



A GUIDE TO

FARMER RESOURCE MANAGEMENT:

SAFETY CRITICAL SKILLS

CONTENTS

THE AIM OF THIS GUIDE

WHAT ARE NON-TECHNICAL SKILLS?

Brief history of non-technical skills

Why are non-technical skills important?

COGNITIVE SKILLS

Situation awareness

Decision-making

Task management

SOCIAL SKILLS

Teamwork

Communication

Leadership

PERSONAL MANAGEMENT

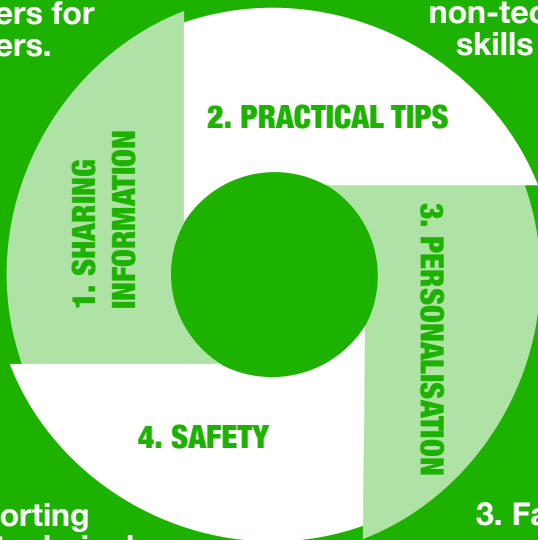
Stress management

Fatigue management

THE AIM OF THIS GUIDE

1. To share the results of five years worth of research conducted with farmers for farmers.

2. To provide practical tips, based on farm research, on how to implement non-technical skills on the farm.



4. By supporting non-technical skill use, in addition to current technical training, on farms we hope to make farmers safer.

3. Farmers can personalise this guide by adding notes and adapting the practical suggestions to fit their own way of working.

WHAT ARE NON-TECHNICAL SKILLS?

Non-technical skills are the **COGNITIVE** (situation awareness, decision-making, task management), **SOCIAL** (teamwork, communication, leadership) and **PERSONAL MANAGEMENT** (fatigue and stress management) skills that, alongside technical knowledge, are necessary for **SAFE and EFFECTIVE** performance at work.

We call this the **common sense** approach to safety – it doesn't require any special kit, but might need you to do some things slightly differently

A BRIEF HISTORY

In the 1970's a series of aviation incidents with no obvious technical cause prompted NASA and other organisations to take a close look at crew behaviours.

After a period of research a set of key skills for flight safety were identified. These skills became part of a training program called 'Crew Resource Management' or CRM.

These skills have also been found to be vital for safety in Healthcare, Nuclear Power, Rail and Offshore Drilling, among others.

1

2

3

4

5

6

Investigation showed that many of the incidents involved lapses in a range of skills, such as communication and teamwork.

Nowadays all UK commercial pilots receive mandatory training in non-technical skills as part of CRM.

From 2015 the NTSAG team have been learning about the non-technical skills necessary for farming safety, resulting in this guide.



WHY ARE NON-TECHNICAL SKILLS IMPORTANT IN FARMING?

- 1. Farming is currently THE MOST HAZARDOUS OCCUPATION IN THE UK!**
2. Farming encompasses multiple potentially hazardous elements including heavy machinery, livestock, working at height, long hours and can be subject to rapid change (e.g. weather changes).
3. Accidents in farming can be caused by a combination of environmental factors (e.g. stressed cattle), task factors (e.g. long hours) and individual factors (e.g. tired / stressed / distracted farmer).
4. A good level of non-technical skills should enable a farmer to think ahead of hazards, problem solve and co-ordinate well with others. These skills will help farmers manage environmental, task and individual factors in order to reduce the likelihood of an incident or accident occurring.

COGNITIVE ^(THINKING) SKILLS



SITUATION AWARENESS

PERCEPTION

Seeing and hearing what is going on around you, recognising and monitoring cues in the environment (e.g. tractor speed, location of co-workers)

COMPREHENSION

Using your training and experience to interpret both individual cues and the situation as a whole. This includes recognition of changing circumstances and interpretation of warning signs for potential issues

ANTICIPATION

The ability to think ahead, beyond the current situation, and imagine what might happen next. Being proactive, identifying situations that are becoming problematic and acting to enhance safety.



WHAT COULD LEAD TO POOR SITUATION AWARENESS?

