

Everyone's Smart University

Project (Spring 2021)

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Section	Date	Course Code
Master	Thursday 18 / 03 / 2021.	(PMG511)

PROJECT LEADERSHIP

Instructions:

- ☐ آخر موعد للتسليم هو يوم الخميس 2021-05-20 في تمام الساعة ٩ مساءً.
- ☐ الإجابة متاحة باللغة الإنجليزية أو اللغة العربية مع مراعاة أن تكون المصطلحات العلمية باللغة الانجليزية.
- ☐ يتم تسليم المشروع في صيغة ملف pdf مع الالتزام بنموذج الجامعة ولن تقبل أي مستندات أخرى.
- ☐ يجب مراعاة أقسام البحث الرئيسية (مقدمة Introduction، دراسات علمية سابقة Literature Review، طريقة البحث Methodology، النتائج والمناقشة Results and Discussion، وأخيراً المراجع References. وان كان هناك ملحقات Appendices يتم إضافتها)
- ☐ يجب الالتزام بـ Theme موحد كما يلي:
 - حجم الخط 12.
 - نوع الخط Arial.
 - لون الخط أسود.
 - المسافة بين الأسطر 1.5 line spacing.
 - عدد صفحات البحث (لا تقل عن ثلاث صفحات ولا تزيد عن ستة صفحات).

Instructor's Name: **Dr. Sara Adel**

THE IMPACT OF LEADERSHIP SKILLS ON PROJECT SUCCESS IN **YOUR ORGANIZATION**: A CASE OF YOUR OWN.

Different leadership styles are the key factor in the success of any project. Project Leaders are responsible and accountable for the success/failure of the project. There are numerous responsibilities that are assigned to a Project Leader during the leadership journey.

YOUR MISSION:

Your research/project must provide an overview of information and knowledge in a corporate environment with an underlying theme of **defining leadership styles within applying the hard and soft skills** for that style needed by the leader to ensure successful project delivery in your organization. (You are required to demonstrate your understanding of the relevant body of works to real-life business research).

Choose one only of the following project leadership skills using the tools that we learned during the project leadership course; starting from identifying and assess the case till executing the project.

- Prioritization (Using tools for Estimation – Scheduling – Tracking – prioritizing stakeholders).
- Team management (Using Team structures – Team development stages – Team needs).
- Embracing Accountability (Using RASCI)
- Conflict resolution (Using the Thomas-Kilmann conflict mode instrument).
- Motivation (Using one theory of motivation – Types of motivators).
- Communication in the project.
- Influencing (Using different sources of LEADER POWER).

What you have to do:

Your project task requires the preparation of a full project proposal that should contain the following components:

- **Introduction:** A detailed statement of the problem, research aim, and objectives that you would like to investigate and discuss. **(2 points)**

- **Literature Review and Conceptual framework:** An analysis of the literature relevant to the research topic that will give you the conceptual basis for conducting your research from the previous studies. **(2 points)**
- **Methodology:** Based on the conceptual framework, research aim(s), and objectives, you need to provide a detailed description of the data collection tools, data sources. **(2 points)**
- **Results and Discussion:** Description about the main findings of a research, outline your thoughts to defend your research and to emphasize the significance of it. **(4 points)**
- **References:** Lists all the resources you've used in your project, and your refereed journal articles as well. **(2 points)**
- **Appendices (If it is available in your study):** Any supplementary material you need to add. (Optional)

[Write the names of the chapters/sections of your research/ project and briefly discuss what you will write in those chapters/sections] .

Best of luck...

Dr. Sara Adel

تأثير مهارات القيادة على نجاح المشروع في مؤسستك: حالة عملية خاصة بالطالب.

أساليب القيادة المختلفة هي العامل الرئيسي في نجاح أي مشروع. قادة المشروع مسؤولون عن نجاح / فشل المشروع. وهناك العديد من المسؤوليات الموكلة لقائد المشروع خلال رحلة القيادة.

