum de science et technologie scolaire. Par les modules éducatifs que le *farm to school* crée, il sera aussi possible pour les enseignants de notre école d'avoir accès à des activités liées aux éléments de compétences et de connaissances de chacun des cycles, aidant de beaucoup notre enseignement, et permettant dès le jeune âge de nos élèves l'explication des enjeux environnementaux et agraires.

Dans cette perspective, nous voyons les activités au collège Macdonald par le projet *farm to school* comme une véritable interface éducative, encourageant la collaboration entre le comité étudiants de Mcgill, celui de notre école, et nos enseignants, afin d'initier les élèves dès le primaire au travail collaborateur, à la communication éducative, à l'empowerment, et surtout à la consommation responsable et locale.

Nous sommes très heureux d'encourager l'initiative des élèves universitaires de Macdonald pour ce projet, et sommes fiers de pouvoir en faire partie,

Madame Annick Toupin
Enseignante