DISTRACTION: Worrying about a problem, texting on your phone, can lead to you becoming distracted. Distraction can lead to cues in the environment being missed.

RUSHING: Working fast to try and complete a task can lead to steps in a task sequence being missed or forgotten.

WHAT COULD ENHANCE SITUATION AWARENESS?

CHECKLISTS: A checklist provides a visual prompt for task activities and improves accuracy and reliability of task steps.

SITUATION ASSESSMENT: Before operating machinery or beginning a task action do a quick visual assessment of the situation. For example, you might walk around your tractor before beginning work to ensure the area is clear and the tractor is in good condition to go.

MINIMISE DISTRACTION: High risk tasks should ideally be carried out without excessive chat, with mobiles turned off and without interruption.

WHAT ARE THE KEY THINGS YOU HAVE TO PERCEIVE?



**WHAT ARE THE KEY THINGS YOU HAVE TO
COMPREHEND?**



WHAT ARE THE KEY THINGS YOU HAVE TO ANTICIPATE?



DECISION-MAKING

GENERATING OPTIONS

Thinking about the different ways to achieve a goal

RISK MANAGEMENT

Considering the safest way to complete a task (including asking for help if required)

MANAGING COMPETING DEMANDS

Balancing productivity requirements against safety – safety being the priority

PAST EXPERIENCE

Using knowledge and experience to guide decisions about hazards



WHAT COULD LEAD TO POOR DECISION-MAKING?

JUMPING TO CONCLUSIONS: Making a decision and beginning a course of action without all the relevant information/equipment.

COMPLACENCY: Lack of risk assessment prior to making a decision and taking action.

WHAT COULD ENHANCE DECISION-MAKING?

SUPPORT: Ask for advice and support from others if there is uncertainty about the situation.

ADAPTATION: It's important to remain flexible and adapt to changes in circumstances, such as the weather, rather than persisting with a rigid plan.

INFORMATION GATHERING: Make sure that all the relevant information is available before proceeding with a major decision – check weather forecasts, check equipment status etc.

WHAT DO YOU DO TO MANAGE RISKS?



WHAT KIND OF INFORMATION DO YOU NEED TO MAKE GOOD DECISIONS?



TASK MANAGEMENT

PLANNING

Prepare for tasks in advance including contingency plans for if / when problems occur

PRIORITISING

Identify the most important and time critical tasks and do those first, don't get distracted by non-essential tasks

MAINTAINING STANDARDS

Awareness of best practice and regulatory guidelines. Ensure each task follows recommended protocol – avoid shortcuts



WHAT COULD LEAD TO POOR TASK MANAGEMENT?

PEER PRESSURE: Co-workers and other farmers may encourage shortcuts and / or risk taking. Shortcuts to protocol could lead to injuries.

POOR PLANNING: A lack of preparation for a task could result in issues with finding and using equipment, leading to task delays.

WHAT COULD ENHANCE TASK MANAGEMENT?

MAINTENANCE: Regularly maintain and check equipment. If equipment is ready to go at all times this will make task preparation faster and easier.

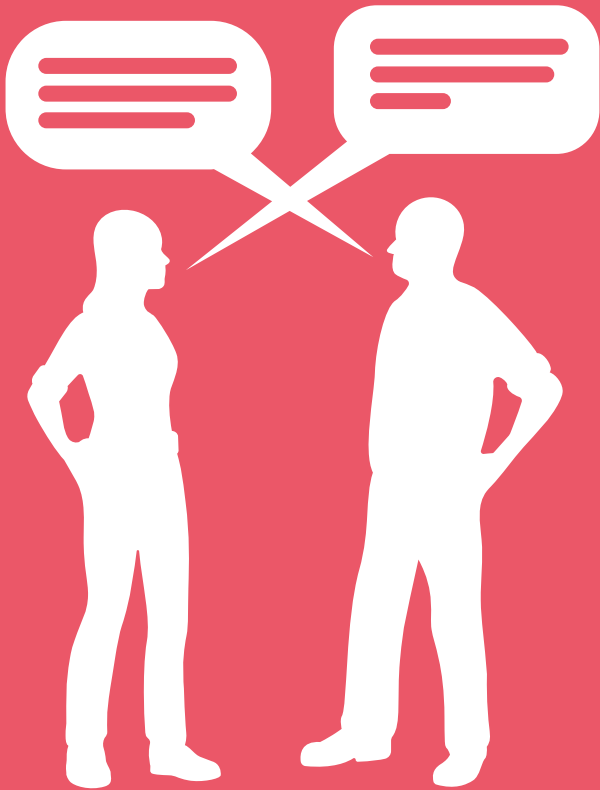
WHITE BOARD: Co-ordinate activities and workers by using a white board or pin board to highlight information and ongoing tasks.