مهمتك:

يجب أن يوفر بحثك لمحة عامة عن المعلومات والمعرفة في بيئة المؤسسة الخاصة بك وهي موضع الدراسة مع تحديد أنماط القيادة في إطار تطبيق المهارات الخاصة بالقائد والمناسبة لهذا النمط الذي يحتاجه القائد لضمان تسليم مشروع ناجح في المؤسسة. (أنت مطالب بإثبات فهمك لما تم دراسته وتطبيقه بالأبحاث الواقعية في مؤسستك).

اختر واحدة فقط من مهارات قيادة المشروع التالية باستخدام الأدوات التي تعلمناها خلال مقرر القيادة في المشاريع.

- Prioritization (Estimation – Scheduling – Tracking – prioritizing stakeholders).
- Team management (Team structures – Team development stages – Team needs).
- Embracing Accountability (RASCI)
- Conflict resolution (The Thomas-Kilmann conflict mode instrument).
- Motivation (Using one theory of motivation – Types of motivators).
- Communication in the project.
- Influencing (Using different source of power).

ما عليك القيام به:

تتطلب مهمة مشروعك إعداد مقترح مشروع كامل يجب أن يحتوي على المكونات التالية:

- مقدمة: بيان تفصيلي للمشكلة محل الدراسة، تحديد هدف البحث والأهداف التي ترغب في التحقيق فيها ومناقشتها من خلاله.
- دراسات علمية سابقة: تحليل الأدبيات والدراسات السابقة ذات الصلة بموضوع البحث والتي ستساعدك في مجال الدراسة لإجراء هذا البحث.
- المنهجية وطريقة البحث: بناءً على أهداف البحث، تحتاج إلى تقديم وصف تفصيلي لأساليب وأدوات جمع البيانات ومصادر البيانات والأساليب / الأدوات التي ستستخدمها.
- النتائج ووصف المناقشة حول النتائج الرئيسية للبحث: شرح مفصل للمشكلة محل الدراسة.
- المراجع: تسرد جميع المصادر التي استخدمتها في مشروعك، ومنها مقالات المجلات المحكمة أو المواقع المستخدمة للبحث.
- الملحقات (إذا كانت متوفرة في دراستك): أي مواد تكميلية تحتاج إلى إضافتها. (خيارية).

{اكتب أسماء فصول وأقسام (البحث / المشروع) الخاص بك، وناقش بإيجاز ما ستكتبه في كل قسم}.

كل التوفيق لكم جميعاً.....

Dr. Sara Adel

the Benefit-sharing Fund

Executive summary:

Climate change is expected to cause adverse effects to agriculture around the globe, with many countries showing increasing concerns about their possible devastating repercussions. Earth temperatures are expected to increase by approximately 2 °C in the next 100 years, which will result in dramatic changes in rainfall patterns in many parts of the world and particularly in dry areas. Temperature and water availability are major determinants of plant productivity. Limited water supply (drought stress) and warmer temperatures (heat stress) will certainly reduce crop production. Wheat yields are expected to drop by approximately 5% at each 0.5 °C increase in temperature.

Problem definition:

Climate change and associated conditions are growing concerns affecting many regions and earth temperature is expected to increase causing changes in rainfall patterns in many parts of the world (Thornton et al., 2014). The worst climate change scenarios envisage major impact on food production and food insecurity implying direct effects on agriculture in many countries around the globe (Challinor et al., 2014). In West Asia and North Africa (WANA) region, the dryland farming systems are expected to be severely affected by climate change (Thomas 2008) and projected to reduce renewable surface and ground water resources with increased temperature in most dry regions (IPCC, 2014). Temperature and water availability are major determinants of plant productivity and, under climate change, limited water supply and warmer temperatures will most probably reduce the yield of any given crop. Such new conditions, associated with climate change, will have major negative impacts on crop productivity of many cereal crops, including wheat, adding more suffering to the growing populations and poor-resource farmers in dry areas.

Project objectives: Overall and specific objectives:

The overall goal of this study is to identify and characterize climate-resilient wheat germplasm that can be used to develop high yielding varieties with improved adaptation to the drought and stress conditions prevalent in the WANA region. The identification and utilization of PGRFA to develop new wheat lines with improved tolerance to drought and heat stress conditions prevalent in WANA region is needed for better food security and sustainable productivity. This will eventually improve the productivity of wheat in the targeted region, increase the livelihood of low income communities and resource-poor farmers in WANA region and contributes to food security in targeted countries. In addition, the proposed study aims to enhance the current capacities of NARS breeders, to promote partnerships and participation and to ensure knowledge sharing with the wheat scientists in the region.