SHARE YOUR PLAN: Share your plan with others – family members / co-workers – to ensure you can co-ordinate and so they know where to find you.

NOTE YOUR IDEAS FOR TASK MANAGEMENT HERE:

A large, empty rectangular box with a thick, hand-drawn blue border, intended for writing ideas for task management. The box is centered on the page and occupies most of the vertical space below the header and above the footer.

SOCIAL SKILLS



TEAMWORK

CO-ORDINATION

Ensuring each team member knows their role and the plan of action

SUPPORT

Keep an eye on other workers and be prepared to share task activities or offer additional support as / when required

RESOLVE CONFLICT

Manage team arguments and disagreements in order to work well together



WHAT COULD LEAD TO POOR TEAMWORK?

CONFLICT: Arguments and disagreements that are unresolved can compromise team performance.

COMPETITION: Where team members feel the need to compete this can lead to shortcuts being taken and can produce a lack of support within the team.

WHAT COULD ENHANCE TEAMWORK?

MEET: Hold regular meetings where the team can discuss issues and ideas, including suggestions and concerns about safety.

CHECK IN: Regularly check in with other team members and share task status.

SPEAK UP: Encourage everyone to speak up about any concerns they might have – make sure they know they can speak without penalty.

WHO ARE THE MEMBERS OF YOUR TEAM?



DO YOU HAVE ANY CONFLICTS OR WORRIES?



PLAN YOUR NEXT TEAM MEETING:



COMMUNICATION

EFFECTIVE COMMUNICATION REQUIRES:

CLARITY

Be clear and concise, give precise instructions where necessary

INFORMATION

Share all of the relevant information with all workers / family members

LISTENING

Listen to others when they are sharing information

REMOVAL OF BARRIERS

Ensure that communication is straightforward, provide workers with radios and phones as required



WHAT COULD LEAD TO POOR COMMUNICATION?

LACK OF INFORMATION SHARING: If workers don't share their work plan, or check in with each other, it can be possible to lose track of people. Equally if information is not shared about hazards, mistakes and accidents are more likely.

POOR TOOLS: If workers don't have radios or mobile phones they won't be able to communicate if there is an issue.

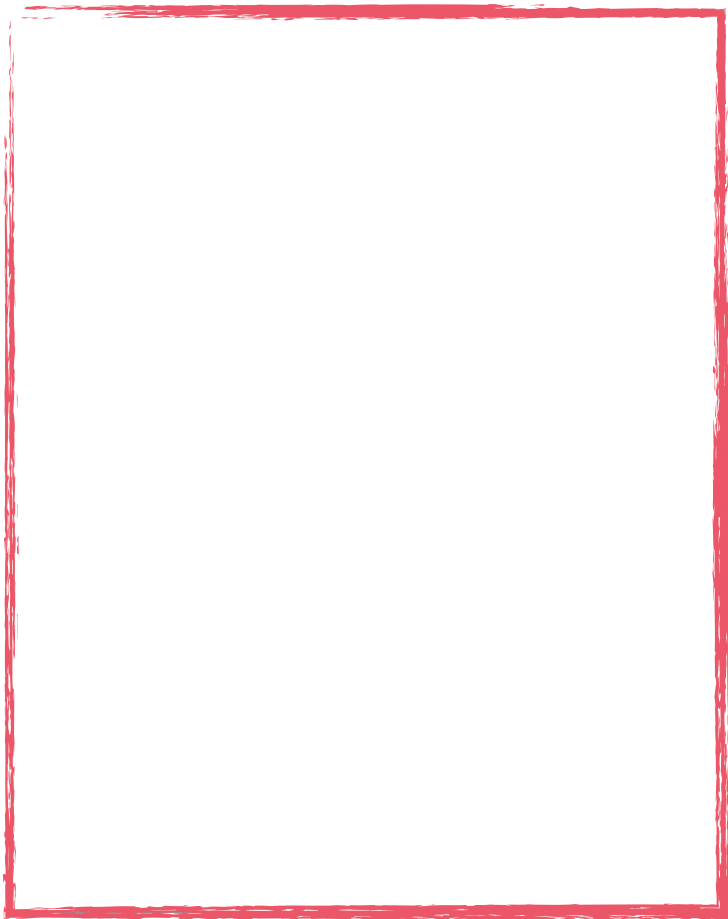
WHAT COULD ENHANCE COMMUNICATION?

PLAN: Have a communication plan that you can share with contractors or visitors to the farm – the plan should share the main hazards and how to avoid them.

SIGNAGE: Highlight hazards and communicate risks using clear signs around the farm – that way the risk is always clear.

SHARE: Use notes, text messages and phone calls to regularly share task updates and information. Have a plan in place if anyone fails to check in for a defined period of time.

WHAT INFORMATION SHOULD YOU SHARE WITH VISITORS, WORKERS AND CONTRACTORS TO ENSURE SAFETY ON YOUR FARM?



LEADERSHIP

SAFETY

Ensure safety is the priority on your farm – talk about safety, purchase safety equipment and lead by example

SUPERVISION

An important aspect of leadership is supervising others, whether that is workers or family, to make sure tasks are done safely and correctly

TRAINING

Leaders should consider the training needs of their teams and make sure those needs are met – everyone should have appropriate training for each task (e.g. qualification for chainsaw use)



WHAT COULD LEAD TO POOR LEADERSHIP?

AGGRESSION: Yelling, swearing or demeaning others is not an effective leadership strategy and tends to produce ill feeling in workers.

WORKLOAD: Setting strict deadlines or adding more tasks without considering overall workload can lead to rushing, time pressure and accidents. Its important to judge workload carefully.

WHAT COULD ENHANCE LEADERSHIP?

SUPPORT: Get behind safety initiatives and support additional training where required for workers.

OPEN DOOR: Have an open door policy with workers and ensure they are comfortable coming to you for advice and guidance.

INVEST: Where possible invest in additional, safer, equipment and ensure all equipment is well maintained and up to standard – this communicates that you care about the safety of your workers.

WHAT COULD YOU DO TO INVEST IN SAFETY?



WHAT ARE THE TRAINING NEEDS OF YOU AND YOUR WORKFORCE?



STRESS & FATIGUE MANAGEMENT



STRESS SYMPTOMS

PHYSICAL SYMPTOMS

Difficulty sleeping, muscle tension, indigestion, headaches, nausea, palpitations

EMOTIONAL SYMPTOMS

Sense of dread, loneliness, irritation, overwhelmed, anxiety, depression

BEHAVIOURAL SYMPTOMS

Worrying a lot, difficulty making decisions, unable to concentrate, restless, avoiding people or certain situations



STRESS MANAGEMENT

TALK ABOUT IT: Talk to friends, family and co-workers about the source of your stress. You can also join farming forums and facebook groups to chat to other farmers. They may have useful advice, and be able to provide support.

TAKE A BREAK: It's difficult to relax while on the farm as there is always plenty to do. Try to schedule regular breaks where you leave the farm for a period of time (anything from a few hours to a weekend away).

LOOK AFTER YOURSELF: Stress can have a physical toll, it's important that you eat a healthy diet, take part in physical exercise and ensure you have sufficient time to sleep.

NOTE DOWN HOW YOU PLAN TO MANAGE STRESS HERE:



FATIGUE SYMPTOMS

PHYSICAL SYMPTOMS

Headaches, dizziness, blurred vision, slow reflexes, aching muscles, tired

EMOTIONAL SYMPTOMS

Irritable, moody, stressed, anxious

BEHAVIOURAL SYMPTOMS

Unable to concentrate, restless, avoiding people or certain situations, falling asleep during activities, relying on caffeine to get through the day



FATIGUE MANAGEMENT

TASK SLOWING: You may find that when you are tired, you may need to slow down in order to be mindful of the task

SUPERVISION: Keeping an eye on fatigued peers can help spot errors and avoid accidents - you can ask others to do the same for you

AWARENESS: Pay specific attention to tasks during early mornings and late evenings and during busier times

SHARE: Share or delegate task activities, such as operating machinery and handling cattle, when you feel tired

REST: Try to go to bed at a regular time and ensure your bedroom is cool and quiet

NOTE DOWN HOW YOU PLAN TO MANAGE FATIGUE HERE:





FURTHER INFORMATION

NTSAg WEBSITE



research.abdn.ac.uk/nts-farming

LANTRA NON-TECHNICAL SKILLS eLEARNING COURSES



lantra.co.uk/course/non-technical-skills-farming-free

CONTACT DR AMY IRWIN



a.irwin@abdn.ac.uk

NTSAg
NON-TECHNICAL SKILLS IN AGRICULTURE