The project specific objectives are:

- 1- To evaluate a large collection of genebank accessions for two years, under contrasting drought and heat field conditions.
- 2- To identify novel wheat genetic material with improved tolerance to drought and heat stresses.
- 3- To identify useful alleles for breeding drought and heat stress tolerance by means of association mapping.
- 4- To use molecular markers for simplifying the transfer of useful alleles associated with drought and heat tolerance into ICARDA and national breeding programs.
- 5- To improve the current capacities of the conventional wheat breeding programs in the region by using cutting-edge molecular and breeding tools.
- 6- To develop a web-based tool for integrating data at the accession level with genomic and phenotypic information with accessibility to all institutions in WANA region.
- 7- To provide training courses in targeted countries, workshops and scientific publications.

Targeted outputs, activities and related methodology of implementation:

Output 1: Climate change resilient wheat genetic resources with improved tolerance to drought and heat stress are identified and conserved.

Target: Assembly of a wheat genetic resources special set that include climate resilient, drought and heat stress tolerance wheat accessions and germplasm from ICARDA and NARS breeding programs and gene banks.

Activities: 1. Identification and multiplication of wheat accessions from drought and heat stress prone areas using an improved FIGS approach

. 2. Utilization of wheat breeding material and populations from ICARDA, international and national breeding programs.

Outcomes: ~1250 diverse wheat accessions are characterized, multiplied and conserved.

Output 2: Two diverse subsets that include climate resilient, drought and heat stress tolerance durum and bread wheat genotypes identified using improved FIGS and modern genomics tools.

Target: Genetic diversity and population structure analysis of the wheat special set using diagnostic SNP markers linked to growth habit, plant height and other related traits to produce two subsets (bread and durum wheat).

Activities:

1. Testing ~50 SNP markers on ~1250 wheat accessions from the special collection set using the KASP® genotyping assays.

2. Genetic diversity and population structure analysis to produce two subsets for bread and durum wheat genotypes for genome wide association mapping studies.

Outcomes: Two subsets for bread and durum wheat that contain at least 250 diverse wheat

accessions per species are characterized using molecular markers available.

Targeted PGRFA:

The targeted PGRFA in this proposed study is wheat (*Triticum* spp.). Special emphasis will be mainly given on bread (*Triticum aestivum*) and durum wheat (*Triticum durum*) that have potential to harbor new alleles for drought and heat tolerance as inferred by the FIGS approach and molecular work. The used material in the special collection set (~1250 accessions) and the two subsets (bread: ~250 and durum: ~250 accessions) are expected to contain gene bank accessions, prebreeding material, historical and elite breeding lines maintained at ICARDA genetic resources unit and breeding programs. Besides, newly released varieties by ICARDA and NARS of the targeted countries will be used in the implementation of the proposed study. The utilization of wheat germplasm in future breeding activities might result in the production of wheat varieties with improved tolerance against heat and drought that can be used by NARS for wheat improvement and to achieve better food security for poor-resources population groups in WANA region. Any material obtained from this project will be conserved in ICARDA gene bank. Furthermore, phenotypic and genetics information related to the tested material will be made available through the online database at ICARDA web site.

Direct and indirect beneficiaries:

Wheat germplasm identified in this study will directly benefit ICARDA and national partners' wheat breeders in WANA region. Training targeting young scientists and breeders from the selected countries and the development of data sharing tools will allow direct technology transfer and wider access to information that will help breeders improve wheat production in WANA region. The training of breeders, scientists and extension personnel will ensure equality and gender representation. We are expecting that at least 20 NARS breeders and scientists will directly benefit from the training courses and workshops. In addition, the scientific community will have access to the results from this project that will facilitate the utilization of the characterized wheat germplasm for other studies. We anticipate that hundreds of breeders and wheat scientists will access the web site on annual basis.

Impact and impact pathways:

The project will contribute to the achievement of Millennium Development Goals 1 and 7: • To eradicate extreme poverty and hunger • Ensure environmental sustainability

Food security and poverty alleviation:

As mentioned earlier, one of the main objectives in the proposed study is to develop new wheat lines with improved tolerance to drought and heat stress conditions prevalent in WANA region. The new wheat varieties could be utilized by the NARS and resource-poor farmers in the WANA countries to increase the production of wheat to achieve better food security, reduce large scale importation of grains, and alleviate poverty resulting in better livelihood of poor-communities. In addition, the utilization of molecular markers in breeding programs will assist in accelerating breeding cycles and precise selection of wheat material for different traits. This will assist in delivering wheat lines tailored with selected alleles and genes for drought and heat stress tolerance, and other important traits such as disease resistance, quality and agronomical performance. Furthermore, the outputs of the proposed study will align with the strategic food security goals of the local

governments for wheat by providing breeders and other plant scientists with the tools they need to deliver to farmers new varieties that are adapted to the climate-related challenges with particular emphasis on drought and heat tolerance. This is further aligned with the CRP3.1 Strategic Initiative 4, Outcome 31.04.01 “Effectiveness of partners to utilize international wheat Third Call for Proposals of the Benefit-sharing Fund: Guidelines for the development of full project proposals 11 germplasm as parents in breeding programs or to select lines for release in enhanced and output 31.04.01.01 “An annual increase of 0.9% in generic yield potential gains maintained in new wheat cultivars and elite lines for Asia, Africa and Latin America”.

Scientific impact:

The proposed study will generate a web based tool to facilitate data exchange between wheat scientists in the region. This web based tool will include molecular, phenotypic and passport data for wheat material analysed in the proposed study, breeding lines and gene bank accessions. This will enable information exchange and technology transfer between participants and scientists in the region through data dissemination, discussions and joint analysis to reach proper decisions for wheat utilization in ICARDA and NARS breeding programs.

Relevance to national or regional priorities in its plans and programmes for PGRFA:

In an effort to increase wheat production and alleviate food insufficiency in Egypt, Ethiopia and Sudan, the three governments have adopted plans to expand wheat production into new areas. However, the environments in these new areas are characterized by a dry and hot climate, which is considered a limitation for wheat cultivations. In Jordan, the impacts of climate change on rainfed agriculture are clear and it will affect the dryland mixed systems by excluding wheat cultivation. Therefore, the proposed study is establishing a strategy to accelerate the wheat breeding program that incorporates modern tools including Marker Assisted Breeding to produce heat and drought tolerant varieties. This will help the targeted countries NARS to cope with drought and heat stress, which are expected to affect wheat productivity and might compromise their plans. Accordingly, the strategic goal of this project is to facilitate the government's food security goals for wheat by providing breeders and other plant scientists with the tools they need to deliver new varieties of wheat that are adapted to the climate-related challenges. This will help in intensifying smallholder wheat production in heat and drought prone areas in the four targeted countries and to cope with expected challenges related to expanding production in areas where drought and heat stress are endemic.

Methodology of project implementation:

Accessions of genetic resources of wheat (durum and bread) with potential for resilience to climate change with special emphasis on drought and heat stress tolerance will be identified from the wheat collections conserved at ICARDA gene bank using the Focused Identification of Germplasm Strategy as described previously (FIGS; Khazaei et al., 2013). This FIGS subset is expected to include accessions having drought and heat adaptive traits besides the accessions collected from humid environments for comparison as negative controls. To assure the homogeneity and purity of the FIGS set, the wheat seeds used in this study will be only derivatives from a single spike selection and

multiplication procedure adapted by ICARDA genetic resources unit. In addition, wheat advanced breeding lines and historical released cultivars and breeding populations from ICARDA, international and national breeding programs in WANA region will be included in this study.

. Partnerships and collaboration arrangements:

ICARDA works through a network of partnerships with national, regional and international institutions in the developing world. ICARDA's mandate is to undertake wheat research for CWANA region, which covers 50% of the wheat area in the developing world. ICARDA will be the primary executing agency of the submitted proposal and several scientists will be actively involved in all aspects of the proposed study to achieve the expected outputs. ICARDA's activities will be executed by the Genetic Resources Unit, Geoinformatics Unit, bread wheat breeding program, durum wheat breeding program, and Biotechnology Unit.